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Empowering leadership and organizational job embeddedness: the moderating roles of task interdependence and organizational politics

Hakan Erkutlu[a] , Jamel Chafra[b], a*

[a,] *Nevsehir Haci Bektas University, Nevsehir, 50300, Turkey*
[b]*Bilkent University, Ankara, 06800, Turkey*

Abstract

The purpose of this paper is to examine the relationship between empowering leadership and organizational job embeddedness and the moderating effects of task interdependence and politics on that relationship. Data were collected from 3 GSM companies in Turkey. The sample included 913 employees along with their immediate managers. The obtained data from the questionnaires are analysed through the SPSS statistical packaged software. Moderated hierarchical regression was used to examine the moderating roles of task interdependence and politics on the empowering leadership and organizational job embeddedness relationship. The results show that empowering leadership is positively and significantly correlated with employees' organizational job embeddedness. In addition, the result of the hierarchical multiple regression analysis supports the moderating effects of task interdependence and politics with regard to the relationship between empowering leadership and organizational job embeddedness.

Keywords: Empowering leadership, Organizational job embeddedness, Task interdependence, Organizational politics

Introduction

The supervisor–subordinate relationship influences a myriad of important organizational outcomes. This is the case because leaders are more than just managers of work-related information and behavior — they also guide, support, and inspire their subordinates (Cable & Judge, 2003; Falbe & Yukl, 1992). Indeed, subordinates perceive supervisors as their most immediate organizational representatives, and use exchange quality as an indicant of organizational acceptance (Collins, Mossholder, & Taylor, 2012). As such, quality relations with supervisors contribute to embedding employees into their jobs (Harris, Wheeler, & Kacmar, 2011; Lee, Mitchell, Sablynski, Burton, & Holtom, 2004).

Job embeddedness is a construct that represents the degree to which employees are embedded in their job or organization (Harris, Wheeler and Kacmar, 2011). It affects important outcomes beyond the effects of general employee work attitudes (Holtom & Inderrieden, 2006) like employee turnover intentions, actual turnover, and job performance (Lee, Mitchell, Sablynski, Burton, & Holtom, 2004; Mitchell et al., 2001).

Several studies have found that leaders' behavior affects employees' organizational job embeddedness. Mitchell et al. (2001) and Harris, Wheeler and Kacmar (2011) investigated the effect of leader-employee exchange on employee's organizational job embeddedness. Findings indicated that high quality of leader-employee exchange made a statistically significant contribution to employee organizational job embeddedness.

The independent variable of the study is empowering leadership. It can be defined as leader behaviors whereby authority, autonomy, and responsibility are shared with employees in order to enhance and encourage employees to be more receptive and adaptive to their work environment (e.g., Ahearne, Mathieu, & Rapp, 2005; Gao, Janssen and Shi, 2011). Empowering leadership occurs when leaders foster trust-based relationships with subordinates, communicate a compelling vision to their employees, facilitate participative decision-making,

* Corresponding author. Tel. + 90-384-228-1110 fax. +90-384-225-2010
E-mail address: erkutlu@nevsehir.edu.tr

coach subordinates to be more self-reliant, and show concern for their employees' personal problems (Ahearne et al., 2005; Hon, 2011).

The purpose of this study is to examine how empowering leadership affects employees' organizational job embeddedness. Further, the study concentrated on identifying individual difference and contextual variables such as task interdependence and organizational politics by which empowering leadership is related to organizational job embeddedness. In this context, the study begins by a literature review of empowering leadership, organizational job embeddedness, task interdependence and organizational politics, and then will go on to development of hypotheses. Research methodology, analyses results and research model will take place at second section. The results of the analyses will be discussed and recommendation will be provided for managers and academician at the last section.

1. Literature Review and Hypotheses

1.1. Empowering leadership and organizational job embeddedness

Since empowering leadership occurs when leaders foster trust based relationships with subordinates, communicate a compelling vision to their employees, facilitate participative decision-making, coach subordinates to be more self-reliant, and show concern for their employees' personal problems (Ahearne et al., 2005; Hon, 2011), empowering leaders can obtain more trust, loyalty, satisfaction and identification from their employees (Amundsen and Martinsen, 2014; Hon, 2011). Furthermore, their actions in sharing power or giving more responsibility and autonomy to subordinates (Srivastava, Bartol and Locke, 2006), help them develop reciprocal and long-term exchange relationships with employees. Such relationships are consistent with the characteristics of a high-quality leader-member exchange (LMX) relationship mentioned by LMX theory (Dienesch and Liden, 1986). That is, leaders and subordinates surpass their formal role requirements, treating each other as close partners.

Subordinates in high quality LMX relationships are provided with a number of resources, often viewed as benefits (e.g., increased support, communication and better roles), that their counterparts in low quality exchanges do not receive (Liden et al., 1997; Mueller & Lee, 2002). These benefits received from high quality exchanges might boost existing employee resources to the point that employees feel embedded (Harris, Wheeler and Kacmar, 2011).

Previous researchers have found that the benefits associated with high quality exchanges are able to supplement or even compensate for low levels of person-organization fit (e.g., Erdogan, Kraimer and Liden, 2004), as the LMX relationship provides valuable resources for subordinates in high quality exchanges. With respect to links, the LMX relationship is a linkage in the organization, and those subordinates in high quality exchanges would be expected to be more connected to their supervisor and organization than their low quality counterparts (Sparrowe and Liden, 2005). Hence, the supervisor–subordinate relationship is a key driver of employee organizational job embeddedness. Finally, subordinates in high quality exchanges are less likely to leave an employer as they would have to forego the advantages associated with their relationships with their supervisors (Liden et al., 1997). Thus, we suggest that high quality LMX exchanges provide subordinates with numerous benefits and resources that are associated with organizational job embeddedness. Based on all of these theoretical arguments, we offer the following hypothesis:

Hypothesis 1. Empowering leadership is positively related to organizational job embeddedness.

1.2. Moderating effects of task interdependence and organizational politics

Task interdependence is defined as the degree to which goal accomplishment entails completing related or dependent subtasks (Bligh, Pearce and Kohles, 2006). Because leaders tend to have access to more resources and critical information than are followers (e.g., Erdogan and Liden, 2002), the degree of task interdependence partly reflects employees' dependence on their leaders. This also occurs because interdependent tasks require leaders' assistance, extensive interaction, and information sharing to produce integrated output (e.g., Crawford and Haaland, 1972).

Liden, Erdogan, Wayne, and Sparrowe (2006) argued that the demand for leader–employee interface is higher in workgroups characterized by high degree of task interdependence because "… there is a greater need for the leader's assistance in coordinating interaction … and … leaders play a more active role in distributing assignments" (p. 728). Likewise, Uhl-Bien and Graen (1998) found a greater effect of leadership on employees in task-interdependent cross-functional work groups compared to functional groups that entailed low need for coordination among employees. Furthermore, Burke et al. (2006) asserted that increasing task interdependence

"… imply the need for escalating levels of leadership" (p. 294) and their meta-analytic study showed that leadership was more important for group performance when task interdependence was higher rather than lower (Vidyarthi, Anand and Liden, 2013).

Based on these previous studies, we propose that task interdependence may play an important moderating role in the relationship between empowering leadership and employee organizational job embeddedness. Specifically, the higher the interdependence involved, the more important empowering leadership becomes (Raub and Robert, 2010). Because employees need a leadership style, which are more participative in decision-making, cooperative, collaborative and shares knowledge to complete their tasks when tasks are interconnected and integrated. In other words, empowering leadership becomes more beneficial for employees in interdependent tasks. First, by encouraging employees' participation in decision making and delegating authority to them, empowering leaders foster a sense of feeling that they can make a difference in work outcomes. Second, empowering leader behaviors signal to employees that the leader trusts their competence (Rhoades and Eisenberger, 2002). Finally, based on social exchange theory (Blau, 1964), when employees believe that they are being treated well, they should feel a need to reciprocate this favorable treatment and should contribute to the organization above and beyond the call of duty. By showing concern and personal attention to subordinates, empowering leaders develop high quality leader-subordinate relationship and trust, which in turn lead to high level of organizational commitment, job satisfaction and job embeddedness. Accordingly, we propose that:

Hypothesis 2: Task interdependence moderates the positive relationship between empowering leadership and employees' organizational job embeddedness in such a way that the relationship is stronger when task interdependence is high than it is low.

Organizational politics is an elusive type of power relationship in the workplace. It represents a unique domain of interpersonal relations, characterized by the direct or indirect (active or passive) engagement of people in influence tactics and power struggles. These activities are frequently aimed at securing or maximizing personal interests or, alternatively, avoiding negative outcomes within the organization (Kacmar and Ferris, 1991; Vigoda-Gadot and Talmud, 2010).

Often, negative outcomes are associated with organizational politics and empirical evidence suggests that higher levels of perceived politics leads to such outcomes as: negative psychological states; anxiety and job stress (Poon, 2003; Valle & Perrewe, 2000); withdrawal behaviors (Poon, 2003; Valle & Perrewe, 2000; Vigoda-Gadot, 2000); negligent and aggressive behaviors (Vigoda-Gadot, 2000); reduced organizational citizenship behaviors (Randall et al., 1999; Vigoda-Gadot, 2000); and reduced individual and organizational performance (Vigoda-Gadot, 2000).

In case of high perception of organization politics, employees are more likely to see politics as a threat. In this situation, employees often respond with defensive, reactive and protective behavior to avoid action, blame or change. Employees who consistently rely on defensiveness find that they lose the trust and support (Judge, 2007).

Previous research shows that perceptions of organizational politics are related to negative attitudes towards the organization such as lower levels of trust, satisfaction, or commitment (Vigoda-Gadot, 2002). Relationships have been found between perceptions of organizational politics and various negative employee behaviors such as the withholding of information, neglect of one's work, tardiness, absenteeism, or turnover intentions (Vigoda-Gadot, 2003). Furthermore, strong perceptions of organizational politics may damage the organization by reducing social cohesion and enhancing the tendency to act in one's personal interests, even if they are at odds with those of the organization (Kacmar and Ferris, 1991; MacKenzie et al., 2001). Therefore, it is expected that perceptions of organizational politics will lower employees' organizational job embeddedness and neutralize the benefits of empowering leadership. Accordingly, we propose that:

Hypothesis 3: Organizational politics moderates the positive relationship between empowering leadership and employees' organizational job embeddedness in such a way that the relationship is weaker when organizational politics is high than it is low.

2. Methodology

2.1. Research Goal

In this study, we aim to identify the moderating effects of task interdependence and organizational politics on the relationship between empowering leadership and organizational job embeddedness. To test the hypotheses, a field survey using questionnaires was conducted.

Sample and Data Collection

This study was conducted in 3 GSM companies in Turkey. A research team consisting of 3 doctoral students visited the headquarters of those companies in the study. In their first visit, they gave information about the aim of this study to the employees in their offices. Employees wishing to participate in this study were requested to send their names and branches by e-mail to the research team members. In the second visit (a week later), all respondents were invited to a meeting room in their departments. A randomly selected group of employees completed the empowering leadership, organizational job embeddedness and organizational politics scales totaling 913 out of 1200 employees). Those employees' superiors (their immediate managers) completed the task interdependence scale (totaling 23 managers) in their offices. Managers' reports of task interdependence instead of employee reports were used in order to avoid same-source bias.

Participants comprising the final sample worked in one of three types of jobs: R&D (13%), marketing (39%), and functional professions (48%). Sixty-three percent of the employees were male with an average age of 30.90 years. Moreover, 73 percent of the managers were male with an average age of 43.13 years. The response rate of the study was 76.08 percent.

2.2. Analyses and Results

We assessed empowering leadership by 15-item scale developed by Arnold et al. (2000). Sample items include, ''Sets a good example by the way he/she behaves" and "Gives all followers a chance to voice their opinions. The average score of responses from respondents was used to compute this measure. Coefficient alpha for this scale in the study was .86. Twenty-three items taken from the Mitchell et al. (2001) organizational job embeddedness scale were used to measure organizational job embeddedness. Sample items include "I feel like I am a good match for this company." and "I fit with the company's culture." Coefficient alpha for this scale in the study was .89. The 12-item scale of perception of organizational politics by Kacmar and Ferris (1991) was used to assess the employees' perception of organizational politics. Sample item for political behavior is "one group always gets their way" for go along to get ahead are "Favoritism not merit gets people ahead" sample items for pay and promotion policies "Pay and promotion decisions are consistent with policies". All responses were taken on 5-point Likert-scale ranging from 1 = strongly disagree to 5 = strongly agree. The Alpha Reliability of this scale is.83. Finally, perceived task interdependence was measured via the 5-item task interdependence scale developed by Van der Vegt et al. (2001). Sample item includes "I depend on my teammates for the completion of my work." The respondents rated each statement on a 5-point Likert scale (1=strongly disagree to 5=strongly agree). Cronbach alpha for this scale in the study was .91.

Based on the proposition that employees' personal and employment characteristics are likely to influence their work outcomes (Li, Sanders and Frenkel, 2012), the following characteristics were included as control variables: age, gender and workplace tenure.

Table 1 shows the means, standard deviations and correlations for the study variables.

Table 1 Descriptive Statistics and Correlations *

Variables	Mean	s.d.	1	2	3	4	5	6
1. Age	30.90	2.19						
2. Gender	0.63	0.37	.09					
3. Job tenure	4.93	1.19	.23**	.03				
4. Empowering leadership	3.66	0.72	.11	.06	.09			
5. Job embeddedness	3.29	0.96	.13*	.06	.16*	.36***		
6. Task interdependence	3.91	1.23	.09	.09	.09	.29**	.26**	
7. Organizational politics	3.71	0.99	.14*	.07	.19*	-.33***	-.32**	-.06

* p <.05, ** p <.01, *** p <.001.

Hypothesis 1 was tested with hierarchical regression analysis (Table 2). In step 1, the control variables were entered and in step 2, empowering leadership. As can be seen in the section of the table showing the values yielded by step 2, empowering leadership was significantly, positively related to organizational job embeddedness ($\beta = 0.35$, $p < .001$), a finding that supports Hypothesis 1.

Table 2 Results of hierarchical regression analysis for organizational job embeddedness *

Steps and Predictor	**Models**	
	1	**2**
Step 1		
Age	.13***	.10
Gender	.06	.03
Job tenure	.16*	.13*
Step 2		
Empowering leadership		.35***
F(df)	2.69**	3.63***
R^2	.23**	.26**
Adjusted R^2	.20**	.24**

* p <.05, ** p <.01, *** p <.001.

The hypotheses 2 and 3 in the study were tested by using moderated hierarchical regression, according to the procedure delineated in Cohen and Cohen (1983). The significance of interaction effects was assessed after controlling for all main effects. In the models, gender, age and job tenure were entered first as control variables; empowering leadership, predictor variable, was entered in the second step; the moderator variables, task interdependence and organizational politics, were entered in the third step; and the interaction terms, in the fourth step. In order to avoid multicollinearity problems, the predictor and moderator variables were centered and the standardized scores were used in the regression analysis (Aiken and West, 1991).

Table 3 Results of hierarchical moderated regression analysis for task interdependence and organizational politics on organizational job embeddedness *

Steps and Predictor	Models			
	1	2	3	4
Step 1				
Age	.13*	.10	.12*	.09
Gender	.06	.03	.03	.02
Job tenure	.16*	.13*	.09	.07
Step 2				
Empowering leadership (El)		.35***	.33***	.32***
Step3				
Task interdependence (TI)			.24**	.21**
Organizational politics (OP)			-.06	-.03
Step4				
El x TI				.37***
El x OP				.26**
R^2	.23**	.26**	.29**	.33***
Change in R^2	.00	.03	.03	.04
F	2.69**	3.63***	4.16***	4.69***

* p <.05, ** p <.01, *** p <.001.

As can be seen in step 4 results from Table 3, the interaction effect for empowering leadership and task interdependence was significant for organizational job embeddedness, supporting Hypothesis 2 ($\beta = 0.37$, $p < .001$).

Hypothesis 3, which states that organizational politics moderates the relationship between empowering leadership and organizational job embeddedness, received strong support (see Table 4). The interaction effect for empowering leadership and organizational politics was significant for organizational job embeddedness ($\beta = 0.26$, $p < .01$).

As predicted, when employees perceived high levels of organizational politics, the relationship between empowering leadership and employees' job embeddedness was weaker. On the contrary, it was found that task interdependence strengthened the positive relationship between empowering leadership and job embeddedness. The positive relationship between empowering leadership and job embeddedness was more pronounced when an employee's perception of task interdependence was high.

3. Conclusion

This study highlighted the relationship between empowering leadership and organizational job embeddedness. The results revealed that empowering leadership was positively related to employees' organizational job embeddedness, which supported hypothesis 1. The most remarkable result to emerge from data is that employees' perceptions of organizational politics and task interdependence affected the relationship between empowering leadership and employees' job embeddedness. So, hypotheses 2 and 3 (task interdependence and organizational politics moderate the empowering leadership and employees' job embeddedness relationship) are fully supported. These findings are consistent with the literature on empowering leadership in organizational contexts (Ahearne et al., 2005; Hon, 2011; Amundsen and Martinsen, 2014; Hon, 2011; Srivastava, Bartol and Locke, 2006). Although there are so many studies examining the empowering leadership-trust (e.g., Ahearne et al., 2005; Hon, 2011); empowering leadership-organizational commitment, satisfaction and identification with the leader (e.g., Amundsen and Martinsen, 2014; Hon, 2011) and empowering leadership-leader-member exchange (e.g. Srivastava, Bartol and Locke, 2006) in literature; empowering leadership- organizational job embeddedness relationship and the moderator effects of task interdependence and organizational politics on the relationship between empowering leadership and employees' job embeddedness are examined and revealed for the first time through that study, which differentiates this study from others.

However, this study was conducted on the GSM companies in Turkey; findings might not be transferable to all types of organizations. Thus, it is recommended that further researches can be conducted on organizations in

sectors other than higher education sector and in different countries for the generalizability of findings. Another limitation of this study is that the current study uses a cross-sectional analysis whereby it gives a snapshot scenario on the approaches and intended approaches of measuring psychological well-being. A longitudinal study would be useful to identify and supplement the usage, relevance and flaws of the measures, in particular the long-term measures.

As employees with low organizational job embeddedness may be less productive, make lower-quality decisions, exhibit high absenteeism rates at work and finally leave their organizations (Lee, Mitchell, Sablynski, Burton, and Holtom, 2004; Mitchell et al., 2001), it seems important for organizations to focus on enhancing employee job embeddedness. Our study showed that employees' perception of organizational politics lessened their job embeddedness while task interdependence and their managers' empowering leadership behaviors enhanced it. This study has number of implications. Firstly, the manager and/or the leader should try to maximize his/her empowering leadership behaviors by using leading by example, coaching, informing, showing concern, and participative decision-making. in order to increase employees' organizational job embeddedness. Secondly, the manager and/or the leader should build a productive and supportive organization culture and working system (Chiaburu and Marinova, 2006) to improve leader-employee exchange quality, which relate to their job embeddedness and lower the detrimental effects of organizational politics.

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The profile of an effective female leadership in multicultural context

Lina Girdauskiene[a], Fidan Eyvazzade[b 1]

[a,b] *Kaunas university of Technology, Kaunas, LT-44309, Lithuania*

Abstract

Organizations are becoming increasingly diverse in terms of gender, race, ethnicity and nationality. Management of such multicultural company can become challenging for each leader: different work and cultural norms, language barriers, required time for accomplishing tasks enforces to apply new decisions and management methods. Female leaders distinguish for empathy, flexibility and their role is growing constantly in business processes in different organizational levels. Thus, the goal of the research is to identify how should a female leader act in multicultural context in order to be effective? The qualitative survey of this study was conducted on 6 managers with experience in the range between 10-20 years in Lithuania, in 2014. The research results have revealed the main characteristics and let to construct the profile of an effective female leadership in a multicultural context.

Keywords: Leadership, female, effectiveness, multicultural context

Introduction

Globalization of business, the increased application of teamwork, and changing workforce demographics have all made managing workforce diversity as a critical competency for today's organizations. Having a workforce that is diverse is a key competitive advantage. Hence, organizations are challenged to begin creating effective strategies for a more positive approach to managing diversity. But for many companies, efforts to manage diversity have produced disappointing results (Pedersen and Connerley, 2005). Pedersen and Connerley (2005) state that learning to become an effective leader is like learning to play music. Leading in multicultural environment is like playing several instruments. A leader is required to have different attitudes and behavior. They suggest that any intercultural effectiveness starts primarily with cultural awareness. A leader's job requires more than a character, knowledge and action; it also demands results. Results based leaders have to always know what is wanted. They assess their effectiveness by measuring achievements against goals. In this approach leaders focus what is to be accomplished. Leader who get results but lack attributes often find their successes short-lived. Hence result focus should help leaders turn attributes into outcomes (cited by Ulrich, Zenger and Smallwood, 1999). Orey (2011) highlights that result can be obtained once the right environment is being created by the leader that "positively impacts the attitude and spirit of everyone on your team". Ulrich and Smallwood (2012) claim that there is very little researched on the results of the leadership rather than its attributes. Since the results is the only goal teams work towards it is very important to focus on how to achieve them.

According to Hefferman (2002) the future of business depends on women (cited by Eagly and Carli, 2003). They also point out the fact that the leadership has historically been perceived as "masculine enterprise" with stereotypically masculine qualities in leaders. But stereotypically feminine qualities as cooperation, mentoring and collaboration are important to leadership as well, especially now in contemporary organizations. Russel, Rush and Herd (1988) highlight the difference of male and female leadership in their leadership behavior. In their study they hypothesized that an effective female leader would be expected to exhibit higher level of consideration behavior than an effective male leader.

We may find various sources on effective female leadership or effective leadership in multicultural context separately, but there has very little been researched on a female leadership in multicultural context as an independent topic. Furthermore, the increasing level of globalization and women percentage taking leadership

[1] Corresponding author.
E-mail address: eyvazzadef@yahoo.com.

positions urges us to pay a closer look to the problem. Hence, the scientific problem can be formulated as such: **How should a female leader act in multicultural context in order to be effective?**

Theoretical analysis of multiculturalism, national culture and leadership are analyzed in the first part. Prepared methodology and qualitative research based on the theoretical analysis is conducted and presented in the second part, and conclusions are proposed in the final third part.

3.1. Multiculturalism and Cultural orientation

According to Foulkes (1995), multiculturalism reflects "the existence within one society of diverse groups who maintain their unique cultural identity while accepting and participating in the larger society's legal and political system". Similar definitions by various authors have been developed to identify multiculturalism at organizational level. Cox (1991) defines a multicultural organization as one that values cultural diversity and refers to the degree to which it is willing to utilize and encourage it.

Cox (1994) argues that cultural diversity affects organizational performance. The author writes about the impact of some organizational processes in culturally diverse groups such as communication, creativity and problem solving, which are closely related to performance. According to Workman (2008) „the extent to which domestic multiculturalism exists and is promoted within a nation has a strong effect on employee behavior and attitudes, specifically, employee ability (and willingness) to work well with individuals from other cultures" (cited by Kwantes and Chung-Yan, 2012). Aghazadeh (2004) mentions that diversity at workplace helps to increase attraction of the most qualified candidates. Other benefits such as higher creativity and innovation, flexibility, better decision making are named by Aghazadeh (2004), Cox (1991). The latter describes multicultural ideology as a source of strength. Disadvantages of diversity appear along with benefits which are increased of costs through higher turnover rates, interpersonal conflicts and communication breakdowns, costs of trainings, etc. (cited by Cox 1991, Aghazadeh, 2004).

The multicultural environment at workplace can only exist if civility and tolerance are present. According to King (2011) they are "central social values as well as important interpersonal values in the workplace, are also meaningful predictors of organizational effectiveness with research showing that firms can improve performance by creating and maintaining norms of civility and tolerance" (cited by Von Bergen 2013). Stevens, Plaut and Sanchez-Burks (2008) state that "organizations employ a variety of strategies to emphasize diversity". For example, arranging "diversity days" when employees´ backgrounds are celebrated. Along with it the nonminority groups are strongly encouraged to attend those kind events in order to avoid cultural bias and develop multicultural awareness".

Darby (1995) describes the cultural awareness as a key factor for a managerial success in the expatriate model. Without such awareness all the work related knowledge can turn obsolete, ineffective and useless. Pedersen (1988) unlike other multicultural theorists, focuses on three main areas that need to be developed in an individual: awareness, knowledge, skills (cited by Komives and Woodard, 2002). Six arguments were selected to create an overall image of challenges working in multicultural environment. The authors argue that the perception of „on-time „versus „late „of individuals of different cultural background varies. The acceptable workplace behavior also includes the etiquette norms in different cultures such as no eating during meetings, norms on not interrupting others with questions, etc. Non-work related pre-existing hatred, anger to a certain group of people at the workplace. The prejudices, for instance, the sexual harassment at workplace still remains one of the actual challenges for women. "The most serious violation of respect and hierarchy was not respecting the chain of command – usually involving inappropriate contact by junior managers from a low power-distance culture with senior management from a high power-distance culture" (Hofstede, 1980). Language barriers cause challenges at workplace. The numerous studies report that members using their native language have more success than the ones using second or third language. The aim of a multicultural group is to set „a good communication". Although the perception of „a good communication" varies in different cultures: Hall (1976) differentiates the Japanese, Latin Americans, and Arabs having high context communication what is more indirect and subtle. In low context the message is delivered directly and clearly that is more typical way of communication in Scandinavia, Germany and the United States. Misunderstanding of either party can lead to the breakdown of communication (cited by Proehl, 1996).

As well as multiculturalism, national and organizational culture plays the significant role as well. Hofstede (1984) defines national culture as a "collective mental programming". The people of any particular nationality are exposed to particular patterns of socialization, education and life experiences. His developed four dimensions of cultural values model defines social structures-high/low power distance (PDI), individualism/collectivism (IDV), weak/strong uncertainty avoidance (UAI), masculinity/femininity (MAS)" (cited by Brain and Lewis 2003). Alves *et.al* (2006) mention the fifth dimension "future orientation" (long-term versus short-term, LTO) which also will be included in our model as well as Hofstede's.

The understanding of a multicultural organization is essential for the further research that will later be linked with leadership. The cultural diversity through organizational processes such as communication, creativity and problem solving makes a significant impact on organizational performance, the benefits of cultural diversity (creativity and innovation, flexibility, better decision making, attraction/retention of employees) and its disadvantages (increase of costs through higher turnover rates, interpersonal conflicts and communication breakdowns, costs of trainings, etc.). The main difficulties of multicultural environment such as the perception of time urgency, differences of work ethics, intergroup differences, violation of respect and hierarchy, lack of common ground and explicit versus implicit communication were identified. Since national culture formulates every individual`s way of behaviour and set of mind it is worth adding Hofstede´s five dimension to the model of a profile of an effective female leader in multicultural context.

3.2. Leadership

The demographic orientation is another orientation of multiculturalism that is important for our research. It includes gender, sex, ethnicity, etc. differences within an organization. The Hopkins (1998) argues that diversity in a racial/gender/ethnicity sense is not supposed to be perceived as a problem. On the contrary, is to be treated as an opportunity provided by the diverse groups waiting for a "diversity leader" to bring out their talents. The authors point out that employers should assume "strong leadership" which within diversity context means a diversity-friendly leadership.

Individuals conform to gender stereotypes. In order to create a profile of an effective female leader we have to understand which set of stereotypes cause/hinders career success of female leaders. Bakan (1966); Broverman,Vogel, *et.al.*, (1972); Deaux and Lewis (1984); Eagly (2000); Heilman (2001) identify male stereotype as agentic (i.e., independent, assertive, decisive), whereas female stereotypes are thought to be communal (i.e., unselfish, friendly, concerned with others).

According to Ulrich and Smallwood (2012) "leadership occurs when the organization builds a cadre of future leaders who have the capacity to shape an organization's culture and create patterns of success…". Alimo-Metcalfe (2010) in his research paper investigates female and male way of leadership and empowerment:

- Women are more likely than men to use "transformational leadership" – motivating others by transforming their individual self-interest into the goals of the group.
- Women use "interactive leadership" styles by encouraging participation, sharing power and information, enhancing peoples' self-worth.
- Women are much more likely than men to ascribe their power to interpersonal skills or personal contacts rather than to organizational stature.
- Women as leaders believe that people perform best when they feel good about themselves and their work, and they try to create situations that contribute to that feeling.

Conger and Kanungo (1998) state that transformational leadership involves establishing oneself as a role model by gaining followers´ trust and confidence (cited by Eagly 2007). According to Klenke (1993) "feminine model of leadership is built around cooperation, collaboration, lower control for the leader and problem solving based on intuition and rationality" which is closely aligned to transformational leadership. Yammarino and Dubinsky (1994) highlight four components of transformational leaders that specifically female managers display (cited by Kelloway *et.al.*, 2003).

- idealized influence;
- inspirational motivation;
- individual consideration; and
- intellectual stimulation.

Stanford, Oates and Flores (1995) developed the heuristic model of female leadership where characterize a female leader as one who possesses high level of employee involvement, having entrepreneurial vision. She sets effective communication with employees based on mutual respect and trust. Additionally, she is motivating and inspiring that brings better results. The whole approach is reward power basis.

Leadership effectiveness is measured using numerous indicators such as followers' attitudes, level of commitment given to the organization, and motivation towards the job (Howell and Costley, 2006). The authors also suggest other indicators of effectiveness of leadership that are the outcomes of the organization or of group productivity (cited by Jogulu and Wood, 2006). Additionally, Howell and Costley (2006) point out that lower employee turnover and absenteeism are also considered to be indicators of leadership effectiveness in an organization (cited by Jogulu and Wood, 2006). The transformational leadership was chosen deliberately because of the common traits with female "communal" nature. On the other hand, the review of the attributes of an effective leadership will be later used to create a profile of an effective leader. The heuristic model of a female leadership by Stanford, Oates and Flores (1995) is going to be the last element of the model that will be

constructed next. We may also conclude that no leadership can be named as effective without a focus on results. In other words, an effective leader has to possess personal managerial attributes in order to be able to work towards results.

3.3. The profile of an effective female leader in multicultural context

After the theoretical review of three major phenomenon that are multiculturalism, leadership and its effectiveness from gender perspective we may now proceed to developing a model of an effective female leadership in multicultural context. The conceptual framework of the model is illustrated in Figure 1. Two major factors were chosen that creates a profile of the effective female leadership in multicultural context: macro and micro factors. Macro factors include both national and multicultural environment.

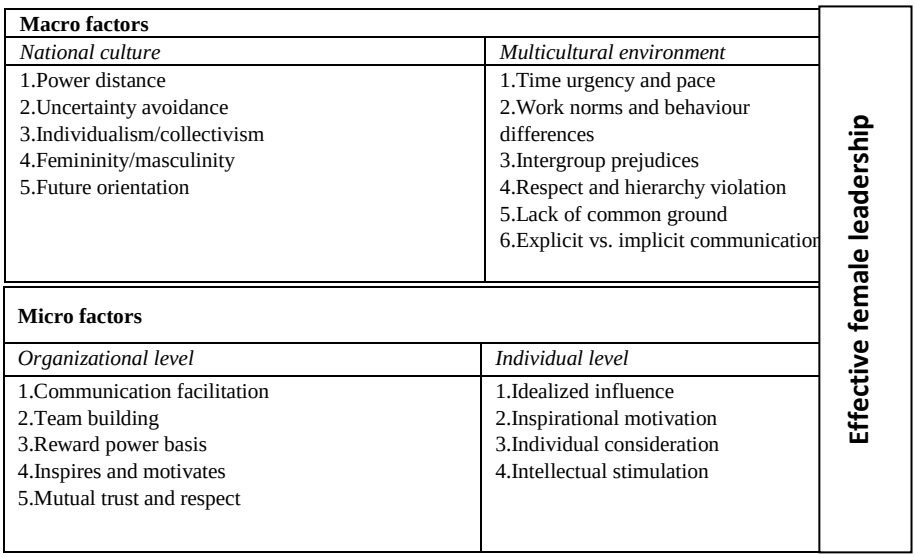

Fig. 1. The profile of an effective female leader in a multicultural context

They both are external sources of an influence on the effectiveness of a female leadership in multicultural environment. Micro factors in return describe what is to be done at individual and organizational level to be an effective female leader in multicultural context. For further empirical part national culture is going to be taken constant due to irrelevance to the topic.

4. Methodology

4.1. Research Goal

The research purpose is to determine key behavior of female leader in a multicultural environment. In order to conduct the research, a questionnaire based on theoretical analysis was constructed.

4.2. Sample and Data Collection

The research was conducted in the academic Lithuanian organization, in 2014. The organization can be determined as a large company with more that 3500 employees. Six respondents were chosen for in-depth interviewing who are engaged in academic/administrative work with experience in the range between 10-20 years. The main criteria for selection respondents were following:

- gender,
- managerial experience, and
- multicultural teamwork experience.

Due to their long experience and successful career in occupied field in respect to multiculturalism the data provided was sufficient to analyze the problem. For the sake of confidentiality each respondent was labeled alphabetically.

The qualitative research as a research method was selected due it possibility to gain detailed responses to each question, reveal respondents feelings and understand reasons of the phenomenon. The instrument for the in-

depth interview is an interview guide that includes questions covering three main dimensions from the model: individual level, organizational level and multicultural environment.

4.3. Analyses and Results

The conducted research let to purify the key behavior of female leader in different levels. The results are presented below in Tables 2, 3 and 4.

Table 2. Results of effective female leadership at individual level

Respondent	Idealized influence	Inspirational motivation	Individual consideration	Intellectual stimulation
A	Outdoor activities Clear tasking Team meetings Protecting from external forces	Low pressure Communication Result-orientation Trainings	Nurturing nature Considerate Assistance with unclear task	Periodic idea boost Idea follower
B	Team meetings	-	Nurturing nature, Considerate Assisting with unclear task	Idea stimulator, Idea follower
C	Brainstorming	Caring Equal requirements	Nurturing nature, Considerate Assisting with unclear task	Idea stimulator, Low risk taking
D	Meetings Informal talks	Work appreciation, Assistance	Nurturing nature, Considerate Assistance	Idea pump, Self-decision
E	Team meetings	Feedback, Support activities (trip abroad)	Nurturing nature, Considerate Assisting	Idea initiator, Low risk taking
F	-	Create opportunities Work appreciation	Nurturing nature, Considerate Assistance	Self-realization for newcomers with own ideas, Idea follower

The respondents´ input in idealized influence varied from one to another. As we may respondent A offered the largest portfolio of different actions that to set this idea influence of hers onto her team members. Almost all respondents except respondent F perceived idealized influence of a leader in a team as very important "because your team members see you as someone superior so you have to be a role model a priori". Inspirational motivation was also noted as very essential to implement as a leader "by showing, for example, her human side and not only being a boss". In contrast, respondent B argument for no need of inspirational motivation was long time working in the same team, where "everyone is self-motivated and focused on the things that should be done". Individual consideration was absolutely identical with each respondent. The reason might be coming from their gender background. As it was argued that female leaders have "nurturing nature" and are concerned with others. The responses regarding intellectual stimulation was definitely in a favor of "giving an idea boost from time to time and space for expressing themselves especially for new team members". We may now conclude that four criteria from individual level have been implemented by the majority of respondents and therefore approves the reliability of those criteria suggested in the model.

Table 3. Results of effective female leadership at organizational level

Respondent	Communication facilitation	Team orientation	Reward power basis	Mutual trust and respect
A	Non formal meetings Personnel shift in conflicts Low emotional intelligence	Clear guidance Work recognition Leader´s involvement into ongoing processes	Non-financial remuneration Giving ownership Trainings	Challenger Action taker
B	Non formal meetings Intermediation in conflicts Lack of emotional intelligence	Non formal relationship	Financial remuneration	Challenger
C	Non formal meetings Talk separately to each in conflicts High emotional intelligence	Reliability Leader´s hard work (not only supervision) Low distance Encouragement	Financial/ Non-financial remuneration	Self-confidence boost by various rewarding
D	Non formal meetings Personnel shift in conflicts High emotional intelligence	Meetings Non formal discussions	Financial remuneration	High qualification

E	Non formal meetings Reliance on member´s competence in conflicts High emotional intelligence	Involvement High feedback Clear tasking Clear deadline setup	Financial/ Non-financial remuneration	Observation High qualification
F	Non formal meetings Third person´s involvement into conflict High emotional intelligence	Good atmosphere Each is an asset	Financial/ Non-financial remuneration	Challenger

The communication facilitation was enhanced in view of all respondents by having non-formal meetings. Another interesting fact was that for a conflict solution the response rate of firing/excluding one from the team was not even an option. Respondent F said that "it could only happen if I noted that one member is demotivating the whole team".

Emotional intelligence was also rated as very useful in terms having small non-work related talks. Team orientation is another important issue to be known by a leader. The respondent A said that "boosting a team spirit is about showing that I as a leader care about what you do. It does not mean monitoring every single step but showing your presence and involvement helps a lot".

Reward power basis was also seen by respondents as important to do. Respondent F said that "the financial incentives do work depending on your current financial situation". While respondent A argues that "non-financial remuneration (trainings, seminars, etc.) will enhance team member´s knowledge which is most important". The mutual trust and respect was the most difficult to get an answer to since majority was replying that "that person would not be in my team if I did not trust him/her". Nevertheless, the frequent answers were that in order to show your respect towards one of your team member was to challenge with a difficult task. Another trust setting relationship is "to distribute the tasks according to their competences and observe if he/she manages it well".

The four criteria of effective female leadership at organizational level were tested by respondents´ answers which made it clear that all are practiced in real working environment by a female leader and is certainly an key to the efficiency.

The unstructured time management and slow performance have been roughly the only answers given by respondents regarding the impact of time urgency and pace in multicultural environment. As to work norms communication, professionalism, no multi-tasking were named by respondent A. Different perception of jokes or anything said or different way of reporting in different cultures are the results of multicultural environment. Lack of common ground for a female leader was either the language or the same gender that caused it. Implicit communication was named as a very "difficult to understand" by respondent C.

Respect and hierarchy to the respondents was sufficient having "normal professional respect to each other no matter any status". This varies in many cultures and certainly has an influence of an effective female leadership. Respondent E said that "with cultures where the status had highest value I tried to adapt by using all of my titles or making my superior position clear". As a matter of fact every criteria named is valid except intergroup prejudice. Citing on the majority of the respondents "personal qualifications and competencies stand ahead of national belonging". Hence, based on the gained data the intergroup prejudice seems to be not valid.

Table 4. Results of multicultural environment on effective female leadership

Criteria/Respondent	A	B	C	D	E	F
Time urgency and pace	Structured time management					
Work norms and behaviour differences	Trust Communication Professionalism Low Multi-tasking	Punctuality Follow rules	Low use of social networks during meetings, etc.	Over-working	Different joke perception, Time management	Different rules of reporting
Intergroup prejudices	Low national prejudice toward other cultures					
Respect and hierarchy violation	Respect relevance Status irrelevant Professional relationships	Status relevant with the Asians, Arabs, not the Lithuanians				
Lack of common ground	Open-minded thinking Gender (females)	Language	Open-minded thinking	Language		Gender Language
Explicit vs. Implicit communication	Explicit communication					

Based upon the results from empirical research the profile of an effective female leadership in multicultural context was constructed below, Table 5.

Table 5. Final Research Model

Results	**Multicultural environment**				
Theoretical	Different time perception	Hierarchal organizational structure	Implicit communication	High level of prejudices	Lack of common ground with female followers
Empirical	Structured time management	Flat organizational structure	Explicit communication	Low level of prejudice	Mutual understanding with female followers

Individual level		**Organizational level**	
In theoretical model	**Empirical result**	**In theoretical model**	**Empirical result**
Idealized influence	Protector role	Communication facilitation	Excellent command of English Conflict solver without ethno/religion gender bias, High emotional intelligent
Inspirational motivation	Professional Result oriented	Team orientation	Same gender tolerant, Demanding, Open-minded, Reliable
Individual consideration	Considerate, Flexible, Caring	Reward power basis	Financial/non-financial remuneration
Intellectual stimulation	Idea follower	Mutual trust and respect	Challenger

The six criteria that were relevant and followed the logic in theory lacks work norms and behaviour column in empirical result. The table 5 shows that only time perception, hierarchal structure, and implicit communication, high prejudice level toward other cultures, narrow world vision and poor may affect an effective female leadership in multicultural environment. The criteria at organizational and individual behaviour level of an effective female leadership in multicultural environment remain valid in empirical result as well due to the high level of professionalism of the respondents and their absolute match with theoretical model at micro (behavioural) level.

5. Conclusion

Having conducted the research and analysed gained results, conclusions can be drawn based on initial research tasks. The multiculturalism was introduced as a fast growing phenomena globally. The six *(time urgency and pace, work norms and behaviour, intergroup prejudices, respect and hierarchy violation, lack of common ground and explicit/implicit communication)* macro level factors of multicultural environment chosen for the theoretical model of an effective female leadership provided us with information of what to expect and be aware of once being a female leader in multicultural environment.

The individual (consisting of *idealized influence, inspirational influence, individual consideration and intellectual stimulation)* and organizational (consisting of *communication facilitation, team orientation, reward power basis and mutual trust and resp*ect) levels that were titled as micro factors (behavioral) in the theoretical model made it clear how a female leader as an individual has to approach the leadership herself and her followers.

Thus, the theoretical model of an effective female leadership in multicultural context was created by combining both micro (behavioral) consisting of *individual and organizational* behavior level and macro (environmental) consisting of *national culture and multicultural environment* factors.

The qualitative research showed that being a protector, result-oriented while still showing consideration, care and remaining professional in multicultural perspective is the key to an effective leadership for females. The criteria at micro (behavioral) level of an effective female leadership in multicultural environment remain valid in empirical result as well due to the high level of professionalism of the respondents and their absolute match with theoretical model at micro (behavioral) level. Hence, neither additions to the theoretical model nor withdrawal of any criteria of micro (behavioral) level were needed. Nevertheless, the work norms and behavior is the matter to differ not only in multicultural context but also within one nation. Therefore, suggestions would be to show more understanding, be open-minded, to show more of those stereotypical “mentoring” characteristics in order to give

the follower time to adapt. Thereby, the second criteria (work norms and behavior) of environmental factors shaping the effective female leadership should be eliminated from the model.

Future investigations should focus on identification and evaluation of impact and interaction of each determinant of a model.

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Leadership as a key instrument to alleviate hegemonic relationships in organizations: A case from a public university[2]

Mehmet Eymen Eryılmaz[a*] , Mehlika Saraç[a]

[a,] *Uludağ University, Business Administration Department, Bursa, 16059, Turkey*

Abstract

Some groups may be oppressed by others in organizations and at this point, leaders are the most important actors able to balance the power inequalities within the organization. In this study, the exploitation of ambiguities in job descriptions of an administrative department in a public university is examined. Face-to-face and semi-structured interviews were conducted with 35 individuals and the related documents were examined to shed light on the phenomenon. According to technicians, those in higher positions use ambiguity in job descriptions to abdicate responsibility and increase their dominance. According to researchers, organizational leaders in particular should take responsibility to ease relationships of dominance in such cases.

Keywords: Leadership, Ambiguity, Job description, Dominance, Public university, Turkey.

Introduction

For various reasons, some individuals or groups in organizations may tyrannize others. As emphasized in literature, human resource practices (e.g. performance evaluation) may sometimes be a vehicle for this oppression. Many instruments can be used to alleviate this tyranny. According to the researchers of this study, one of these instruments may be organizational leadership. At this point, it might be expected that since researchers adopt a critical stance to the concept of job description, they maintain their position when the phenomenon of leadership is examined. In this context, it is fair to say that the researchers benefit from critical, interpretative and functionalist approaches at the same time. Some studies have taken a critical approach to "Human Resources Management (HRM)", although to the best of our knowledge, there is no study which directly and critically focuses on a link between job descriptions and leadership.

Therefore, brief literature reviews on job description, leadership and critical approaches to HRM will be given in the second part of the study. In the third part of the study, the methodology of this study will be explained, including sub-sections of research goals, context of the study, data and sampling, and the reliability and validity tests which were applied to increase the scientific rigor of the study and research findings. With the conclusions of the study, will also be included aspects of originality and limitations.

Literature Review

Job Description

"Job Analysis (JA) is the process of determining what will be done in a job" (Woods, 1995: 56) or "is the process of systemically collecting information about work tasks" (Stewart and Brown, 2008: 14). It is accepted as the most important function of HRM by some scholars in the field (e.g. Can *et al.*, 2001; Rakich, 1972) because many other functions of HRM such as human resource planning, recruitment and selection, training and

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[*] Corresponding author: Mehmet Eymen Eryılmaz, Tel: +90 224 294 10 48; Fax: +90 294 10 03;
E-mail address: mehmetery@uludag.edu.tr

development, performance appraisal, job evaluation, compensation and communication frequently obtain benefit from data derived by JA. According to literature, JA can be conducted by any members of the HR department, job incumbents, professionally trained analysts, any manager or management consultants (Gómez-Mejía *et al.*, 2004; Stewart and Brown, 2008).

The two main outputs of a JA process are "Job Specifications (JS)" and "Job Descriptions (JD)". JS endeavors to identify abilities, skills and knowledge that employees need in order to perform tasks (Stewart and Brown, 2008),while the main aim of JD is to summarize the duties, responsibilities, working conditions and activities of a specific job (Woods, 1995) in writing (Wallace, 1946). Generally, a JD comprises of four main pillars such as identification of the job, summary of the job, job duties and job specifications (Bratton and Gold, 2007; Sabuncuoğlu, 2000; Woods, 1995).

However, a JD cannot always meet its expected objective due to ambiguity. It is widely accepted that job descriptions cannot possibly contain all the detailed tasks carried out each day but use abstractions to encompass all possible tasks. This use of generalization may cause the problem of defining what specific workers can and cannot be asked to do (Ducey, 2002). For example, some JDs may not include authority limits and a list of responsibilities (Berenson and Ruhnke, 1966) or may present unlimited authority and a very extensive list of responsibilities. An ill-defined job description creates difficulties in establishing boundaries and more generally in ensuring accountability and responsibility. In contrast, a too tightly defined job description stifles creativity and flexibility (Wakefield et al., 2009). However, general JDs without detail may lead to different interpretations of meaning in different contexts, such as in different industries with different work norms and values. Ducey (2002) focused on the health-care industry and mentioned that the most common and important aspect of a nursing aide's job—talking to patients—is not included in the nursing aide job description. However, he added that health-care organizations deliver organizational goals, with health-care workers exceeding their job description to make sure work gets done and patients are cared for. This is the result of workers bringing beliefs and feelings to bear on their work that are part of the larger culture, and these beliefs may make it very difficult not to disregard the description in many situations, despite feelings of exploitation. Thus it seems that the employee's interpretation and response to a vague JD is mostly affected by the existing power relationships, norms and values in the workplace.

There may be various reasons for ambiguity in a JD. For example, a JD can sometimes be prepared by inexperienced employees. Furthermore, this ambiguity may also depend on organizational level, as executive or management level JDs will include more details (Martin, 2010). In addition, there may also be intentional ambiguity of a JD, as when a JD is completely clear, employees will only do what is in the description (Gehm, 1970).

Leadership

Leadership has an extensive literature. According to Alvesson and Spicer (2012), the most dominant approaches to leadership in literature are functionalist and interpretative ones. The first tries to find links between leadership and other variables. In this approach, leadership may be an antecedent of a dependent variable. For example, Berson *et al.* (2001) found that the style of leaders determines the inspirational level of vision statements. Leadership and related variables can also be a consequence. For example, the delivery style of an organizational vision affects the leader's perceived charisma and effectiveness (Awamleh and Gardner, 1999). This seems to be in parallel with the approaches named instrumental and scientific by Gunter (2001).

The other currently dominant approach to leadership is the interpretative approach. This endeavors to shed light on meaning and make a process of leadership (Alvesson and Spicer, 2012). For example, Shamir *et al.* (2005: 19) categorize their study as an interpretative one for the reasons given below:

> *…The method is therefore interpretative in two senses, in the sense that the story itself represents an interpretation of narrators' experiences and in the sense that the researcher uncovers and articulates the meaning systems embedded in the story.*

Finally, another approach to leadership is the critical one. According to Gunter (2001: 95), the main aim of this approach is "to reveal and emancipate leaders and followers from social injustice and the oppression of

established power structures". A critical stance often approaches the phenomenon of leadership from a negative aspect.

This study adopts a critical stance to ambiguities in job descriptions in an administrative department of a public university. In this context, it could be expected that the approach of this study to leadership would also be critical. However, this study suggests that organizational leaders may play an important role in decreasing hegemony in organizations. Therefore, it can be said that this study adopts a hybrid approach to leadership, combining functionalist (instrumental-scientific) and interpretative (humanistic) approaches.

Critical Approaches to HRM

The concept of "Critical Management Studies (CMS)" was seen first in the title of a book edited by Alvesson and Willmott. Today, the studies of Alvesson and Willmott (1992) and Grey and Willmott (2005) are accepted as seminal texts. CMS is built on three interrelated essential propositions (Taskin and Willmott, 2008 cited from Fournier and Grey, 2000): De-naturalisation, anti-performativity and reflexivity. De-naturalisation is related with the questioning of some practices and behaviors in organizational contexts which have become taken for granted or naturalized. In this way, it may be possible for dominant actors in organizations to emancipate oppressed groups. In addition, according to the orthodox management approach, the main task of management is to organize production factors in a way that guarantees maximum efficiency and profits. During these efforts, instrumentalization of almost everything is accepted as legitimate. CMS endeavors to increase the understanding and questioning of people about management of people. Finally, reflexivity aims to raise awareness about the conditions in which some meanings are attributed as key terms and these meanings become dominant (Taskin and Willmott, 2008).

CMS has contributed to many fields both inside and outside management. For example, mainstream strategic management discourse largely serves the interests of top management in organizations by masking reality. According to this discourse, managers are a unique class who can deal with the problems of organizations. Through this discourse, top managers legitimize inequalities in terms of wages and so on between them and employees in other layers (Knights and Morgan, 1991, 1995).

In a similar vein, there are some studies in human resources management field which have benefited from CMS. For example, Townley (1994) indicated how neutral organizational arrangements and techniques associated with state-of-the-art HRM may be understood as part of the workings of power and ideology. Deetz (2003) focused on the politics of person/personal structured around Foucault's conception of 'disciplinary' power in relation to the theory and practice of human resource management. As mentioned above, there are some studies in literature which link CMS and HRM. However, as far as is known, this study is one of the few studies which associates CMS with JDs in particular.

Methodology

Research Goal

The first aim of this study was to show that ambiguities in job descriptions can be manipulated by some individuals and/or groups in an organization. A secondary objective was to discuss and attract attentions to the important role of organizational leaders in decreasing hegemonic relationships in their organizations.

Context

This study is based on a change project implemented in a Turkish public university, which is one of the most prestigious universities of Turkey, with approximately 45,000 students and 11 faculties of agriculture, art and sciences, business, economics and administrative sciences, education, engineering, fine arts, law, medicine, theology and veterinary. With the last change of university administration, some radical and revolutionary change projects were launched.

In one of these projects, following various demands continuously coming from different stakeholders, the university felt the need to organize processes to increase quality and speed and decrease costs. Therefore, the rectorship of the university launched the re-organization project, under the sub-headings of "lean organization" and "process management" in February 2013 with a team of five academicians from the three different faculties of business, economics and administrative sciences and engineering. Since it was accepted as one of the most problematical departments, the "Construction Jobs and Technical Head of Department" of this university was chosen as the pilot department for this project. The department had approximately 200 personnel. First, the team prepared an implementation plan, then to understand the roots of the department problems interviews were conducted and documents examined.

Data and Sampling

In this study, it was aimed to understand how a dominant group (engineers) in an administrative department of a public university used ambiguities in job definitions in favor of themselves. With this aim, 35 semi-structured interviews were conducted with personnel (total 1466 minutes). The duration of the interviews varied between 15 and 80 minutes. Of the total participants, 91% were male with an average age of 45.11 years (range, 21- 56 years) and tenure varying from 2 months to 29 years. Before the interviews, an interview form was prepared and pilot-tested. Finally, since the answers given to the questions were being repeated, the researchers concluded that they had reached saturation point with 35 interviews and the interview process was terminated.

Reliability and Validity

To increase validity and reliability, various tactics were applied, such as probes and alternative questions added into the interview form. In addition, at the beginning of the interviews, anonymity and confidentiality were guaranteed to the participants. All interviews were conducted by at least two researchers. Any ambiguities in the meanings of answers were clarified with the help of the respondents (Boddy, 2005; Fielding, 1993; King, 1994; Patton, 2002; Yıldırım and Şimşek, 2005).

Findings

The findings showed that there were some ambiguities in the JDs. For example,

> *There is no job which we don't do. We do jobs which beyond the scope of construction jobs and technical head of department. For example, if there is a problem in a roof, we go there to resolve it, or if a drain is blocked with leaves, we clean it. The related department should clean it but we often do this.*

> *First, there are some problems in the organization structure here. There should be an organization chart. Offices and sub-departments should be created but there is no organization like that. Job descriptions are inadequate.*

> *Our department is not a producer, it is a mechanical repair unit. However, we perform some tasks associated with production. For example, I have made complete installations. I think there are some ambiguities in our job descriptions.*

> *There is no a written job definition. It was stated verbally. Sometimes we attach structures to the road, which doesn't seem like our job.*

Some technicians and particularly engineers stated that they did not know the reasons behind this ambiguity. For example, a mechanical technician stated that:

> *I think if there were a detailed and clear job definition, it would be better. I don't know the reason. I'm not sure about whether it is in my job description or not.*

However, according to some technicians, these ambiguities are not accidental. For instance an electrical technician expressed the statements below:

In my opinion, these open-ended statements in the job descriptions are used consciously. Statements like that are in my job descriptions as well.

According to technicians who think that these ambiguities are not coincidental, the reason for these ambiguities is clear and these ambiguities in JDs were used by the dominant group (engineers) in favour of themselves. They offloaded unwanted tasks onto technicians. Two construction technicians stated:

The calculation of approximate costs should be done by engineers. However, we do it and often go to audits for major repairs. The accounting books of building sites are our responsibility.

Hard-working employees do all the jobs in this department. There is no problem for lazy individuals. In addition, there is no productive architect or civil engineer. When a task comes along, the engineers or architects do not take charge. I finish every phase of a job and the engineers or architects only sign for it. If the results are good, they take the credit but if there are any problems, the technicians are blamed. All jobs are done by the technicians in this department. The engineers and architects should take on the responsibilities of their positions but they don't. Therefore, salaries are unfair in this department.

Even worse, these ambiguities seemed to be partially naturalized by some technicians. For example,

J*ob descriptions cannot be clear. When they are clear, you can't make employees do something.*

There are some ambiguities in our job descriptions….If you define everything, some tasks are not assigned to anybody. You should organize tasks in a way that there is no unassigned task in your organization. All tasks are the university's tasks. Therefore, they have to be done somehow.

Conclusion

The primary aim was to understand the reasons for ambiguities in JDs. Another aim was to emancipate the oppressed group and mitigate domination as far as possible. To this end, interviews were conducted and according to the findings, JDs seem to be kept ambiguous intentionally. Through this study, emancipation of some technicians was partially achieved at least at a cognitive level.

Another aim of this study was to discuss the important role of organizational leaders in decreasing oppression in their organizations. According to the researchers of this study, organizational leaders should collect information about their organizations and recognize the hegemonic relationships between different groups. Effective leaders, through their position in the organization, can prevent this tyranny.

As in every study, there were some limitations to this research, primarily that the number of interviews could have been increased. However, this study also has some original features as there are many studies in HRM literature which focus on JDs in organization, but, as far as we know, there are only a few studies which link ambiguities in JDs with critical management thinking. In addition, the researchers added a new variable into this equation: leadership.

This field of study seems to present some opportunities for future studies. For example, researchers can examine which style of leadership is more effective in decreasing oppression in organizations. Another important question is that of what are the functions of the use of rhetoric by leaders in a hegemonic context.

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4th International Conference on Leadership, Technology, Innovation and Business Management

Educational Leadership: A new Trend that Society Needs

Ali Mohammad Jubran[a]

[a]*Associate Professor, Administration and Educational Foundations, Faculty of Education, Yarmouk University, Irbed- Jordan- jubran30@hotmail.com*

Abstract

This paper aims to highlight early and contemporary ideas on educational leadership from an Islamic perspective. It started with the definition of the term. Educational leadership in this context could be the process of guiding and influencing the members of the organization so that they will display initiative and love for the work that they do as a kind of worship towards achieving the common objectives of the organization. Educational leadership roles have been discussed in this paper. These are the visionary leader, the servant leader, the leader as a guide, the influential leader and the educative leader. The paper discussed also the styles of educational leadership that include brotherhood, collaborative, Shuratic or consultative and supportive leadership.

Keywords: Educational leadership roles, Educational leadership styles

Introduction

This research discusses some thought on educational leadership. It will highlight both early and contemporary ideas on leadership. It will also highlight the main roles and styles of leadership. This research aims to identify the main features of educational leadership from an Islamic perspective. It will be an attempt to contribute to the development and understanding of educational leadership in Islamic educational institutions. This will give a better understanding of organizational effectiveness.

Leadership in Islam is a responsibility and a trust that leaders feel when they deal with their followers. It is considered as a part of worshipping Allah (s.w.t). Leadership in Islam is to serve the members of the organization, the community and the society at large, that is, directing and guiding people to what is good in this world and the Hereafter.

Understanding leadership from an Islamic perspective is an important need today. The Muslim *Ummah* should have its own views and theories of whatever is necessary for Muslims. Islamic resources and history are rich in ideas and examples, that may be used as the formations for the Islamic theoretical framework of leadership and other subjects. Muslims also are "beginning to invest heavily in education and knowledge management, and the results are tangible" (Beekun and Badawi, 1999: viii). This requires great efforts towards understanding the issue of education and other related subjects. In addition, the ethical and moral system that is considered as the core of

the Islamic framework of leadership is becoming an emphasis of the western perspective of the topic (Gardner, 1990: 67- 80; Paine 1997: 3; Spitzer, 2000: 203- 244; Murphy and Shipman, 2000: 99; Sergiovanni, 2001: 103). This further fuels the need for investigating the topic of leadership more precisely from an Islamic perspective.

Definition of Leadership

Early Muslim scholars used words such as '*wilaya', 'Imamah'* and '*Khilafah'* to mean leadership. Ibn Taymiya (661-728 AH) defined *wilaya* as "maintaining the religion of the people such that, if it is lost, they will be the losers, and maintaining a life that will assist people to understand their religion" (1992: 11).

Al-Mawardi (957-1058) looked at *Imamah* in the context of "the guarding of the religion and life. It is an obligatory system for all Muslims because without it, people will be living in darkness and religion will not be guarded" (quoted in Basbous 1988: 47 and al-Wakeel 1988: 22). On this matter Allah (s.w.t) has said in the Qur'an about Prophet Abraham (a.s): "And remember that Abraham (a.s.) was tried by his Lord with certain commands, which he fulfilled, He said: I will make thee an *Imam* to the people" (Qur'an 2: 124). In his commentary on this verse, Ali (1985) explained that "*Imam* means the primary sense of being foremost: hence it may mean leader in religion or leader in congregational prayer or model, pattern and example" (p. 50). Therefore, one of the meanings of *Imamah* is leadership.

According to Ibn Khaldun (1332-1406 AC), *Khilafa* means "to assist people to live in accordance with the Islamic rules as a guidance for their interests in this world and in the Hereafter. It is the vicegerent duty on behalf of Allah (s.w.t) to guard the religion and to manage life" (Ibn Khaldun, 1979: 179).

With regard to the term 'leadership', the Arabic dictionary of Al-Mo'jam Al-Waseet defined 'to lead' as "to head a group while being in front" (Mustafa et al. 1989: 765). Therefore, leaders always come in front of their members and organization, and are the first. The American Heritage Dictionary of the English Language in the same way defined to lead as "to guide or direct in a course, or to go first as a guide" (Morris, 1981: 719).

Leadership in Islam according to some writers could be "the bridge used by some people to influence the members' attitudes and behaviors in order to be able to achieve the objectives of the organization" (Adlouni and Sweidan 2000: 18). According to this definition, the influential role of the leadership is the most important one as leaders can enable people to do the right job.

Some scholars tend to connect the term of leadership with the importance of having a vision. They believe that good leadership is one that can come up with a clear vision and thus be able to transfer such vision to the members. For example, Murad Khurram defined leadership as "the ability to see beyond assumed boundaries,

and to come up with solutions or paths that few can visualize. The leader must then project this vision for every one to see and pursue" (quoted in Beekun and Badawi. 1999: 5- 6).

Leadership could be defined as "the process of moving people in a planned direction by motivating them to act through noncompulsive means" (al-Talib, 1992: 50). This definition emphasized the leader's role in moving his or her organization's members towards the achievement of the common objectives. This means that leaders should not only direct people to do the job but to help them move by motivating them in a way that will encourage them to have a productive attitude towards work.

In another way, leadership could also be defined as the "art of influencing and directing others towards a common objective in a way that leaders will gain their members' trust, respect, cooperation and sincere obedience" (Basbous 1988: 28). It should be noted here that such definitions consider leadership as an art that requires several skills in understanding others and dealing with them wisely. It emphasizes both the direction and influential roles of leadership.

Similarly, Beekun and Badawi have defined leadership as "the process of directing and influencing organization members so that they will take ownership of organizational activities and programs" (1999: 132). Al-Talib (1992) once again stressing that leadership is "a process of influencing others" (p. 50).

However, leadership in Islam has a unique role - that is guiding people to what is good in this world and the Hereafter. This means that leadership does not only deal with the mere objectives of the organization in the context of its daily work. The objectives of any organization must be connected with the religion's objectives. Therefore, leadership has a new dimension – which is the connection with the religion and the Creator. In this way, a Muslim leader will understand that his or her role is to guide people, not only to achieve the mission of the organization, but also to raise them higher than that and connect them with the highest goal of existence as a human being. It should be clear to everybody that worshipping Allah (s.w.t) is the main goal for all Muslims. Leadership in this way, should be understood as "a kind of worship" (al-Nahwi, 1999: 36).

Therefore, leadership is a guiding process more than a directing one. Leadership in this context could be the process of guiding and influencing the members of the organization so that they will display initiative and love for the work that they do as a kind of worship towards achieving the common objectives of the organization. By doing so, leaders and members will be able to attain happiness in both worlds.

Leadership Roles

Leadership in Islam has some unique roles as it is concerned with worldly matters as well as giving consideration to the Hereafter. A Muslim leader in any organization has all of these interests. As his concern with the success of the organization, he takes care regarding the satisfaction of Allah (s.w.t.). Additionally, he or she has the responsibility of guiding people to the good for this life and for the Hereafter. This section will look at five roles of leadership in Islam.

A. The Visionary Leader

A Muslim leader is a forward-looking person whose main concern is to achieve the vision of the planned future rather than just the daily objectives of the organization. He or she has a clear vision that guides him or her towards the achievement of the objectives by following the right way and method. The leader's vision will clarify why one is here, how and what one is doing and what one will be doing in future. Leaders have to transform this clear vision to the members of the organization. This will enhance the improvement of the organization and lead it to a high state whereby everybody is informed of what he or she is doing and towards what end.

Allah (s.w.t) asked the Prophet (p.b.u.h.) and his companions to be patient and not to clash with non-Muslims because the final vision had yet to be reached. Allah (s.w.t) said in the Qur'an: " Hast thou not turned thy thought to those who were told to hold back their hands (from fight) but establish regular prayers and spend in regular *Zakah*… " (Qur'an 4: 77). Prophet Muhammad (p.b.u.h.) therefore, kept planning for this final vision until it was achieved when the first Islamic state was established in *Medina*.

B. The Servant Leader

Serving one's people is one of the main roles of a Muslim leader. Leadership in this context, is not a matter of privilege or position. It is rather a huge responsibility. Leaders need therefore, to feel as if they are servants in order to be able to fulfill their duties in the best way possible. This feeling will help leaders to make great efforts towards protecting the members of the organization and do whatever necessary to achieve its objectives.

The Prophet (p.b.u.h.) said: "A ruler who has been entrusted with the affairs of the Muslims but makes no endeavor (for the material and moral upliftment) and is not sincerely concerned (for their welfare) will not enter Paradise along with them" (Muslim, n.d. Vol. 1, ch. 44, *hadith* No. 264, p. 82).

C. The Leader as a Guide

A Muslim leader is but a guide who is concerned about his followers' well being. His main concern is guiding them to what is good in the organization in life in general and in the Hereafter. He has to direct the followers towards understanding the vision of the organization and how they are going to achieve success in their duties in

the best manner. He should have such ability. In addition, the Muslim leader should have in mind that one of his duties is to direct people how to be good Muslims besides being professional members.

About several of His Prophets, Allah (s.w.t) said in the Qur'an: "And We made them leaders, guiding (men) by Our command, and We inspired them to do good deeds, to establish regular prayers and to give *Zakah* and they constantly served Us (and Us only)" (Qur'an 21: 73).

D. The Influential Leader

A Muslim leader's job is not only to serve and guide people but to bring about some changes for the betterment of their lives. Leadership in this context is connected with change from the wrong to the right. By influencing people, leaders will be able to transform their spirit, knowledge and experience to everybody in the organization. However, this will not be achieved unless leaders are good models and examples for their followers.

The Prophet (p.b.u.h.) was very successful in influencing people and guiding them to the new religion - beginning with his wife Khadija (r.a), his close companion Abu Bakr al-Siddiq (r.a) and all other companions (Abdul-Wahhab 1997: 97). The caliph Abu Bakr (r.a) was then very influential in persuading Umar Bin al-Khattab and other people in the importance of fighting those who refused to pay the *Zakah* in order not to differentiate between all pillars of Islam (al-Sayouti 1994: 87). This resulted in keeping the religion as pure as Prophet Muhammad (p.b.u.h.) preached it to his people.

E. The Educative Leader

A Muslim leader is concerned about the enhancement of the potentials and capabilities of all members. Thus leadership is concerned with raising the members of the organization in a number of ways, especially: spiritually, academically, intellectually, psychologically, socially and professionally. A leader's main mission is not only to ensure the job is done but also to develop and train people so that they will be more professional and ensure the job can be done by themselves. Leadership in Islam in this context will allow leaders to transfer their experiences to the members. As a result, the capable people will be trained in one way or another to be the leaders of the future and the cycle will continue.

The Prophet (p.b.u.h.) used to teach his companions in different ways, especially when somebody was given a position involving leadership. It has been reported that when Prophet Muhammad (p.b.u.h.) appointed Ali Ibn Abi Talib (r.a.) as a judge in Yemen, he was concerned that he had no experience in the field. Regarding this incident, Ali (r.a.) said: the Prophet (p.b.u.h.) sent me to Yemen as a judge. I said: Oh! Messenger of Allah ! I am a youth, how could you send me to a people who are far advanced in years than me. The Prophet prayed for me, and said: "If two adversaries approach you; (for fair judgement) and you hear the claim of one, do not judge

until you have heard from the other, for this is to decide the case" (al-Baihaqi n.d., Vol.10, *Kitab A'dab al-Qadi, p.* 86). It is clear here that Prophet Muhammad (p.b.u.h.) had taught Ali (r.a.) the main and most general rule to be practiced by a judge. Muslim leaders therefore, should follow such examples and train their members how to do the assigned jobs. By doing this, members will be more confident in tackling their duties and as a result, they will be more professional in their concerned fields.

Leadership Styles

Leadership from an Islamic perspective has some unique styles which makes it different from other styles of leadership. They are based on the Islamic principles that guide and frame the theoretical perspective of leadership. Four leadership styles could be recognized; brotherhood, collaborative, *shuratic* or consultative and supportive leadership styles. However, Muslim leaders can adapt more than one style as they relate to each other. Feelings of brotherhood within the organization will lead people to collaborate with each other and will help the leader to support his or her followers. On the other hand, applying the *shura* system in the decision making process will bring the leader and the followers together as every body feels loyalty and sense of belonging regarding the organization. This section will look at these four possible leadership styles in Islam.

A. Brotherhood Leadership

It is a style of leadership in which the leader and all the organization's members are considered as a family. Followers feel that they are but brothers and sisters of each other before having any kind of organizational structure or position. To have the real essence of brotherhood, leaders tend to feel that they are not better than any other person in the organization. They also tend to deal with others exactly as they like to be dealt with.

Possessing this feeling in an Islamic organization will make every body feel as if they are one family. Such an achievement will help to create a socially healthy environment for the excellence of the organization.

B. Collaborative Leadership

It is an inner feeling in a person in which he or she recognizes that they are working as a team. Leaders will feel that they cannot work separately even if they are experts unless they cooperate with everybody in the organization. Leaders then believe that strengthening the relationships of the members will lead to success. Such strong relationships and cooperation will bring harmony to the organization, which will create a positive and healthy environment. To achieve that, leaders tend to have the members working in groups as much as possible. They tend also to have some social programs for all members. As a result, members in the same way will believe that they cannot achieve their objectives unless they put their hands together and work as one team.

C. *Shuratic* or Consultative Leadership

Whatever experience the leader has, his or her decision will be according to one person's opinion. He or she will probably feel the need for others' opinions and ideas before making any necessary decisions that might affect the members of the organization. Leaders therefore, apply the *shura* (consultation) method in any way that allows them to listen to others and allow the members to express their ideas on certain important matters that concern the organization. Leaders then, will tend to ask for feedback about any matter that concerns the school and the members. As a result, members will feel free to go to the leader and present any necessary suggestions or advice. Such an atmosphere will create a high level of trust and spirit among all members of the organization.

Allah (s.w.t) said in the Qur'an about Muslims: "Those who respond to their Lord, and establish regular prayer who (conduct) their affairs by mutual consultation; who spend out of what We bestow on them for sustenance" (Qur'an 42: 38).

D. Supportive Leadership

Islamic leadership believes in the backing up of the members of the organization in their work. Leaders are trying to be on their members' side. The organization's members are always in need of their leaders' motivation and encouragement. They need the spiritual motivation before any other. They also need training programs that increase their knowledge and skills in different fields. Therefore, leaders in this style will take any given opportunity to motivate and encourage their members in different ways and utilizing different situations. Leaders believe in training and developing the members in necessary skills, and thus a continuous professional development program for the members is an absolute priority.

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TECHNOLOGY

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The effect of ERP implementation CSFs on business performance: an empirical study on users' perception

Mustafa Ağaoğlu, E. Serra Yurtkoru[3], Aslı Küçükaslan Ekmekçi

Marmara University, İstanbul, 34180, Turkey

6. Abstract

7. This study is conducted on 220 employees involved in ERP implementation project in a multinational consumer goods company to investigate the CSFs and their effect on ERP implementation success from users' point of view. Findings indicate there are differences in which CSFs are perceived important and actually have effect on ERP implementation success. Interestingly, none of the ERP adopting organization environment CSFs had influence on project success. Nevertheless, 'careful selection of ERP software', 'software analysis, testing and troubleshooting', and 'vendor support' explain ERP project outcomes.

Keywords: Business process outcomes; Critical success factors (CSFs); Enterprise resource planning (ERP); ERP project outcome

Introduction

In today's globalized, fast changing business environment, staying competitive has become a matter of survival. In order to stay competitive, companies must streamline their activities and functions. Successfully implemented enterprise resource planning (ERP) systems are providing companies improved business practices and procedures (Bhatti, 2005).

ERP system is a set of integrated software modules and a central database that facilitates an organization to manage the efficient and effective use of resources (materials, human resources, finance etc.) by automating and incorporating business processes, data sharing throughout the enterprise and enabling information access in real-time environment (Laudon and Laudon, 2013; Nah, Lau and Kuang, 2001). ERP promises benefits in a wide range: increased efficiency, improved quality, productivity, and profitability through increased capability, also generate and communicate accurate and timely information (Bhatti, 2005; Ragowsky and Somers, 2002).

Despite the benefits, not all ERP implementations have been successful (Maguire, Ojiako and Said, 2010; Zhang et al., 2005): reports reveal that 90 % of early ERP projects were either late or over budget, and only 30 % of promised benefits were delivered (Plant and Willcocks, 2007; Zhang et al., 2005). Moreover ERP implementations require a considerable amount of investment (Dezdar and Sulaiman, 2009; Karimi, Somers, and Bhattacherjee, 2007a). Given the high expenses and low success rates, causes of these failures need to be understood.

Rockart (1979) introduced critical success factors (CSFs) method in 1979. Since then CSFs are used to identify the factors affecting the ERP implementation success and failure. CSFs are "the few key areas of activity in which favorable results are absolutely necessary for a particular manager to reach his goals." (Bullen and Rockart, 1981, p.3) As can be seen from the definition CSFs are not only attractive to researchers but also to managers hence to organizations. CSFs are reachable and vigorous moreover the identification and prioritization of factors that could influence implementation success (Brown and He 2007).

Many studies have been conducted to identify the CSFs affecting the ERP implementation success and failure. Some of the notable studies are conducted by Dezdar and Sulaiman (2009), Karimi, Somers, and Bhattacherjee, (2007a) Ngai, Law, and Wat (2008), and Somers and Nelson (2004). However, only a few studies have attempted to investigate the effect of proposed CSFs on ERP implementation success.

[3] Corresponding author. Tel. + 90-212-677-7400 fax. +90-212-677-7401
Email address: syurtkoru@marmara.edu.tr.

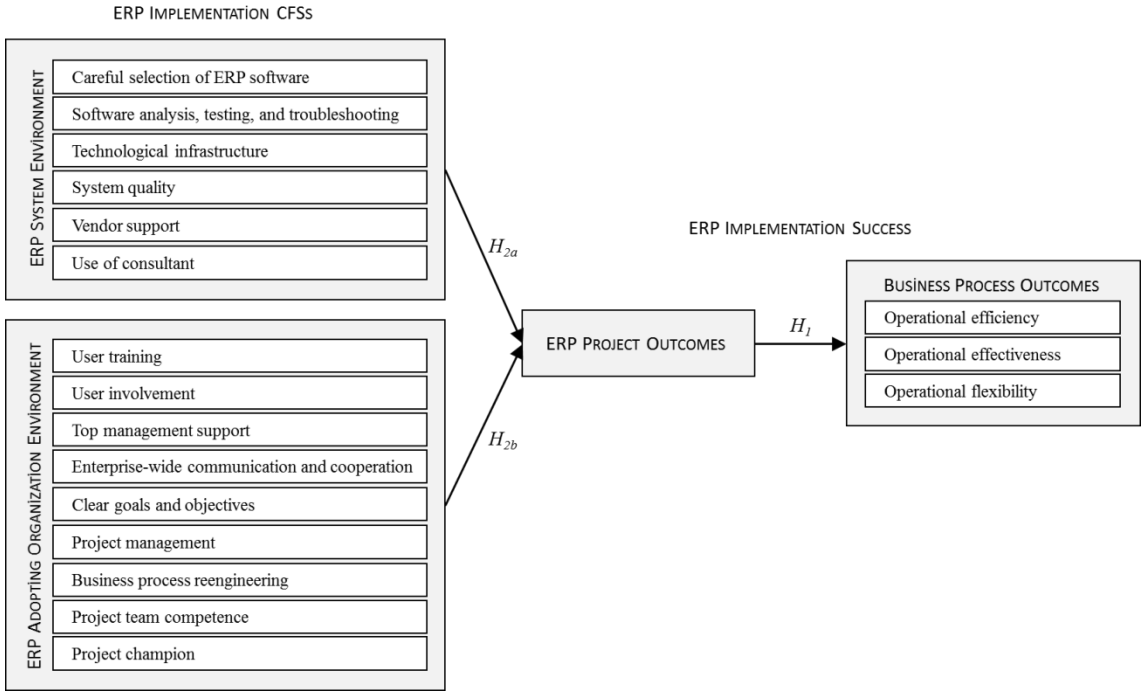

Fig 1. Research model

In majority of the research on CSFs, unit of analysis is taken as organizations; because of this, top managers have evaluated the CSF for ERP implementation project in their organization. Therefore, the perception of implementers or users of the project are not considered. Yet, in order to avoid failure and ensure success in ERP implementation it is necessary to understand partners involved. The implementation of such systems requires effective participation of the whole organization (Ahmad and Cuenda, 2013). The aim of this study is to investigate the CSFs and their effect on ERP implementation success from users' point of view to help organizations plan and execute their ERP projects more successfully.

Hypotheses and research model

Performance of ERP projects are measured by a mix of project outcomes and business outcomes (Bhatti, 2005). ERP implementation results in business process outcomes of reduced cost and cycle time, improved productivity, quality, and customer service benefits (Shang and Seddon, 2002). Furthermore, ERP business outcomes can be defined in three dimensions: efficiency, effectiveness, and flexibility. As stated by Karimi, Somers, and Bhattacherjee (2007b) successful ERP implementation gives rise to

1. *business process efficiency* by reducing cost and cycle time, increasing productivity of the production process, and improving quality and customer service;
2. *business process effectiveness* by improving decision making and planning, and resource management and delivery; and flexibility by building and
3. *business process flexibility* into IT infrastructure to reduce IT cost, by differentiating products and services, and by establishing and maintaining external linkages to customers and suppliers.

ERP project success or in other words project outcomes are measured in terms of meeting the project due dates, budgets, and scope and performance expected (Markus et al., 2000). This distinction of project outcomes and business outcomes is necessary, as the former is the immediate effect of ERP while the latter assesses post-ERP project performance (Ram, Corkindale and Wu, 2013).

Therefore, in this study we hypothesize that immediate project success comes before business outcomes and has positive effect on. Thus our first hypothesis is

H_1: ERP project outcomes have positive affect on business process outcomes.

CSFs are key strategies to achieve the benefits of ERP systems (Liu and Seddon, 2009; Plant and Willcocks, 2007). As discussed earlier, CSFs for the implementation of ERP systems have been analyzed for substantial time; however, there are differences in findings and even in the terminology used to describe critical factors.

After reviewing the literature, we chose to utilize fifteen theoretically important CSFs in this study (See Figure 1). We followed the categorization made by Dezdar and Sulaiman (2009) and analyzed CSFs in two environments: ERP adopting organization environment and ERP system environment (See Fig 1). In line with our aim we hypothesize, proposed CSFs have positive affect on ERP implementation success namely the project outcomes. Thus our hypotheses are

H_{2a}: ERP system environment CSFs have positive affect on ERP project outcomes
H_{2b}: ERP adopting organization environment CSFs have positive affect on ERP project outcomes

Methodology

Measures and research instrument

A multi-item questionnaire measured on a five-point interval scale is used in this study. Six ERP system environment CSFs are measured with 24 items and nine ERP adopting organization environment CSFs are measured with 35 items based on the literature (Bhatti, 2005; Dezdar & Sulaiman, 2009; Karimi, Somers, & Bhattacherjee 2007b; Plant & Willcoaks, 2007). Business process outcomes are measured by 10-item scale (Karimi, Somers, & Bhattacherjee, 2007b) and ERP project outcome are measured by four items; being on time, being within budget, achieving predetermined goals and being in line with quality standards. In addition, respondents are directly asked to evaluate how important are those critical success factors in realizing an ERP project.

Sample and data collection

The survey of this study is conducted in a multinational consumer goods company, implementing ERP project from a business unit located in Istanbul. Questionnaire is distributed to 220 employees involved in the project and 184 questionnaires returned with 83.6 % return rate. The sample consists of 72 female (39.1 %) and 112 male (60.9 %) employees with an average age of 28.7 (SD=3.6). All the respondents are university graduates, 29.3 % of them have master's degree, and 2.7 % have doctorate. Working years in this company ranges between 1 to 7 with a mean of 2.7 and standard deviation of 1.3.

Results

Prior to path analysis, we conducted confirmatory factor analyses (CFA) to test the scale constructs. Endogenous variables ERP project outcome and business process outcomes showed good fit $\chi^2(2, N=184)=8.38$; $p=.02$; CFI=.97; TLI=.91; RMSEA=.08 and $\chi^2(32, N=184)=55.37$; $p=.01$; CFI=.97; TLI=.96; RMSEA=.06 respectively. As hypothesized, ERP project outcome is unidimensional and business process outcomes has three dimensions. The 24 items used to measure ERP system environment CSFs loaded on the six hypothesized factors with relatively poor fit. However, seven of the items had very low factor loadings (less than .30), after trimming those items the scale has indicated a good fit $\chi^2(104, N=184)=124.59$; $p=.08$; CFI=.96; TLI=.95; RMSEA=.03. The last CFA is conducted to test ERP adopting organization environment CSFs. We have hypothesized 35 items to load on nine factors however, like in system environment CSFs; some items had very low loadings, and some items were not significant. As a result, 'project management' dimension is eliminated and in addition, 'enterprise-wide communication and cooperation' and 'clear goals and objectives' dimensions merged together. As a result, a seven-dimension model is confirmed $\chi^2(149, N=184)=197.69$; $p=.01$ CFI=.93; TLI=.91; RMSEA=.04.

Path analysis

Since the objective of this study was to identify which CSFs increases the ERP project success and whether the ERP project success effects business process outcomes a path analysis is conducted using AMOS. The result of the path analysis showed a good fit of the model $\chi^2(201, N=184)=312.12$; $p=.00$ CFI=.93; TLI=.91; RMSEA=.06 See Table1. As a result, of the path analysis it is found that ERP project outcome is explained by 'careful selection of ERP software', 'software analysis, testing and troubleshooting', and 'vendor support. 'Vendor support' and 'careful selection of ERP software' have higher effect on project success than 'software analysis, testing and troubleshooting' ($\beta_{\text{vendor support}}=.46$, $\beta_{\text{careful selection}}=.43$, $\beta_{\text{software analysis}}=.24$). Interestingly none of the ERP adopting organization environment critical factors have a significant effect on project outcome. ERP project success has quite high positive effect on business process outcomes ($\beta=.66$).

Table 1. Path analysis results

Path	*β*	*t* value
ERP project outcome □ Business process outcomes	.66	5.61***
ERP System Environment		
Careful selection of ERP software □ ERP project outcome	.43	2.90**
Software analysis, testing and troubleshooting □ ERP project outcome	.24	2.64**
System quality □ ERP project outcome	n.s.	
Technological infrastructure □ ERP project outcome	n.s.	
Use of consultant □ ERP project outcome	n.s.	
Vendor support □ ERP project outcome	.46	2.47*
ERP Adopting Organization Environment		
Business process reengineering □ ERP project outcome	n.s.	
Communication and cooperation & Clear goals and objectives □ ERP project outcome	n.s.	
Project champion □ ERP project outcome	n.s.	
Project team competence □ ERP project outcome	n.s.	
Top management support □ ERP project outcome	n.s.	
User involvement □ ERP project outcome	n.s.	
User training □ ERP project outcome	n.s.	
$\chi^2(201, N=184)=312.12$; $p=.00$; CFI=.93; TLI=.91; RMSEA=.06		
Note: *$p<.05$, ** $p<.01$, ***$p<.001$; n.s.= not significant		

Table 2. Friedman two-way ANOVA analysis results

		Mean rank
OE	**User involvement**	**9.39**
OE	**User training**	**8.84**
SE	Use of consultant	8.74
SE	System quality	8.65
OE	Project Team Competence	8.61
SE	**Careful selection of ERP Software**	**8.42**
SE	Technological infrastructure	8.39
OE	Project management	7.74
OE	Enterprise-wide communication and cooperation	7.58
OE	Top management support	7.51
SE	**Software analysis, testing and troubleshooting**	**7.51**
OE	Project champion	7.42
OE	Clear Goals and Objectives	7.36
OE	Business process reengineering	7.30
SE	**Vendor support**	**6.55**
χ^2 Friedman test (14, $N=184$)=98.25, $p=0.00$		
Note: SE = ERP System Environment; OE= ERP Adopting Organization Environment		

Friedman analysis

During the research, we have also asked respondents to evaluate how important the critical success factors were in realizing an ERP project. Therefore, we further conducted a Friedman two–way analysis of variance by ranks test to reveal the differences between importance given to CSFs. As a result of the analysis, it is found that there is a significant difference between the amount of importance assigned to CSFs by employees. The most important factor to achieve success in ERP project implementation is ‘user involvement’ according to respondents, which is followed by ‘user training’. The least important factor is ‘vendor support’ according to Friedman analysis. These findings are contradictory with path analysis result where ‘vendor support’ is one of the most important factors that explains the project success. Moreover, ‘user involvement’ and ‘user training’ are not significant factors. Mean ranks of all the CSFs can be seen from Table 2.

Conclusion

ERP implementations enables organizations competitive strategies however, not all projects have been successful regardless of the huge investments made. Obviously, there is an increased experience and capability since the early ERP project implementations; however, ERP systems have proven to be over-whelming in many organizations (Maguire et al., 2010). In addition, because the software and technology are changing so quickly with time, new risks, and issues are presented. Furthermore, over time, organizational learning leads to different perspectives on what critical success factors might be, and where management emphasis needs to lie (Plant and Willcocks, 2007). This research is an attempt to extend the ERP implementation research by testing the CSFs effect on ERP implementation success from user's perception.

CSFs have to be accomplished in an organization for an ERP system to be successful (Ram, Corkindale, and Wu, 2013). Researchers have suggested that organizational and technological CSFs are most important, and beneficial to the organizations (Karimi, Somers, and Bhattacherjee, 2007a). Yet in our study, we found that organizational CSFs do not have a significant effect on project success and indirectly on business outcomes. Our findings indicate that ERP project outcome is explained by 'vendor support', 'careful selection of ERP software', and 'software analysis, testing and troubleshooting'. In other studies 'vendor support' is found to have positive influence as well, yet other influential factors: process re-engineering, project management, and training were not significant in our study (Ram, Corkindale and Wu, 2013). Finding regarding 'careful selection of ERP software' is consistent with Liu and Seddon (2009). However, they also found top management support as an important factor that was not significant in our study. As expected ERP project success has quite high positive effect on business process outcomes. Since business process improvements is the major motivation for ERP implementations (Karimi, Somers and Bhattacherjee, 2007a) this finding supports expectations.

CSFs are mostly investigated in literature by providing a list of critical items, and asking the IS executives to identify the degree of importance of each CSF in their organizations' ERP implementation (Plant and Willcocks, 2007; Somers and Nelson, 2001; 2004). Since in this study user's perception is considered this ranking procedure is replicated. As a result of the findings it is found that, the most important factor to achieve success in ERP project implementation is 'user involvement' according to respondents' perception, which is followed by 'user training'. The least important factor is 'vendor support'. These findings are contradictory with path analysis result where 'vendor support' is one of the most important factors that explains the project success. Moreover, 'user involvement' and 'user training' are not significant factors. These findings indicate that the importance attached to critical success factors is independent of the actual effect of CSFs on the ERP implementation success. Majority of the ERP adopting organization environment CSFs were rated highly even though none of them had significant explanatory power on implementation success. Organizational factors may be acting as hygiene factors during the implementation.

One of the limitations of this study is stages of ERP implementation process are not considered. In the future testing the model for different stages may give more insights. Moreover, the data is collected from one organization, as the aim was to understand implementers' perception however; it limits the generalizability of the study. Nevertheless, the differences in the findings indicate this study must be replicated in different companies and industries to find the effect of CSFs effect on firm performance. Different organizations have different requirements and the scope of that ERP projects can alter the 'critical' success factors that are actually critical for achieving success in implementation and improving output performance. Therefore, more empirical research is necessary to determine whether ERP 'critical' success factors are necessarily critical in practice. Better understanding of the effects of CSFs for ERP project implementation will help organizations to plan and execute their ERP projects more successfully.

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4th International Conference on Leadership, Technology, Innovation and Business Management

A Theoretical Model Proposal: Personal Innovativeness and User Involvement as Antecedents of Unified Theory of Acceptance and Use of Technology

Aygül Turan[a] , Ayşegül Özbebek Tunç[b], Cemal Zehir[c] *

[a,c] *Yıldız Technical University, İstanbul, 34349, Turkey*
[b] *İstanbul University, Istanbul, 34452, Turkey*

Abstract

An emerging stream of work on technology acceptance and innovation diffusion complements a large body of literature that points to users' technology acceptance behavior. In this paper, we argue theoretically that technology acceptance should be integrated into diffusion of innovation theory, so both concepts should be explained at the same framework. On the other hand, acceptance behavior is explained many other constructs, such as user satisfaction, user involvement. Unlike the previous research, we propose an overall framework to explain acceptance behavior and system implementation success. Hence we use unified theory of acceptance and use of technology. After that we try to create a linkage with this theory and personal innovativeness and user involvement as antecedents by providing some propositions. We will test these propositions in a field research for future research.

Keywords: Technology Acceptance Model, Innovation Diffusion Theory, Personal Innovativeness, User Satisfaction, User Involvement. Unified Theory of Acceptance and Use of Technology

Introduction

Technology acceptance is becoming a vital part of information technology studies. In some researches, this concept is handled in terms of several models. Many authors try to relate technology acceptance with other concepts such as user satisfaction, diffusion of innovation, etc. There is an evolution about progress in technology acceptance model. In this paper, we consider unified theory of acceptance and use of technology (Venkatesh et al., 2003). This paper aims to clarify the concepts of technology acceptance model and personal innovativeness and user involvement by means of integrating these concepts to explain the technology usage behavior. We propose a model that includes technology acceptance, personal innovativeness and user involvement and put forward some propositions. The proposed model will be tested empirically in our future research.

Literature Review

Evaluation of Technology Acceptance Concept

Technology Acceptance Model

Technology acceptance is a construct put forward by Davis (1989) explaining the user behavior towards a technology or system having been implemented by institutions (Malhotra, Galetta, 1999). Employees use different kinds of systems to accomplish their tasks in their companies. Especially, changing the existing system induces employees to reject using new system. On that point, technology acceptance is an important concept to adopt employees' behavior towards new technologies or systems. In order to state technology acceptance model

* Corresponding author. Tel. + 90-212-383-2086
E-mail address: ayturan@yildiz.edu.tr

(TAM) and explain it, Davis (1989) focuses on perceived usefulness and perceived ease of use concepts as determinants of attitude towards using, intention to use and actual usage (see in Figure 1).

Following the model, people incline to use a system whether it gets their job performance improve that is entitled "perceived usefulness" and whether it is useful for their tasks entitled "perceived ease of use" (Pfeffer, 1982; Schein, 1980; Vroom, 1964; Radner, Rothschild, 1975). So perceived usefulness is defined as *"the degree to which a person believes that using a particular system would enhance his or her job performance"* and perceived ease of use *"the degree to which a person believes that using a particular system would be free of effort"* by Davis (1989).

Technology Acceptance Model is explained on the basis of Theory of Reasoned Action and Theory of Planned Behavior. Concepts in those three models have causal linkages from attitude to behavior, as seen in Figure 2 and Figure 3 in Table 1. In addition, perceived usefulness, one of the components of technology acceptance model has close meaning of subjective norms in Theory of Reasoned Action and Theory of Planned Behavior. Unlike others, Theory of Planned Behavior has perceived behavioral control dimension that means *"perceived ease or difficult of performing behavior"* (Ajzen 1991).

Growing body of researches assert that the success of a system implementation is measured by actual system usage (Delone, Mclean, 1992, Delone, 2003; Danet, 2006). In addition, there are many researches having been explained the implementation success through attitude towards the system (Malhotra, Galetta, 1999) or intention to use it (Malhotra, Galetta, 1999; Livari, 2005).

Extending theoretical perspective on technology acceptance model, we can found emerging stream of work that explained the acceptance behavior via psychological attachment (Malhotra, Galetta, 1999), diffusion of innovation (Carter, Belanger, 2005; Agarwal, Prasad, 1997), user involvement, user resistance, user self-efficacy (Danet, 2006), user satisfaction (Doll, Torkzadeh, 1988; Livari, 2005), trust (Carter, Belanger, 2005) and voluntarism (Agarwal, Prasad, 1997).

7.1.2. Innovation Diffusion Theory and Innovation Characteristics

Theory of Diffusion of Innovation refers to employees' adoption of a new system or technology implemented by companies. Diffusion of Innovation put forward by Rogers (1983) identified as *"the process by which an innovation is communicated through certain channels over time among the members of a social society".* He also explains innovation diffusion through four dimensions, relative advantage, complexity, trialability, observability, as seen in Figure 4 in Table 1.

Furthermore, Moore and Benbasat (1991) take the theory of innovation diffusion step further and explain it by means of seven dimensions, relative advantage, ease of use, compatibility, image, result demonstrability, visibility, trialabiliy. Relative advantage refers to employees' perception that the innovation takes some advantages for their job performance. According to Moore and Benbasat (1991) relative advantage is analogous to perceived usefulness in technology acceptance model put forward by Davis (1989). The second dimension, complexity is defined as the system implemented by firms is easy to learn and free of effort for employees. As seen the definition, Moore and Benbasat (1991) propose that complexity is similar to perceived ease of use in technology acceptance model. In addition, compatibility is identified as *"the degree to which an innovation is perceived as being consistent with the existing values, needs, past experiences of potential adapters."* (Rogers, 1983, p. 195) The concept of image representes a status symbol for potential adopters. Moore and Benbasat (1991) separated the construct of observability, indicated by Rogers (1983) before, two different construct as result demonstrability and visibility. Employees attain concrete evidence, after using the innovation so this means system is demonstrated results evidently. (p.203) Visibility refers being able to seen innovation indications in the adoption context. Eventually, trialability is defined as having been a chance to experiment with the innovation by potential user. As illustrated the model in Figure 5, Table 1, Moore and Benbasat contribute the innovation diffusion model one more dimension, voluntariness of use and define as *"the degree to which the results of an innovation is perceived as being voluntary or through one's free will."*

7.1.3. Unified Theory of Acceptance and Use of Technology

As mentioned before, technology acceptance model is explained at the root of Theory and Reasoned Action and Theory of Planned Behavior (Malhotra & Galetta, 1999). In addition, some part of technology acceptance model has similar in Diffusion of Innovation Theory, especially perceived ease of use and perceived usefulness (Moore and Benbasat, 1991). Consequently, Venkatesh et.al. (2003) integrated those theories into a model entitled Unified Theory of Acceptance and Use of Technology, as seen in Figure 6, Table 1.

As indicated in Figure 6, performance expectancy consists of perceived usefulness, relative advantage, job-fit and extrinsic motivation and is defined as *"the degree to which an individual believes that using the system will*

help him or her attain gains in job performance." Effort expectancy comprises of perceived ease of use and complexity referring to whether the system is user-friendly. Social influence has subjective norm, social factors and image and is identified as *"the degree to which an individual perceives that important others believe he or she should use the new system"*. Finally, facilitating condition includes perceived behavioral control, compatibility, facilitating situations and defined as *"the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system"* (Venkatesh et. al., 2003)

In general acceptance and use of technology researches tend to focus on drivers of usage intention such as perceived usefulness, perceived ease of use and some technological external variables. However it is also related with personal traits and these traits can be potentially important determinants of technology adoption as well.

Table 1: Evaluation of Unified Theory of Acceptance and Use of Technology

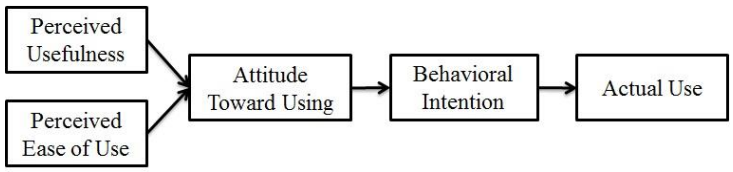

Figure 1. Technology Acceptance Model (Davis, 1989)

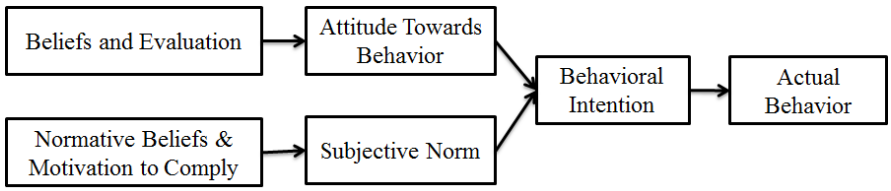

Figure 2. Theory of Reasoned Action (Fishbein, Ajzen, 1975)

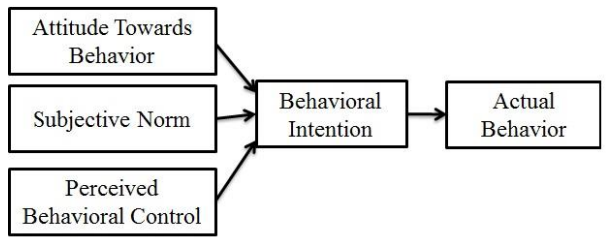

Figure 3. Theory of Planned Behavior (Ajzen, 1991)

Table 1: Evaluation of Unified Theory of Acceptance and Use of Technology (continue)

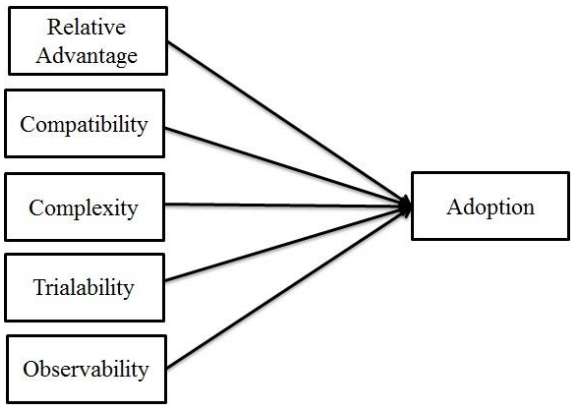

Figure 4. Diffusion of Innovation Theory (Roger, 1983)

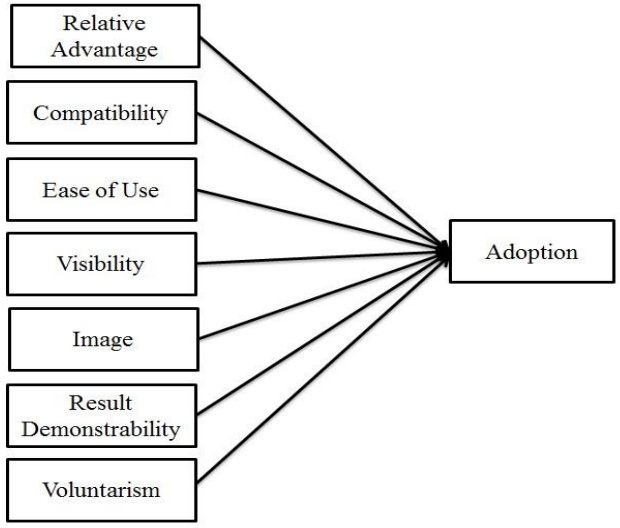

Figure 5. Refined Diffusion of Innovation Model by Moore and Benbasat (1991)

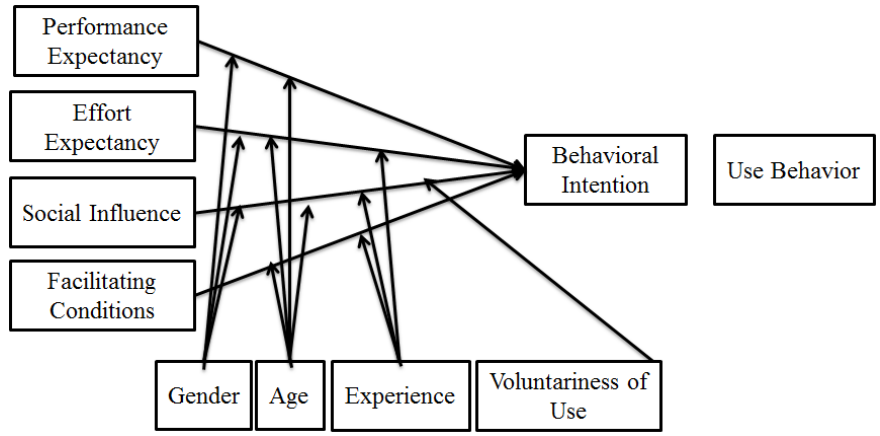

Figure 6: Unified Theory of Acceptance and Use of Technology (Venkatesh et. al., 2003)

Personal Innovativeness

Individual users are known to differ in their tendency to adopt new technologies (Nov, Ye 2008). Some authors have tried to answer to 'what is the relationship between individual differences and technology acceptance behavior?' question and measure it at multilevel. The researches showed that the success of an technological system implementation also depends on individuals differences as much as the other factors (Lu et al., 2003, 2005).

Innovativeness is "*the degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than other members of a social system"* (Rogers, 2002, 2005). Agarwal and Parasad (1998) define personal innovativeness as the willingness of an individual to try out any new information technology. It can be handled that personal innovativeness as influential on usefulness perception (Lu, et al., 2003). It plays an important role in determining the outcomes of user acceptance of technology (Yi et al., 2006). Personal innovativeness has been examined in not only innovation diffusion research (Rogers, 2002, 2005) but also information system fields (Agarwal and Prasad, 1998). According to authors' conceptualization of personal innovativeness, a person is called as innovative if s/he is early to adopt an innovation (Agarwal and Prasad, 1998; Xu and Gupta, 2009). In this study, personal innovativeness is considered as an antecedent of technology acceptance process.

End-User Satisfaction

Satisfaction is a concept that has been investigated in different fields of management researches such as job satisfaction, organizational satisfaction in organizational behavior, customer satisfaction in total quality management and marketing. On the other hand, end-user satisfaction is defined as *"the affective attitude towards a specific computer application by someone who interacts with the application directly"* by Doll and Torkzadeh (1988). Moreover, end-user satisfaction differentiates from the role of employees that is prescribed before. Describing end-user satisfaction, Davis and Olson (1984) classified users' roles as primary and secondary user roles. Primary users are interested in output of the system, so they perceive the system as an information resource. On the other hand, secondary users are interested in interaction with the system and evaluate whether it is easy of use.

For overall evaluation of end-user satisfaction, Doll and Torkzadeh (1988) have elucidated the end-user satisfaction construct by means of three components entitled content, accuracy, format, ease of use and timeliness.

Many researches have been conducted many researches to put forth the relationship between technology acceptance and user satisfaction (Adamson, Shine, 2003; Kim, Chang, 2007; Wixom, Todd, 2005). They propose that the more easy to system use, the higher satisfaction of users have, the more easy to accept using it.

7.3. User Involvement

User involvement refers to *"participation in the system development process by representatives of the target user group"* (Ives & Olson, 1984). Many researches indicate that whether employees have a chance to participate the implementation of a system, they will probably incline to accept and use the system or computer application. (Baronas, Louis, 1988; Barki, Hartwick, 1989; Doll, Torkzadeh, 1988; Swanson, 1973) In addition, there is a positive relationship between user involvement and implementation success which is measured by actual usage (Danet, 2006). Furthermore, Hunton and Beeler (1997) propose that system implementation success depends on having been impression of responsibility and ownership towards system by employees.

Conceptual Framework and Propositions

On the basis of the technology acceptance model, theory of reasoned action, theory of planned behavior and diffusion of innovation theory, we aim to shed light on the employees' acceptance behavior towards a new system or computer application. To do that, we integrate the unified theory of acceptance and use of technology, personal innovativeness, user involvement and user satisfaction. As a result of the integration, we propose that personal innovativeness and user involvement are antecedents of the acceptance and use of technology and then attitude toward using as well as implementation success measured by actual use. In addition, we aim to explore the effect of user involvement on user satisfaction and attitude toward using as well as implementation success.

We put forward some propositions and then show them schematically with Figure 7. We need to bring theoretically together all concepts that we have mentioned in the literature review part. Then we explain some logical linkages among these concepts by means of propositions.

When we overviewed two dimensions of first version of technology acceptance model, we saw a powerful connection among both of them. They are significantly related with each other. This relation pushes the concepts to be integrated under the same roof. Perceived usefulness and perceived ease of use are complementary dimensions.

Innovative individuals are eager to learn new technologies and to use them while doing their tasks. This increases automatically their technology acceptance rate. So it gives us a chance to discuss in detail personal innovativeness as an antecedent of technology acceptance and assert an assumption about it.

P1: Highly innovative people are active information seekers of new ideas.

P2: Highly innovative people are easy adaptor to technological changes.

Since innovative people have relatively high willingness to adapt new technologies, they tend to expect high performance from the information system. This supports the unified dimension, as seen in Venkatesh et al.'s unified model (2003), includes both perceived usefulness and relative advantage. Because individuals gain benefit from the system and consider it as an advantage to perform well. They think that they will give an outstanding performance via the new system.

P3: Highly innovative people are expected high performance about the system which they use.

The participation of an individual to a system implementation makes easier to be familiar to the system. This brings with use and acceptance of technology. So we can make the below sentence as proposition.

P4: More participation to the implementation to a system brings higher acceptance and use of technology.

There are some variables pushing the innovation diffusion process. One of them is about individuals who are innovative. Those people make the orientation and acceptance process more quickly. They are important determinants of the process. This also provides that the system is implemented well.

P5: Highly innovative people are one of driving forces behind the process of innovation diffusion in a workplace.

It is difficult to attain the expected result from technology implementation process. Sometimes it can be really forcible for companies. However,

P6: Technology implementation success depends on acceptance and use of technology.

Highly involved people are totally interested in a new system. They want to integrate with the system and also try to internalize it in their daily work lives. So, this involvement of the user to a system implementation makes them feel satisfied with the system. It also helps to increase relatively their performance.

P7: Highly involved people to a system feel more satisfied with the system.

Social relationships have great importance in the workplace. Employees spend some time with their workmates at social context while working. When a new technological system is set up in the workplace, adaption of each person is not the same. Lower innovative people have difficulty to adopt the system and expect highly innovative people to help themselves. This creates an social network and then find out about social influences.

P8: Lower innovative people are generally tended to interact with social network to adopt to innovation more easily.

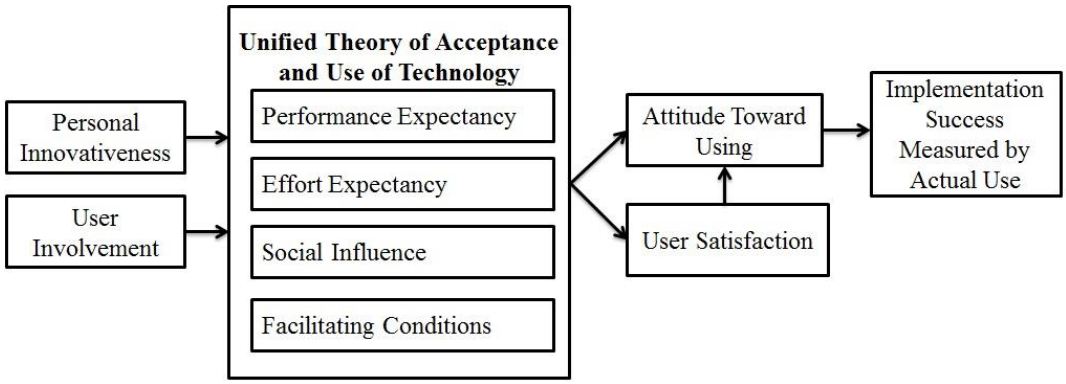

Figure 7. Proposed Theoretical Model

Discussion

Based on Technology Acceptance Model, Theory of Reasoned Action, Theory of Planned Behavior and Diffusion of Innovation Theory, we have delineated the Unified Theory of Acceptance and Use of Technology by means of illustrating the relationship with user satisfaction as well as user involvement. Pointing out the need for a broader and dynamic understanding of acceptance behavior, we investigate also personal innovativeness at the root of Unified Theory of Acceptance and Use of Technology.

In the information technology studies, we have observed that there is a gap about the integration of technology acceptance and personal issues. These personal concepts were studied separately in just some papers. We aimed to integrate some personal traits together with unified theory of acceptance and use of technology. We assumed some propositions on the basis of related literature review. The proposition generally seeks to explain unified theory of acceptance and use of technology by other concepts such as personal innovativeness and user involvement. Following the diffusion of innovation literature, we propose highly innovative people accept and adapt to new technologies easily compared to lower innovative people. In addition, highly innovative people could turn in considerable performance as using the system. However, those results depend on existing or new system's structure, design and functionality for their tasks. Whether it is useful, it is easy to use, it meets their task needs and important others think this system should use determine innovative people's satisfaction and acceptance the system. On that point, user involvement is essential concept to facilitate innovative people's acceptance behavior because it is good to see those there voicing their opinions about the system. On the other hand, social influence is critical concept for lower innovative people. Whether individuals are perceived they should use the new system by important others, they would willingly accept it.

This paper builds and extends earlier work that the relationship between technology acceptance and personal innovativeness, user involvement as well as user satisfaction. We have written some sentences by making some relationships. When we consider all variables together, we made some comments and create relations. These relations will help to shape our hypotheses for the next research. All propositions will be formulated to hypotheses and then tested in some fields for future research. This field can be public sector as much as private sector.

Our research attempts to make several contributions to the literature, particularly proposing the model and identifying the antecedents of Unified Theory of Acceptance and Use of Technology.

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Intra Industry Trade and R&D Intensity: An Empirical Assessment for Turkey

Ömer Tuğsal Doruk[a] ,

[a]*Üsküdar University,İstanbul, Turkey*

Abstract

Intra industry trade reflects monopolistic competition amongst industries, hence shows economics of scale in the economy. In this paper, a different framework put forth for estimating to monopolistic competition, intra industry trade within R&D framework for the 14 subsections of the manufacturing industry in Turkey between 1990 and 2010. Obtained results show that intra-industry trade supported by R&D intensity growth in the lagged term in Turkey between 1990 and 2010.

Keywords: Intra-industry trade, R&D and intra-industry trade relation, Turkish manufacturing industry

Introduction

Due to the economies of scale, intra-industry trade is crucial for the industries. Krugman (1979)'s model examined that international trade within monopolistic competition framework which is not taken into account in Hecksher-Ohlin Trade Model. Krugman model takes monopolistic competition into account for international trade, and hence for intra-industry trade.

In this paper, whether intra industry trade is affected by R&D intensity production is tested empirically within panel data analysis framework in 14 subsections in the manufacturing sector in Turkey, between 1990 and 2010. R&D intensity growth and intra-industry trade relation is tested within System GMM Approach.

This remainder of the paper is as follows. In second part of this paper, in which literature review is conducted, in the third part of the paper empirical assessment is applied, and the last part in which general outline and findings are discussed.

Literature Review And Hypotheses

Krugman Model (1979) could be counted as 'new innovator 'for international trade theory and relevant literature. The model underlines that the monopolistic competition for international trade. For the inter-industry trade, Krugman Model implies that there is no need for comparative advantage for intra industry trade is for inter-industry trade; however, intra-industry trade creates to chance for gain cost advantage thereby product differentiation, and thus competitive advantage. Krugman (1981) emphasized that the consumer taste for different products and product diversification are important for intra industry trade for the industry. Intra industry trade could be described as simultaneous export and import in the industry (Amador and Cabral, 2009).[4]

Bitzer and Geishecker (2005) found that positive trade-based knowledge spillovers are dominated by negative competition effects, in terms of intra-industry trade, empirically between 1973 and 2000 of the OECD countries.[5]

Darity and Davis (2014) emphasized development of intra-industry trade, and scrutinizing to Hecksher-Ohlin-Samuelson (hereafter H-O-S) Approach which assumes factor endowments and trade are interconnected in terms of trade. According to Darity and Davis (2014), H-O-S Approach is not realistic way for investigating to the reality and real trade concerns.

Sawyer, Sprinkle and Tochkov (2010) found that R&D spending and the share of manufactured goods in exports are major positive determinants, while geographical distance is one of the negative determinants of intra-industry trade in East Asia, in 22 countries. Spulber (2008) counted intra-industry trade is one of the important properties of technology in international trade, as expected variety of goods traded in equilibrium increases when technology trade increases, thus the countries derive benefits from intra-industry trade. Haaland and Kin (2008) present rigorous theoretical model in which the market equilibrium based on intra-industry trade of R&D policies, trade and process innovation. Their model assumes that the firms choose quantities and R&D investments simultaneously.

Martin and Orts (2002) found that intra-industry in Spain is based on low quality products, they found that there is direct relation between intra-industry trade and technology intensiveness in Spain in 76 industries between 1988 and 1992. [6]

Davis (1995) point out that the literature about intra-industry trade criticizes to the Hecksher-Ohlin models (Hecksher-Ohlin-Ricardo model etc.), and the literature is dated with Grubel and Lloyd (1975).

For Botric (2013) the early literature of intra-industry trade emphasizes that the intra-industry literature criticizes to the traditional models which are based on factor endowments.

Davis (1995: 2001) emphasized that is as follows;

> "*Helpman and Krugman (1989), who cite the prevalence of intra-industry trade as 'one of the key empirical reasons for emphasizing the role of increasing returns and imperfect competition in the world economy' ".*

Krugman (1981) describes that there are some paradoxes in the international trade literature, inter-industry trade is important for the classical assumptions, however, there is an intra-industry trade concept in the literature, and it is needed to be taken into account.

According to Brülhart (2008)'s empirical analysis, after the 1990s, intra-industry trade is important for high and middle income countries, trade of African countries are based on inter-industry trade. Intra-industry trade is based on vertical production integration.

Grossman and Helpman (1979) constructed a dynamic model in which R&D expenditures are needed to be taken into account for trade flows. R&D expenditures are based on the profits, and R&D production creates a product differentiation. Grossman and Helpman (1979) used comparative advantage background/framework in their paper.

The paper uses intra-industry framework, and assumes R&D activities are needed for product diversification, and intra-industry trade should be lowered, under intra-industry activities are increasing rate of scale (IRS).
The hypotheses of the paper are as follows;

H1: R&D expenditures has affected on intra-industry trade positively due to it creates an internal product differentiation.

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[4] In the literature, there are two types of intra-industry trade definitions which are vertical and horizontal. Vertical intra-industry is assumed in this paper. For detailed information see Krugman (1979). Thus, Amador and Cabral (2009)'s definition is relevant for vertical intra-industry trade.

[5] They controlled knowledge diffusion through intra-industry in the paper.

[6] They found that when the R&D investment or human capital of the firm is higher than the sector average, there is less low quality product based intra-industry trade activity of those firms.

H2: R&D expenditures has not simultaneously affected on intra industry trade, there is lagged relation between R&D expenditures and intra-industry trade, positively.

Methodology

Sample and Data Collection

The sample is used in this paper consisted of 14 subsections of the manufacturing sector in Turkey between 1990 and 2010. All the data were used in this paper were taken from OECD (2014) STAN Database. R&D denotes the research and development spending across the entire manufacturing sector (as of manufacturing, %) and intt denotes intraindustry trade (index). The subsections of the manufacturing sector are depicted in Table 1.

Table 1
Subsections of the Manufacturing Sector were used in the Sample

Food products and beverages	Non-ferrous metals
Tobacco products	Fabricated metal products, except machinery and equipment
Textiles	Machinery and equipment, n.e.c.
Chemicals and chemical products	Electrical machinery and apparatus, n.e.c.
Rubber and plastics products	Radio, television and communication equipment
Other non-metallic mineral products	Motor vehicles, trailers and semi-trailers
Iron and steel	Other transport equipment

Methodological Framework

In this paper, panel data analysis is employed for estimate the effect of R&D spending on the intra-industry trade. Growth rate of all the data were estimated.

The estimated model is as follows;

$$G_{G\text{intt}\,t} = \beta_0 + \beta_1 R\&D_{i,t} + \varepsilon_{i,t} \quad (1)$$

Where $G_{G\text{intt}}$ *denotes growth of the intra-industry trade (%) and* $R\&D_{\exp}$ *denotes research and development expenditures growth by sub-sector (as of manufacturing, %). Moreover, i and t denotes countries and time, respectively.* ε *denotes the error term of the model.*

Whether the series have random walk process is important for avoiding spurious relationship between the series included in the regression analysis. Levin, Lin ve Chu (2002) panel unit root test was employed in this paper for determining the series are I(0) or I(1).

Levin,Lin ve Chu(2002) Panel Unit Root Test

Levin,Lin ve Chu (2002) panel unit root test is extended version of Dickey Fuller Test and developed for panel data, which based on the equation as following;

$$\Delta Y_{i,t}=\alpha_i+\rho\ Y_{i,t-1}+\sum_{k=1}^{n} \emptyset_k \Delta\ Y_{i,t-k}+\delta_i t+\theta_t+u_{it} \quad (2)$$

Levin,Lin ve Chu (2002) panel unit root test predicted ρ in pooled OLS (Asteriou & Hall, 2007: 367).

System GMM Approach

The system GMM approach which is used in this paper based on Blundell and Bond which is using orthogonal deviation instead of differencing method is used in Arellano Bond method.

The system GMM approach based on Hausman ve Taylor (1978) and described as, mathematically;

$$yit = x'it\beta + Z'i\gamma + vit \quad (3)$$

Where β K x 1 and γ gx1 which the variables of xit are time dependent and cross section dependent. Zi denotes time inconsistent variables (Baltagi, 2005: 142).

The vector form of this equation is;

$$Yi = Wi\eta + vi \quad (4)$$

(Baltagi, 2005)

The LLC panel unit root test results were depicted in Table 2, which show all the series are I(0)., as expected[7]. Therefore, the series are available in their raw form for panel data regression. The panel system GMM results were depicted in Table 3.

Table 2
Panel Unit Root Test Results

Variable	Test Stats
R&D	-5.14[a]
IIT	-6.24[a]

Note: a denotes siginificance at %1 statistical significance level. The unit root test has constant. Maximum lag lengths were determined according to Akaike Information Criterion (AIC).

Table 3
The Estimation Results

	System GMM
$gR\&D_t$	0.01 (0.7)
$gintt_{t-1}$	-0.13 (0.5)
$R\&D_{t-1}$	0.39 (0.0)
$R\&D_{t-2}$	-0.25(0.2)
F Test	24.74 (0.00)
m-1	-1.94(0.05)
m-2	0.47 (0.6)
Instruments	14
Hansen Test results	10.94 (0.3)
Diff-Hansen for GMM instruments	2.83 (0.09)
Diff-Hansen for iv instruments	2.67 (0.1)

Note: a and b show significance at %1, %5 statistical significance level, respectively. Parentheses show standard errors. *The F Test result is significant at %1 statistical significance level. According to Difference in Hansen Test results there is no any misleading instrument. M1 and m2 denote the Arellano Bond autocorrelation test for order 1 and order 2, respectively. According to m1 and m2 test results, there is no first*

[7] In general, differenced series are I(0) except some circumstances in the econometrics.

and second order autocorrelation at %5 significance level. Hansen Test results approved that there is no over-identification problem in the model. t-2 and t-13 of gmm instruments were used in the system GMM model. Roodman's xtabond2 codes were used for estimation. In the model, no constant was used. Collapse option was used for the estimation.

According to the System GMM estimation results, there is significant and lagged relationship between R&D and intra-industry trade, which is in the one year lagged by %39.System GMM results approve that the R&D expenditures growth supports on intra-industry trade growth in lagged term.

Conclusion

This paper tries to show empirically whether the intra-industry trade is efficient or inefficient for the subsections of the manufacturing sector in Turkey, between 1990 and 2010. Due to the using of balanced panel data method/analysis, 14 subsections were used in this paper, there is a lagged R&D and intra-industry trade growth relation in the paper. The paper contributes to the literature in two ways which are prove to the R&D and intra-industry support in terms of product differentiation in the developing country, and empirically show the lagged relation between intra-industry growth and R&D growth relationship in the developing country. .

According to the estimation results, we refused to the first hypothesis of the paper, however, we accept to the second hypothesis in significant way.

The limitation of this paper is there are missing gaps in the subsectors in the manufacturing sector and are not available for balanced panel data, and are not enough for estimating to time series analysis and/or more detailed analysis in structural way.

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A Sustainable Growth Rate Metric Based on R&D Experience for Government R&D Organizations

Kadir Alpaslan Demir[a*], İhsan Burak Tolga[b]

[a]*Gebze Institude of Technology, Istanbul,Turkey*
[b]*Software Engineer, Istanbul,Turkey*

8. Abstract

9. Government research and development (R&D) are different from other type of organizations in various aspects. One main difference lies in the performance management of these organizations. Many other types of organizations measure performance using concepts such as profitability, market share, return on investments (ROI) etc. These measures do not explain the motivations of government R&D organizations because the goals of these organizations are quite different. The main goals of government R&D organizations include conducting basic scientific research that private sector avoids, providing expertise on various disciplines to other government organizations, conducting classified government research, developing industry standards etc. In this paper, we identify a set of metrics that can be used for performance management in government R&D organizations. An organization is able to manage and monitor the expertise accumulated using the identified metrics. While these metrics are developed mainly for government R&D organizations, they may also be used by other types of organizations.

Keywords: R&D Organizations, Performance Management, Organization Metrics, Sustainable Growth Rate, Personnel Turnover, Experience, R&D, Research and Development, Government R&D Organizations, Talent Management, Metrics, Strategic Human Resource Management

Introduction

Today, research and development (R&D) is an important function in many corporations and companies. R&D departments in companies help the organization to develop new and better products and as a result help the business grow. Hence R&D performance is an important concern and naturally, there are metrics developed to measure R&D performance (Hartmann, et.al.,2006) and its effect on company profitability (Tubbs, 2007) and business success. For example, Mudambi and Swift report that "R&D expenditure volatility is positively related to firm growth." (Mudambi, and Swift, 2011).In addition to R&D departments in private businesses, there are also governmental agencies that conduct R&D activities. These R&D research agencies serve a different purpose and consequently they have different goals. TUBITAK in Turkey and NASA in USA are examples of such government R&D institutions. As emphasized earlier, the goals of these organizations are quite different from their counterparts in private sector. For example, the vision of NASA as stated in their website (NASA, 2014) is *"to reach for new heights and reveal the unknown so that what we do and learn will benefit all humankind*". The Scientific and Technological Research Council of Turkey (TUBITAK) is one of the most important government-funded R&D organizations in Turkey. The mission and vision of TUBITAK is clearly stated in the organization's website (TUBITAK, 2014): *"TUBITAK is responsible for promoting, developing, organizing, conducting and coordinating research and development in line with national targets and priorities. TUBITAK acts as an advisory agency to the Turkish Government on science and research issues, and is the secretariat of the Supreme Council for Science and Technology (SCST), the highest S&T policy making body in Turkey. Setting its vision as to be an innovative, guiding, participating and cooperating institution in the fields of science and technology, which serves for improvement of the life standards of our society and sustainable development of our country, TUBITAK not only supports innovation, academic and industrial R&D studies but also in line with*

* Corresponding author. Tel. + 90-532-333-39-88
E-mail address: kadiralpaslandemir@gmail.com

national priorities develops scientific and technological policies and manages R&D institutes, carrying on research, technology and development studies." Financial objectives are an important part of any private sector organization's set of objectives. However, as the mission and vision statement of NASA and TUBITAK clearly indicate, financial objectives are not among the main concerns of these types of institutions. Therefore, performance management systems commonly used in private sector will only have limited use. To better manage R&D organizations we need metrics that are more relevant to R&D activities. This study aims to develop a metric for government R&D institutions to aid them in identifying a sustainable growth rate. This in turn will help managers implement better growth strategies.

In a detailed technical MITRE report on performance management at research and development (R&D) organizations, it is stated that measuring performance and track the outcome of R&D activities in advance are difficult (MITRE, 2009). Governmental R&D organizations have been seeking valid and sensible metrics to develop their further strategies. The reason behind why traditional metrics and cost models cannot be applied when it comes to evaluating personnel performance, especially in governmental R&D organizations is that it is always too late when the result data (i.e. customer satisfaction rating, end product profit / research investment ratio) are provided and even beyond it, it is a difficult activity to measure the true returns of research investments. Projects which have a short developing span and successfully put into service lead to make people think that other research programs and projects that have relatively longer development periods are not cost-efficient. Whereas, these so-called "low-hanging fruits" (Harman, Wayne and Robin Staton, 2006) do not exist, their short development spans are illusions which are actually base on decades-long researches and become efficient products at a time which usually cannot be expected in before. As mentioned above, to track most promising projects and provide information out of the performance evaluation systems, we need quantifiable metrics to measure personnel performance, which is one of their key component of R&D projects.

Personnel experience has been one of the key factors in calculating expected software costs. "Constructive Cost Model", COCOMO (Boehm, Clark, Horowitz, Madachy, Shelby, Westland, 1995), has personnel experience related cost drivers since its initial version, Basic COCOMO. These cost drivers are included in this most widely-adapted software cost estimation model as "Application Experience", "Platform Experience" and "Language and Toolset Experience", which have polynomial effect on the overall estimation.

In this study, our goal is to identify and develop a set of metrics that can be used for performance management in government R&D organizations. The most important metric developed in this study is "Sustainable Growth Rate (SGR)" metric. Sustainable growth rate is a commonly used and well-known metric in private sector. However, this metric is currently defined with a financial point of view, which serves its purpose in the business world. In this research, we redefine this metric in a way that is relevant and useful to government R&D organizations. As a result, an organization is able to manage and monitor the experience accumulated using the identified metrics. Furthermore, they are able to assess the growth rate of the organization. While these metrics are developed mainly for government R&D organizations, they may also be used by other types of organizations. To explain the concepts introduced, we developed a case study to explain how the metrics are produced and used.

The rest of the paper is organized as follows. In the second section, we provide a short literature review on the topic. The metrics used in the study is explained in the third section. In the next section, a case study is examined to show the use of metrics. The conclusions drawn are listed in the fifth section and the paper ends with limitations and opportunities for future research.

Literature Review

There are a lot of metrics that are used in performance management of R&D in companies and organizations. According to a study conducted by Goldense, Schwartz, and James, the top five R&D metrics in use today are R&D spending as a percent of sales, total patents filed/pending/awarded, total R&D headcount, number of products/projects in active development, and first year sales of new products (Goldense, Schwartz, and James, 2005). Metrics commonly used by commercial industry include:

Table 1. Metrics Commonly Used in Commercial Industry

Net Business Value (Npv)	Budget Variance	Cost
Return On Investment (Roi)	Quality Measurements	Schedule
Total Cost Of Ownership (Tco)	Risk	Organizational Flexibility
Discounted Cash Flow	Alignment With Corp. Strategies	Intellectual Property Factors
Market Lifecycle Factors	Fit With Existing Product Portfolio	Market Share

The reason behind the wide spectrum of metrics in use with R&D metrics unlike traditional short-term financial metrics seems to be the fact that R&D projects are unique compared to other corporate spending projects. There are also metrics that are used in measuring R&D performance (Kostoff, 2005) A very detailed report that investigates performance management issues in government R&D organizations is the MITRE's report (MITRE, 2009). A comprehensive list of metrics that can be used for this purpose is provided in Table 2. MITRE report (MITRE, 2009) mentions about The Army Research Laboratory related to their performance measurement approach by highlighting the questions ARL asks, "*What information does the stakeholder really want to know from a performance evaluation system, beyond what the ultimate outcomes and impacts of the research will be?*" And these questions mainly focus on to get answers for these three questions (MITRE, 2009):

- *Is this work relevant? Does anyone care about the effort given to reach a target or goal no matter how distant or difficult it is?*
- *Is the program productive? Is this program/project working toward its goal or, to be pessimistic, delivering a product to its customer in a timely manner?*
- *Is the work of the highest quality? Can we backup the claim to be world-class research organization which is doing a world-class work?*

With relate to answering the third question above; ARL also has a Technical Assessment Group (TAB) which is basically a peer review board consisting of 15 top-class engineers and scientists. The job this assembling is (1) to monitor / review the scientific and technical quality of ARL's program, (2) to assess the current state of ARL's current facilities and equipment, and (3) to evaluate the preparedness of technical ARL staff. (MITRE, 2009) Their final evaluation reports are received by the senior management in U.S. Army and the Department of Defense (DoD) each year. Developed by Dr. Edwards B. Roberts from MIT's Sloan School of Management, ARL applies a stakeholder evaluation model in which three stakeholder groups are defined: (1) development and manufacturing groups directly dependent on search results, (2) customers purchasing company's final products and deliverables, (3) senior management of the company. (MITRE, 2009) Besides these two areas of measures, ARL also a variety of performance measures like maintenance backlog, workforce diversity, procurement cycle-time and papers published / patents received.

According to same study conducted by MITRE, The Office of Naval Research which defines and sponsors R&D in support of current and future U.S. Navy and Marine Corps requirements, makes its funding decisions in the presence of uncertainty which resides in required capabilities, performance requirements and the feasibility of a technology or R&D approach. ONR has adapted The RAND Corporation's PortMan R&D decision framework to support its R&D decision-making. This framework computes the expected value of an R&D project as the product of three factors: (1) value to the military of the capability sought through R&D, (2) the extent to which the performance potential matches the level required to achieve the capability, and (3) the project's transition probability. And not expectedly, PortMan does not rely on the expected value as a point solution, but it rather includes an estimate of uncertainty and their estimated direction over time. The evaluation is based on the best current information and tracking over time.

Table 2. Metrics for R&D Performance Measurement (MITRE,2009)

Organizational	**Workforce**
Number of proposals submitted and endorsed	Number of graduates/post graduates in programs
Number of new research agreements that leverage industry, academic, and/or other governmental and international partners/fiscal year (FY)	Number of National Research Council (NRC) Fellows/FY
Amount of special appropriations designated for research/FY	Science and engineering attrition rates - total, by discipline, by training
Number of cooperative research and development agreements (CRADAs)	Workforce diversity
Vision process for new starts	Growth in employment of program participants
Amount of funds leveraged	Number of training students
Number and types of accreditation maintained at the organization	Percent of employees that complete specified training/FY
Compliance with specified requirements	Number of student hires
Percent of DIACAP compliance	Percent of military reenlistment goals met
Percent of buildings that receive "green" rating on installation report	Percent of licensed professionals maintaining prescribed credentials
Number of work-related accidents	Percent of employees that completed training
Number of days for civilian recruitment actions to complete local approval	Percent of military completing mandatory military education
Percent of divisions using a particular model	Percent of military completing acquisition training
Space requirements for all divisions captured and reconciled with availability	Percent of military completing training
Development and prioritization of top 10 unfunded requirements (UFRs)	Percent of civilian supervisors completing advanced leadership training
Reduction in dollar amount of lost accountable property	Number of patents, publications, and citations
Percent completion of monthly hand receipt inventory	**Activity**
Number of funded scientists and engineers	Number of licensing agreements issues for intellectual property
Outcome	Number of peer-reviewed publications (full articles or book chapters)
Percent that accomplish the objectives of the research proposals	Number of awards
Number of developmental products funded by contributions from other organizations/FY	Percent of research proposals scored in the top 1/3 for scientific merit
Condition of technical base	Number of conferences, exhibits, and associations at which program presents or exhibits
Acquisition funding applied	Technical assistance to industry
Technology transition agreements	Production of algorithms
Number of technologies transitioned	Customer assessments
Number of past transitions	**Impact**
Increase in outside resources that support command-approved objectives	Pillar alignment/alignment
Number of firms created	Capability gap coverage
Licensing revenues	War-fighting capabilities achieved
Maintenance backlog	Progress toward goals
Procurement cycle-time	Continued relevance to war-fighting capabilities
Value	Cost avoided
ROI	Lives saved
TRL	Enhanced health/safety
Cost	Improved system capability
Costs avoided	New capabilities enabled
Potential payoff	System improvements
Programmatic	Reduced manning
Budget request and budget appropriated	Percent that meet advanced development milestones
Schedule	Product area directorate needs addressed
Execution rates for obligation versus disbursement within 5% variance	Cost of risk reduction/cost of consequence
Science and engineering demographics	

According to the study of Harman, Wayne and Robin Staton; the S&T metrics was a topic of interest in 2004, as the U.S. Naval Sea System Command restructuring plan was released to public and navy management tried to identify cost-savings investments. The plan was a reaction to the Navy's inquiry about the value of its $2 billion per year investment in S&T. (MITRE, 2009) The conclusion of the study states that the level of S&T needed to support the Navy has no correlation with number of ships in the inventory or number of personnel. There were, in the history, some extraordinary successful projects, "low hanging fruit in S&T" as they put it and they also think it as a myth. The biggest example of this is the Silver Fox, an unmanned aerial vehicle (UAV) which was developed and put into action in less than sixty days and it was perceived as a great success story. Yet they had missed the point that the researches related to UAVs go back even until 1918. For the same subject, another instance is the thermobaric bomb which was developed and got in service in less than six months again. But in fact, this fast pace was a result of thirty year-long research in explosive chemistry. Therefore, Dahlgren Division states in their report (Harman, Wayne and Robin Staton, 2006) that there is no "overnight" success, and in-house S&T has great value to the U.S. Navy. This study team also asserted that S&T metrics can be defined and collected in response to specific questions. (MITRE, 2009) Harman, Wayne and Robin Staton's study has some bulleted points that summarizes the overall work and their perception towards in-house S&T: (Harman, Wayne, Robin Staton, 2006)

- *Be careful what you measure. What you measure is what you will get. Metrics can be defined and collected in response to specific questions, but you tend to get what you choose to measure.*
- *Technical competition requires technical tasking.*
- *The immediate ROI for Navy S&T is its contribution to the quality and development of "our people (who) will determine our future success" or failure.*
- *Transitions and speed-of -transition are not significant measures of S&T performance. They may be better measures of how well the entire RDT&E acquisition process is working.*
- *A better measure of S&T is how well is Navy S&T addressing current and future Navy needs, and how prepared the current workforce is to address those needs.*
- *The size of the Navy S&T budget and in-house workforce should be determined by what you want it to do, i.e. what Navy capabilities need to be enabled.*

As another point in conclusion; the reports says that ROI for S&T could not be quantified in fiscal terms -or in any periodic time gap- due to long delay and uncertainty between the start of S&T effort and the time this new technology is put into service as a Navy system, which could be decades later. Thus, Navy does not obtain financial benefit increase for a successful S&T investment, unlike industry.

In their study (MITRE, 2009), another attention getting point is a practice adopted by the S&T Directorate of the U.S. Department of Homeland Security (DHS), of which function is the nation's homeland security research, development, test evaluation management for S&T. By following this practice, the Directorate allocates 10% of its S&T funding to higher-risk innovation that carries a very small chance to be successful in which case it will bring game-changing technologies and systems in one-to-five year, much faster than conventional development like the most programs. And within this 10% portion, 10% again is spent to real-high-risk efforts which often fail to be successful but always carry a chance to succeed and have great impact. In most cases that they fail, they enable the researchers and its members to have a greater understanding to improve subsequent basic and applied research efforts to lead breakthrough and abilities beyond of today's. 50% of the overall S&T's funding is allocated to lower-risk projects to ensure satisfying customer-defined needs, which also brings a balance and mitigates high-risk portion of expenditures. (Science and Technology for a Safer Nation, US Department of Homeland Security, 2007)

Theoretical Framework

In this section, the metrics used and developed in this study will be explained in detail. Having experienced researchers and engineers is key for achieving a high performing R&D organization. Therefore in this study, our focus is measuring personnel experience and how to maintain a certain level of experience and expertise in the R&D organization. A list of metrics developed for this study is as follows:

R&D experience of an R&D staff

An R&D staff is an employee who is tasked with R&D related work in the organization. A scientist, a research engineer or research assistant can be one of the R&D staff. This is one of the key metric within the scope of this study. As noted earlier, for R&D organizations and especially for government-funded R&D organizations, the R&D experience accumulated within the organization is crucial for the performance of the organization. This type of organizations mainly build up expertise through R&D experience. Therefore, the number of years spent in the R&D activities for a research staff becomes a core metric. This metric can be measured in years or months.

Total R&D experience of the organization/department

This metric is calculated by summing up all the research staff's R&D experience in terms of years. When this metric is high, it simply means that the organization is quite experienced. The scope may be an organization or a specific department within the organization. Again this metric may be defined in years or months.

Sustainable Growth Rate (SGR)

This is a commonly used metric in strategic management. This metric is used in business world to assess a company's growth rate and generally formulated in financial terms. Since financial objectives may not be a priority for R&D organizations, we use the concept in a quite different way. In this study, we redefine the term for the R&D organizations. For an R&D organization, experienced research staff is one of the main assets. Therefore, sustaining experience is one of the main concerns of any R&D organization. Another main concern is the work load or in other terms the project load. As a result, how these two metrics grow over time helps to

identify whether the R&D organizations has a sustainable growth rate or not. The sustainable growth rate is calculated with the following formula:

$$\text{Sustainable Growth Rate} = \frac{\frac{\text{Current R\&D Experience}}{\text{Future R\&D Experience}}}{\frac{\text{Current Workload}}{\text{Future Workload}}} \qquad \text{SGR} = \frac{\frac{\text{CE}}{\text{FE}}}{\frac{\text{CW}}{\text{FW}}}$$

The sustainable growth rate (SGR) is calculated by dividing the rate of current R&D experience (CE) to future R&D experience (FE) to the rate of current workload (CL) to future workload (FL). The future is defined by the period to be analyzed. It can be a year, 5 years, 10 years, or any time period that makes sense for the analysis.

At this point, we have a basic assumption that the current work load is sufficiently handled with the current workforce. If the SGR is equal to 1 or greater than 1, we can simply state that the growth is sustainable. If the SGR is smaller than 1, then the conclusion will be that the organization will not have a sustainable growth and there will be problems in completing projects therefore meeting long-term objectives. Calculation of SGR helps the executives to strategically manage the human resources of the R&D organization.

Sustainable Growth Rate (SGR)	Conclusion
Sustainable Growth Rate (SGR) > 1	Sustainable Growth
Sustainable Growth Rate (SGR) = 1	Optimal Growth
Sustainable Growth Rate (SGR) < 1	Unsustainable Growth

Current Workload (CW)

This is a self-explanatory metric. It is a measure of the R&D organizations' workload. Workload can be defined depending on the focus of measurement activities. In our study, we use project load to measure our workload. However, it is important to note that the workload of an R&D organization may consist of other activities unrelated to project related activities in the traditional sense. These activities may include certification, international or national standard development, providing expertise and consultancy to other agencies, investigation of accidents and mishaps. On the other hand, it is also possible to treat these activities as projects. Some NATO and international R&D organizations start all of these activities under a project charter and treat these activities as a project.

Future Workload (FW)

The future workload may be derived from the future plans if the organization have such plans at hand. In case, there are no future plans or future is unclear for the organization, it is possible to estimate the workload based on statistics derived from past project load. This is the estimation of workload at a determined future date. The future date may be a year, 2 years, 5 years or 10 years later. The future workload may be estimated with the following formula:

$$\text{Future Workload} = \text{Current Workload} \times (1 + \text{Expected Yearly Workload Change})\text{^Number of Years}$$
$$FW = CW \times (1 + EYWC)\text{^}NY$$

In the formula, FW is the future workload and CW is the current workload. Expected yearly workload change (EYWC) is the expected percent of change in the workload. It may be positive or negative. Expected yearly workload change is calculated from statistics based on historical data. NY is the number of years.

Project Load

This is the number of projects or required project effort. The project load is naturally derived from contracts in place or the long-term organizational goals detailed in the strategic plans of the R&D organization.

Current R&D Experience

Current R&D experience may be calculated for an organization, for a department, or for a project. How to calculate this metric is explained previously under the section titled total R&D experience in terms of years.

Future R&D Experience

This is the estimation of the R&D experience of the organization or the department for a future date. It is calculated with the following formula:

Future R&D Experience = Current R&D Experience x (1+ Expected Yearly R&D Experience Change)^Number of Years

$$FE = CE \times (1 + EYEC)^{NY}$$

In the formula, FE is the future R&D experience and CE is the current R&D experience. Expected yearly R&D experience change (EYEC) is the expected percent of experience in the organization or in the department. It may be positive or negative. It is calculated from statistics based on historical data. NY is the number of years

Case Study

To illustrate the use of metrics detailed in the previous section, we developed a case study based on a fictitious government R&D organization. We especially use a fictitious organization since we do not want to reveal a classified strategic HRM aspect of a government R&D organization. Furthermore, a fictitious organization is quite sufficient for our purposes which is simply to explain the use of metrics. This organization consists of government employees mainly subject to government HRM regulations. This is important as we know that government HRM regulations are quite different from the HRM practices in the private sector. For example, in Turkey, it is not easy to get a job in the government. The salaries are far from being competitive while bonuses are unlikely. It is also far more difficult to let a government employee go. Simply, there are very limited tools for managers in the government organizations to hire, fire and motivate staff. It is important to note that we keep the case study simple to ease the understanding of the concepts introduced. The name of our fictitious R&D organization is "Technology Research Institute". The institute consists of 3 departments: A systems engineering research department, a software development research department, an electronics engineering research department. The systems engineering department consists of 8 research engineers. The software development research department has 10 research engineers. Finally, the electronics engineering research department employs 10 research engineers. Figure 1 depicts the departmental structure of the R&D organization. The R&D experience of each research engineer is presented in Table 3. At the end of the table, the total and average R&D experience of each department is also calculated.

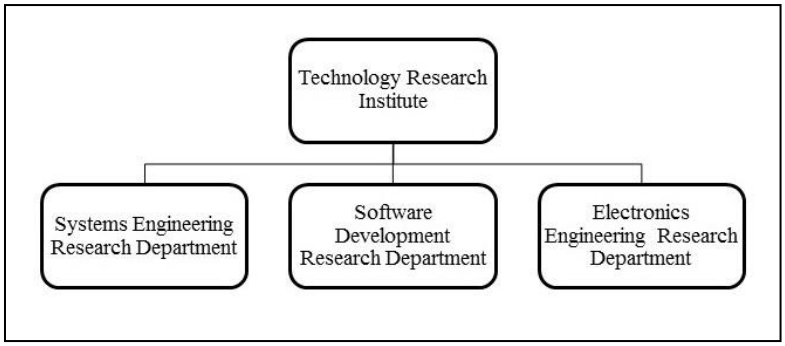

Fig 1. An R&D Organization with 3 Research Departments

To keep the case study as simple as possible, let's focus on only one of the departments in the R&D organization. Let's build up a case for a future scenario of personnel attrition at systems engineering research department. The assumptions of the scenario are (1) every year a random research engineer is lost due to retirement or moving to another job (2) a recent engineering graduate with zero experience is hired (3) the number of personnel stays the same. In table 4, a simulation of personnel turnover for a ten year period is presented. Table 5 shows the number of projects (project load) in the long-term plans of the systems engineering research department for the same 10 year period.

Table 3. R&D Experience of Research Engineers (Res. Engr.) in Research Departments

Systems Engineering Research Department		**Software Development Research Department**		**Electronics Engineering Research Department**	
Name	**R&D Experience (Years)**	**Name**	**R&D Experience (Years)**	**Name**	**R&D Experience (Years)**
Systems Res. Engr.1	25	Software Res. Engr. 1	19	Electronics Res. Engr. 1	20

Systems Res. Engr. 2	17	Software Res. Engr. 2	13	Electronics Res. Engr. 2	18
Systems Res. Engr. 3	11	Software Res. Engr. 3	12	Electronics Res. Engr. 3	16
Systems Res. Engr. 4	10	Software Res. Engr. 4	12	Electronics Res. Engr. 4	14
Systems Res. Engr. 5	9	Software Res. Engr. 5	11	Electronics Res. Engr. 5	10
Systems Res. Engr. 6	7	Software Res. Engr. 6	5	Electronics Res. Engr. 6	8
Systems Res. Engr. 7	5	Software Res. Engr. 7	4	Electronics Res. Engr. 7	7
Systems Res. Engr. 8	4	Software Res. Engr. 8	3	Electronics Res. Engr. 8	7
		Software Res. Engr. 9	1	Electronics Res. Engr. 9	5
		Software Res. Engr. 10	0	Electronics Res. Engr. 10	3
Total R&D Experience of Sys. Eng. Res. Dept.	**88**	**Total R&D Experience of Sw. Dev. Res. Dept.**	**80**	**Total R&D Experience of Electronics Eng. Res. Dept.**	**108**

Table 4. A Sample Future Scenario of Systems Engineering Research Department

Systems Engineering Research Department	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Systems Research Engineer 1	25	0	1	2	3	4	5	6	0	1	2
Systems Research Engineer 2	17	18	19	20	21	22	23	0	1	2	3
Systems Research Engineer 3	11	12	13	14	0	1	2	3	4	5	6
Systems Research Engineer 4	10	11	0	1	2	3	4	5	6	0	1
Systems Research Engineer 5	9	10	11	12	13	0	1	2	3	4	5
Systems Research Engineer 6	7	8	9	0	1	2	3	4	5	6	7
Systems Research Engineer 7	5	6	7	8	9	10	0	1	2	3	0
Systems Research Engineer 8	4	5	6	7	8	9	10	11	12	13	14
Total R&D Experience of Systems Eng. Res. Dept. (Years)	**88**	**70**	**66**	**64**	**57**	**51**	**48**	**32**	**33**	**34**	**38**

Table 5. Number of Projects in Plan for Systems Engineering Research Department for a 10 Year Period

Systems Engineering Research Department	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Number of Projects in Plan	7	7	8	9	9	10	12	13	14	15	15

The case is developed in such a way that it presents the study in a striking way. In figure 2, it is obvious that while project load is increasing, total R&D experience for this particular department is decreasing. It means even though the number of projects, therefore the effort required to complete the projects successfully, is increasing, the department research staff is becoming more and more inexperienced. This is clearly a danger sign for the organization. As noted earlier, having experienced research staff is key for R&D organizations. It is important to keep in mind that during this period the number of research engineers stays the same which is 8 for this department. If an organizational strategist only focuses on the number of staff, he/she will miss this clear long-term strategic danger indicator. This in one of the main reasons our study brings out the importance of R&D experience for R&D organizations. While number of research engineers employed is an important metric, it is insufficient to explain a key aspect of R&D organizations which is the accumulation of expertise and research project experience. Note that, not all projects will require the same amount of effort. The effort required for a project depends on the size and complexity of the project. A commonly used effort metric is "man-month", that is the working time for a month of an employee to complete a task. In this study, to keep the case simple, we used the number of projects as our project load metric. It is also possible to convert this metric to an effort metric such as "man-month".

At this point, let's calculate the sustainable growth rate of the systems engineering research department. As we obtained simulated data from figure 2, we can directly use this data. If we did not have such data, we could derive the necessary metrics from historical data as explained in the previous section.

For the period between 2014-2019

$$\text{Sustainable Growth Rate} = \frac{\frac{\text{Future R\&D Experience}}{\text{Current R\&D Experience}}}{\frac{\text{Future Workload}}{\text{Current Workload}}} = \frac{\frac{51}{88}}{\frac{10}{7}} = 0.4$$

For the period between 2014-2024

$$\text{Sustainable Growth Rate} = \frac{\frac{\text{Future R\&D Experience}}{\text{Current R\&D Experience}}}{\frac{\text{Future Workload}}{\text{Current Workload}}} = \frac{\frac{38}{88}}{\frac{15}{7}} = 0.2$$

For the period between 2014 and 2019, the sustainable growth rate (SGR) is 0.4. This rate is far from being sustainable and the organization is actually losing experience even though the number of research engineers

stays the same. For the period between 2014 and 2024, it is much worse. From SGR figures, we can deduce that the organization will have problems in the future. Even though the R&D organization is growing in the number of projects, this growth is unsustainable. It is very much likely that some of these projects will fail due to having inexperienced research staff within the organization.

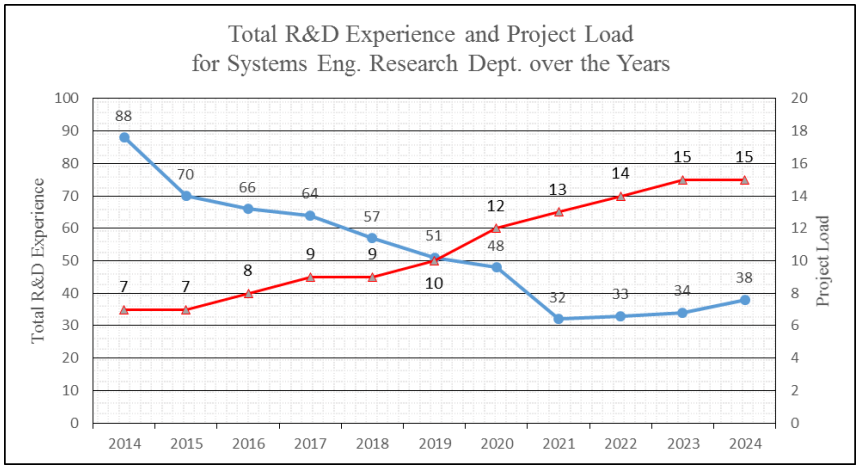

Fig 2. Total R&D Experience and Project Load for Systems Engineering Research Department over the Years

Conclusion

Peter Drucker points out the importance of knowledge workers in today's society. A knowledge worker produces knowledge, ideas, and information (Drucker, 2006). The core of knowledge creating organizations such as R&D organizations, is the employees (Barutcugil, 2004) in other words knowledge workers. When these knowledge workers are experienced, they are more likely to produce effective results that is achieving success in R&D projects. Having experienced employees are essential for many types of organizations but it is crucial for R&D organizations. Research and development activities are long-term activities accumulating knowledge through experiences. Therefore, to achieve success in R&D projects, experience is one of the essential keys.

Government R&D organizations are different from R&D departments within companies or corporations. These differences lie in the motivation of the organizations. In simple terms, to make profit is one of the main objectives of private R&D companies or R&D departments within companies. The government R&D organizations are generally tasked with research studies or R&D activities or R&D projects that cannot be directly linked to the objective of making profit. They are sometimes tasked with basic science research projects that serve as a precursor to research studies leading to practical results. Most companies do not have enough resources or capital to take on such basic science research. Therefore, governments task government-funded R&D organizations with strategic research beneficial to the mankind, country, private sector, etc. NASA in USA and TUBITAK in Turkey are such government-funded R&D organizations. As a result, since government R&D organizations have different motivations and organizational goals, they require a different set of performance measures. Most of the current strategic management literature focuses on the performance measures relevant to private-funded R&D organizations. In this study, we attempt to fill a portion of this gap in the literature and propose a set of performance measures leading to the development of a sustainable growth rate metric. Maintaining a sustainable growth rate (SGR) is important for any type of organization. Not being able to implement a healthy growth strategy may result in the dissolution of the organization. Therefore, the managers should closely monitor the SGR of the organization and take necessary precautions if the SGR is low. This can only be achieved by having an acceptable and relevant SGR measurement system. As pointed out earlier, since having experienced researchers is strategic for an R&D organization, it is inevitable that the SGR measurement system rely on the key concept of experience measurement.

In this study, our contribution to the body of knowledge is the development of a simple sustainable growth rate metric for government R&D organizations. To illustrate the concepts introduced, we developed a case study. Step by step, we explained how the metric can be calculated with examples. The case study is prepared in such a way that even though the number of researchers in an R&D department stays the same, the growth rate is not

sustainable. This provides a clear focus on the importance of experience in the formulation of sustainable growth rate. The developed sustainable growth rate metric can be used by government funded R&D organizations to monitor the growth rate of the organization. Furthermore, with the help of this metric, the managers are able to have a tool to strategically manage their organizations and establish a sustainable HRM program.

Limitations and Opportunities for Future Research

In this study, it is possible to have a real case study. However, to illustrate the concepts introduced, a fictitious case study is quite sufficient. In addition, building a real case study from a government R&D organization may reveal sensitive data of the organization. In this study, we avoid that. Future work includes the development of a method to strategically align the desired SGR to organizational goals. Another key concept used in the development of SGR is the workload. The workload is actually a derivative of organizational goals. Therefore, while one aspect of SGR is related to HRM, the other aspect is related to strategic management and setting realistic organizational goals.

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The views and conclusions contained herein are those of the authors and should not be interpreted as necessarily representing the official policies or endorsements, either expressed or implied, of any affiliated organization or government.

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Interrelation between strategy maps and other implementation tools and actions

Joanna Radomska[a*]

[a]*Wrocław University of Economics, Wrocław,Poland*

Abstract

Much attention in the literature of the subject is devoted to the analysis of barriers to the strategy implementation and the tools used for this purpose. Many authors emphasise the usability of the strategy map and indicate its functions in the strategy formulation and implementation processes. However, there are no publications on the interrelations between the strategy map and other aspects, such as the management system, employee involvement or changes in the organisational structure. The purpose of this paper is to examine correlations between these elements. The studies were carried out on a group of 200 Polish companies listed in prestigious rankings. In order to test the hypotheses proposed, the Kendall tau-b correlation analysis was used. It showed the existence of positive relationships between the use of the strategy map and activities associated with employee participation, as well as between the strategy map and other implementation tools (such as BSC, implementation programs or a system for monitoring the company's environment). Such dependences were also obtained for the relationships between the strategy map and the introduction of changes in the organisational structure and in the management system (including informal communication, a motivation system or regularity in measuring the progress in implementation).

- *Keywords:* strategy execution, implementation tools, strategy maps

Introduction

One of the most common tools for implementing the strategy is the Balanced Scorecard which consists of a comprehensive set of measures, perspectives and objectives aimed at implementing the chosen development concept. However, the complexity of the interdependencies results in communication difficulties and may complicate the underlying logic of the created strategy (Lipe, Salterio, 2000; Ittner, Larcker, 2003; Dill, Steingbart, 2005). Therefore, in order to overcome the cognitive difficulties associated with BSC, it is recommended to use the strategy map as a tool with a lower degree of complexity (Vera-Muñoz et al., 2007). It is not necessary to combine these two tools simultaneously; the strategy map can be used as an independent model assisting the implementation of the strategy. As indicated by the research results, complementing the strategy communication with just this visual element helps to achieve better effects and demonstrates the usability for individuals other than those who formulate the strategy (Banker et al., 2011). The strategy map is therefore a universal method used both at the stage of strategy formulation and at the stage of strategy implementation. However, the literature of the subject does not include studies showing the intercorrelations between the use of the strategy map and other elements of the implementation process. This study therefore aims

* Corresponding author. Tel. + 48-713-680-195
E-mail address: joanna.radomska@ue.wroc.pl

at filling this gap by analysing the relationships between the strategy map and the activities in the area of employee involvement, the use of other implementation tools, and changes in the organisational structure or in the management system.

Literature Review And Hypotheses

The strategy map was developed as an original element of BSC designing, but it is also an important factor supporting the strategy implementation. That's because it is the first stage that precedes the determination of the strategy implementation measures and indicators. It involves depiction of relationships between strategy components. They include primarily the financial, customer, internal process and learning and growth perspectives (Bower, 2004). The first step is to describe the strategy, then to determine the measures of its implementation and manage their optimisation in an adequate manner (Kaplan, Norton, 2004). The strategy map is therefore used as a control tool to prevent creation of an incomplete development concept (Kaplan, Norton, 2004). As indicated by Free and Qu (2011), the creation of a graphical presentation accelerates the adaptation and implementation of BSC, mainly due to the flexibility, operationalisation of the strategic management process, and indication of certain decision-making powers. Capelo and Ferreira (2009) also emphasise that simultaneous introduction of the concept of the strategy map supports the correct use of BSC. It is worth emphasising that the research results confirm the usability of the strategy map, regardless of the simultaneous use of BSC (Eccles, 1991, Copeland et al. 1996, Young, O'Byrne, 2001). However their combined use was also confirmed (Urrutia, Eriksen, 2005; Veth, 2006; Mair 2002). As demonstrated by Wilkes (2005), the companies that used these two tools achieved significantly better results than others. In turn, Lucianetti (2010) indicated better usability of BSC in companies that use the strategy map. This is associated probably with the difficulties in terms of defining the causality when designing BSC (Nprreklit, 2000; Davis, Albright, 2004; Malina et al., 2007).

The strategy map is also a component of the meta-SWOT strategic planning tool. It is based on resources and capabilities and factors of business environment, which combine into the final effect of the analysis just in the form of a slightly modified strategy map (Agarwal, Grassl, Pahl, 2012).

As it appears from the research, the strategy map has a positive effect on improving the competitive position and performs the role of a specific benchmark for the process of planning the strategy implementation by managers, offering also the usability in the form of aligning the manager's perceptions (González et al., 2012). Additionally, it improves a very important managerial skill, i.e., the ability to filter the available information and reject the information that is not significant from the strategic point of view. Thus, it reduces the information load (Cheng, Humphreys, 2012). As it is known, an incorrect assessment of strategic signals may lead to weakening the company's competitive position or reducing its value for stakeholders (Day, Schoemaker, 2005). Therefore, the strategy map may also include external factors used for diagnosing and supporting the competitive position. The proposed concepts of strategy map creation enable visual communication of complex interactions between variables associated with the competition strategy while taking the expected results into account. This tool can perform a supportive function for the formulation of the strategy itself, and not only for its implementation. (Day, DeSarbo, Oliva, 1987).

Attention is also drawn to an additional use of the strategy map as a tool for self-control and better understanding of the role of the management board in achieving the objectives through a more adequate segregation of duties and the transfer of decision-making powers to various levels of the organisational structure (Sankaran, Iyer, 2011).

As mentioned by Barad and Dror (2008), the process of creating the strategy map should begin from the root causes (infrastructure) and only then include business goals. They also indicate that the usability of the strategy map is limited by time, so the map should be periodically updated and modified.

It is worth noting that there is no uniform structure of the strategy map. What's more, various diagrams showing different relational priorities can be created for the same set of objectives and measures (Platts, Tan, 2004). Carmona et al. (2011) identifies two basic types of diagrams classified as "Silo" (stressing the functional relationships) and "Pyramid" (composed of indivisible layers, otherwise known as matrix integration diagram). As indicated by the research, a map in the form of a pyramid seems to be more effective in the implementation of projects focused on short-term financial results. Thus it depends not only on the specific character of a given organisation or the industry in which it operates, but also on the type of the development concept being implemented. Armitage and Scholey (2003) also draw attention to this aspect. They indicate the usability of the strategy map in organisations of different sizes and from various industries, as well as the possibility of adapting this concept in different corporate contexts.

Quezada et al. (2009) propose to include the stage of creating the strategy map in the strategic management process in order to make it the final stage of the strategic analysis which precedes the implementation of the

strategy itself. It aims to illustrate the cause and effect relationship between the strategic and operational objectives, and then it is used to define the efficiency indicators for each of them. This is even more important because, as indicated by Malmi (2001), there is a lack of analyses concerning the relationships between the strategy and its measures. Such an analysis can be performed using the DEMATEL method that integrates expert knowledge in order to identify precisely these relationships which subsequently provide the basis for building the strategy map (Wu, Lee, 2007; Jassbi et al., 2011). Tseng (2010) proposes a set of efficiency indicators divided into the "cause group" and the "effect group", identified on the basis of four BSC perspectives. However, they should take into account the specific character of a given organisation. As shown in the studies that Wu (2012) conducted for example for the banking sector, the definition of the strategy map and strategic objectives had the highest effectiveness when it included elements associated with customer satisfaction. Therefore, regardless of the method used, it is crucial to adjust it to the nature of the competitive advantage held, as well as to the core competencies and resources available.

An unquestionable advantage of the described tool, apart from its concise nature, is the ability to transpose intangible assets into tangible outcomes (Banker et al., 2004).

The strategy map, similarly to BSC, is burdened with the "common measures" bias. This means that depending on the type of strategy or the specificity of the company, there is a difference between commonly used measures and unique measures. Organisations that use the same strategies for all their business units will be inclined to introduce a uniform set of measures. In turn, more diversified companies will have several separate maps and sets of indicators (Kaplan, 2012). Criticism of this tool also applies to the fact that the time delay is not taken into account (Malina et al., 2007, Kunc, 2008). Lev (2001) emphasises also the aspect of the complexity of resources and difficulties in their estimation. As shown by Rompho (2012), there is no clear relationship between the use of the strategy map and the decision-making process along with its improvements. This results from the lack of mutual correlations between individual measures and map elements which allows managers to make arbitrary interpretations and use their own mental models. What's more, the mere definition of measures and objectives will not cause their achievement. That's because it is necessary to introduce programs and strategic initiatives dedicated to this purpose. (Kaplan, Norton, 2004). This means that the strategy map must be treated as an integral part of the strategic management process.

The inability to create the map and use it correctly results from the lack of skills to implement the strategy and insufficient awareness of the usability of this tool. It is the initial stage of this process, which is used for defining the vision, mission and components of the strategy, and most importantly – their mutual interactions. It can be concluded that the strategic plan defines the route for an organisation to follow, while the map is a way to operationalise the strategy (Sheehan, 2012). Thus, the map is a more precise formulation of the general development concept (Kaplan et al., 2010). It also performs the function of a tool for comparing the effects and initial assumptions due to the fact that it illustrates the cause and effect relationships. This is referred to as the "strategic learning loop" (Kaplan, Norton, 2001). Kaplan and Norton (2000) indicated also the communication function performed by the strategy map as a simple and communicative carrier of information for employees regarding the strategy implementation. The strategy map creation process introduces the clarity and transparency to the strategy formulation procedure (Scholey, 2005). The early warning system built in this way provides an additional functionality that shows the degree of achievement of goals or indicates emerging problems (Markiewicz, 2013). At the same time, attention is drawn to an appropriate structure of the strategy map in the form of a single-page graphic presentation showing the elements that should be implemented in order to ensure the efficiency of the strategy implementation process (Niven, 2005). Thus, in order to create the strategy map, it is required to carry out an analysis of the manner of functioning of the organisation and the role performed by the strategy in its development (Serdar, Mehmet, 2007).

Four areas were designated for the needs of the analysis:

- The area of the activities associated with employee involvement.
- Tools.
- Changes in the organisational structure.
- Management system.

H1: The use of the strategy map has a positive impact on taking measures aimed at employee involvement.

H2: The use of the strategy map has a positive impact on an increase in the use of other implementation tools.

H3: The use of the strategy map has an impact on the introduction of the changes to the organisational structure that aims at improving the strategy implementation process.

H4: There is a positive relationship between the use of the strategy map and the introduction of changes in the management system, which include the use of informal communication, changes in the incentive system, and regular monitoring of the implementation work..

Methodology

Sample and Data Collection

The group of respondents included managers of 200 companies that have been operating for at least 5 years and are listed among the 500 largest Polish companies in the ranking of the "Polityka" weekly magazine (101 entities) and in the "Forbes Diamonds 2013" ranking (99 companies). The first ranking takes account of the revenues on sales, the total revenues of the companies, the gross and net profit, as well as the employment level. On the other hand, the "Diamonds" list included the companies with the fastest increase in their value. The group of respondents included 68 small businesses (up to 49 employees), 63 medium-sized companies (50-249 employees) and 69 large enterprises (employing over 250 people). The results described below are a part of broader surveys on the implementation of the strategy in enterprises. In order to ensure the highest possible representativeness, the sample was selected using the stratified random sampling method and the data were collected in an open (overt) and standardized way.

9.1. Research tools

The study was conducted using the PAPI (Paper and Pencil Interview) technique – the quantitative survey was carried out with the use of a method based on collecting the data in an open (overt) and standardized way. The questions in the questionnaire were of nominal nature (the respondents declared the existence of specific obstacles) and of ordinal variable nature (the respondents indicated the strength of their impact in a 5-point scale). In order to test the hypotheses, Kendall's tau-b correlation coefficient was calculated.

Analyses and Results

The following table presents detailed results of the research.

Table 1 Research results.

Hypothesis	Detailed question	Correlation	p	n
H1	Using work of multifunctional teams	0.318	0.002	78
	Transferring the responsibility for executive actions to leaders at various levels of the organisational structure	0.516	0.000	68
	Actions taken by the management to reduce the employee resistance to changes associated with the strategy implemented	0.643	0.000	63
	Inclusion of a wide group of employees into the strategy development stage	0.418	0.001	58

H2	Using a Balanced Scorecard	0.461	0.000	57
	Using budgeting and task scheduling	0.675	0.000	70
	Using implementation programs	0.620	0.000	68
	Assigning implementation measures and indicators to strategic objectives	0.489	0.000	62
	Using a system for monitoring the company's environment	0.469	0.000	66
H3	Changes in the organizational structure aimed at streamlining the strategy implementation process	0.475	0.000	64
H4	Using informal communication	0.298	0.011	61
	Introducing an incentive system that makes the employee remuneration level dependent on the degree of achievement of strategic objectives	0.305	0.007	69
	Regular monitoring of the progress in implementation work	0.629	0.000	70

Source. Own research.

As an introduction to the analysis of the results, it is worth mentioning that the surveyed companies, due to the position held by them in prestigious rankings and thus their performance, can be considered as representatives of the group of entities that are successful in implementation activities. As shown by the research results, the level of the strategy implementation is on average 74%, which can be considered as good, especially in the context of many studies discussing the implementation difficulties faced by companies (Beer, Nohria, 2000; Raps, 2004; Carlopio 2003). 80 entities participating in the survey indicated that they used the strategy map, but the number of companies taking actions within the areas specified is different.

The analysis of the questions used for testing hypothesis 1 showed that all the results obtained are statistically significant and that the level of correlation varies and takes the average value. The best result was obtained in the case of the declaration to take actions aimed at the elimination of employee resistance, which may confirm the considerations included in the literature of the subject that concern the communication function performed by the strategy map if used correctly. Thus, it is a basic tool used to increase the frequency and regularity of actions aimed at augmenting the employee involvement and thus supporting the strategy implemented. A slightly lower, but still an average level of correlation, (0.516) was found in the case of the relationship between the strategy map and increase in decision-making powers and the executive responsibility at various levels of the organisational structure. Thereby, this confirms the thesis that the strategy map enables better transparency and clarity of competence relationships. The analysis of the answers given to the next question leads to similar conclusions. The average level of the correlation was obtained in the case of an increase in the employee involvement at the stage of formulating the strategy, which confirms the duality of the use of the strategy map as a tool useful both in the strategy development and implementation. There are many studies indicating the effects of employee participation in the process of strategic management, i.e., increased involvement and elimination of employee resistance (Tegarden et al. 2005). The lowest level of correlation (0.318) was obtained in relation to the use of multifunctional teams. However, it can be confirmed that there is a weak positive relationship indicating that the strategy map increases the integrity of links between departments and simultaneously offers a

greater diversity of measures serving the strategy implementation. The results indicate that the hypothesis was tested positively.

In order to test the hypothesis 2, the correlations between the strategy map and other tools aiding in its implementation were examined. The highest level of correlation was obtained for the use of scheduling and budgeting, which seems to be an obvious relationship. The strategy map shows interrelationships between resources and ongoing activities, which translates into the budget structure and the detailed plan for implementing the strategy. In this case, the group of entities that declare the use of the tools described here (70 companies) is also numerous. Similar results (correlation at the level of 0.62) were obtained for the realisation of specially designed implementation programs, which may also indicate the functionality of the strategy map and its application capabilities. Therefore, defined relationships provide a basis for building more advanced projects that, after being supplemented with strategic objectives and the measures of their achievement, form the implementation program. An implementation action consisting in assignment of implementation measures and indicators to strategic objectives results in a correlation at the level of 0.489, which can be considered as an average positive relationship. It can therefore be concluded that the use of the strategy map increases in this way the formalisation of the process of implementing the development concept. Also interesting are the results indicating the existence of an average positive correlation between the use of the strategy map and the use of a system for monitoring the company's environment (correlation at the level of 0.469). Thus the relationships described in the literature of the subject which indicated that the strategy map should be built taking account of external factors used to diagnose and support the competitive position were confirmed. Systems for monitoring changes occurring in the company's environment are designed to provide a tool for warning against adverse trends. The lowest level of correlation (0.461) was obtained when using BSC, which indicates an average positive relationship. Thus, this confirms the results obtained by other authors indicating positive relationships between the tools described here. However, the percentage of entities that use both BSC and the strategy map at the same time is relatively low (57 companies, i.e. 28.5%). The correlation results obtained have different values, but indicate that the use of the strategy map has a positive effect on an increase in the use of other implementation tools, which allows accepting this research hypothesis.

Hypothesis 3 was tested using one question and the analysis of the results indicated an average positive relationship. This allows for confirming that the use of the strategy map has an impact on the introduction of changes to the organisational structure which aims at improving the strategy implementation process. These changes often result from the conflicts of relationships observed between individual elements of the strategy map as well as from related decision-making problems (including the absence of designated decision-makers or conflicts occurring between decision-makers). In this case, the strategy map performs an informative function: it points to the need of making modifications in the existing organisational structure and thus improving it.

The last of the hypotheses concerning the use of the strategy map and the introduction of changes in the management system required an analysis of three aspects. The first one covered informal communication. The result obtained (0.298) indicates the existence of a positive relationship, which may seem surprising. That's because the strategy map is in fact a tool used for formalised communication and graphical presentation to show the elements of strategy implementation. However, the studies also point out to the aspect of informal communication which must be taken into account by the managing staff, since its use brings additional effects that strengthen the basic communication function of the strategy map. A very similar level of correlation was obtained in the case of the introduction of an incentive system that makes the level of employee remuneration dependent on the degree of implementation of strategic objectives. Therefore, this also indicates the usability of the map in the aspect of the incentive system. A proper structure of such a system can bring two benefits: greater acceptance for the strategy being implemented and greater transparency of the implementation rules. A high level of positive correlation was also obtained for the regularity of the implementation work measurements, which suggests that the use of the strategy map provides a basis for formalising and designing a measurement system. This means that it performs the function of an early warning system that may indicate the degree of fulfilment of the objectives, signal emerging problems and demonstrate the usefulness of the SWOT analysis (or the meta-SWOT analysis described earlier in this paper). Thus, hypothesis 4 was tested positively.

Conclusion

The relationships described in this paper indicate that the strategy map performs many functions and seems to be a very useful implementation tool. Its relationship with BSC and other strategy implementation tools was proven. Attention was also drawn to the changes that may be introduced in the management system. Their aim is to support the process of implementing the development concepts. In particular, this applies to the informal communication and the incentive system. This results from the fact that these aspects help eliminate many barriers to the implementation. The issue of employee involvement is also important. It was demonstrated that

the strategic map performs an important function in this respect as a tool that facilitates taking actions aimed at increasing the extent of employee participation. Further research should focus on the aspect of the company's size, as it seems that the use of tools, including the strategy map or BSC, is rather the domain of large enterprises. Therefore, it would be worth examining the correlations in companies of various sizes that operate in different industries.

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Strategic Performance Management with Focus on the Customer

Michaela Striteska[a*], Lucie Jelinkova[b]

[a,b] *University of Pardubice, Faculty of Economics and Administration, Institute of Business Economy and Management, Studentska 84, Pardubice, 532 10, Czech Republic*

Abstract

This paper presents a view on issues of strategic performance management in the Czech business environment with focus on the customer by means of comparing results and partial conclusions from research carried out in selected companies. The results of the analysis are evaluated in the context of the theoretical background and the findings of similar studies. Based on these findings, a set of recommendations will be provided for Czech companies dealing with strategic performance management oriented towards the customer. The paper was prepared based on research of Czech and foreign literature, interviews with management and analyses of internal materials from selected companies.

- *Keywords:* performance, measurement, management, customer, strategy

1. Introduction

The basic prerequisite for the successful long-term operation of a business is finding competitive advantages for a company, linked primarily to the performance of this company but also to other areas of company operations. Gaining a competitive advantage by achieving a certain level of business performance is the primary prerequisite for the successful operation of a company in the long term (Marinic, 2005; Skodakova, 2009). One of the key factors of company performance and subsequently of the creation of value is competitiveness of the company and a competitive advantage. At the same time, company performance is considered to be the basic standard of its competitiveness.

A company's performance, according to Porter (1985) shows, for example, a greater capacity to ensure profits, increased efficiency of production processes and their effectiveness in transforming input factors into a final product ensuring a profit. In a broader sense, the company's performance is reflected in greater stability of the company, an improved ability to learn, adapt to changes and respond to them. To achieve greater competitiveness in general it is necessary, in view of the close relationship of performance and competitiveness, to think in a broader context (systems thinking) and at the same time to have a sufficient level of knowledge of modern management theory. (Skodakova, 2009).

Performance can therefore, according to Mikolas (2012), be considered as a specific form of competitiveness - the company's potential to generate performance. A socially responsible company should understand performance comprehensively - not only as an economic view or description, but also in terms of social, environmental and other potential. In today's competitive environment, monitoring and measuring customer satisfaction plays a key role, therefore this article will pay close attention to strategic performance management with a focus on the customer.

The ability to find new customers and retain existing customers determines the degree of success of a company (Rosicky et al., 2010). In this, even just identifying and satisfying the customer is essential to their retention and loyalty (Sivadas and Baker-Prewitt, 2000; Chan et al., 2010). According to surveys by Forrester,

* Corresponding author. Tel. + 420-466-036-179 fax. +420-466-036-010
E-mail address: michaela.striteska@upce.cz

more than 72% of B2C companies consider retaining customers as one of its main priorities (Band, 2010). Gitomer (1998) characterises this state by saying that it is not enough to produce satisfied customers, but the new challenge is to produce loyal customers.

Most marketing theories and practices unfortunately still focus on the art of attracting customers instead of paying sufficient attention to retaining existing customers (Pribyl, 2012). Seldon & Colvin (2003) express the belief that a closer view of customer satisfaction will allow managers to understand more comprehensively the opportunities for improvement and this closer view of customer satisfaction is even more important if the company management is to understand customer profitability.

2. The Issue of Strategic Performance Management in Czech Companies

In recent years, more and more attention has been paid to the issue of performance measurement as a tool for the effective implementation of a strategy (Kaplan, Norton, 1996; Bourne et al., 2000; Simons, 2000; Schneier, 1991). Based on research conducted in Czech companies, it was found that, on average, 73% of companies in the Czech Republic base their performance measurements on their company strategies and objectives and 7% do not base their performance measurements on their company strategies and objectives, even though they are defined within the company. 20% of companies then have no strategy or objectives formulated and performance measurement is conducted only for specific activities and processes. This research also points to the fact that size has a major impact on whether a company bases its performance measurements on the company strategies and objectives. 57% of small businesses apply defined strategies and set goals; almost a third of these companies do not have a defined strategy and business objectives formulated. For medium-sized companies with applied strategies and objectives, nearly 75% of the companies and 16% of medium-size companies do not have a defined strategy or business objectives. Large companies fared best in the survey, where nearly 89% of large companies apply a company strategy and objectives, and only 7% do not have any formulated strategies or goals (Knapkova, et al., 2011). These results confirm, but also refute, research by Striteska and Svoboda (2012), which was conducted in 133 Czech companies from the most competitive industries. 87% of respondents said here that their performance measurement system is based on their vision and strategy, but subsequent analyses, however, showed that only 26% of these performance measures are actually used as a tool for implementing and revising strategies.

The set long term strategic concept including objectives and procedures must be analysed through strategic performance measures and thus its implementation in the company ensured. Marr & Schiuma (2003) present three basic reasons for measuring a company's performance: verifying the company's strategy, influencing the behaviour of employees and external communications and company performance management. According to research conducted in 2009-2010, in which 402 executives took part from companies in the Czech Republic, the most common reasons for measuring and managing company performance were identified, including strategic planning, the need for controlling and motivation and reward. Other important factors can be identified according to the survey, such as the need for communication, daily decision-making and verifying strategies. Less important factors are considered to be managing relations with stakeholders and obligations set by law (Knapkova, et al., 2011). In contrast, research by Marr (2003) showed the most important reasons to be: the needs of company management, strategic planning, daily decision-making and verifying strategies. Less significant reasons for performance measurement and management were communication, motivation and remuneration, managing relations with stakeholders and obligations set by law.

Performance is managed based on information obtained through performance measurement systems. Based on the results of investigations carried out by Marr (2004) in the largest American companies with different business activities, it was apparent that the most important areas of the companies where performance is monitored is, in 91% of the companies, the financial area, 69% said the customer area, for 63% it was the process areas and in 52 % the area of human resources. The vast majority of companies thus measure performance particularly in the financial area. A similar situation exists in Czech companies, where the greatest attention is paid to performance measurement in the financial sector, followed by the customer area (Striteska, Svoboda, 2012). The fact that, in practice, performance management in Czech companies is primarily based on absolute financial indicators is also confirmed by Fibirova (2007), Horova and Hrdy (2007), Kral et al. (2007) or Skodakova (2009). The results of the above studies, however, point to the fact that companies are increasingly beginning to realise how important it is to also monitor the process and customer areas. Awareness of the importance of monitoring and measuring performance in the customer area was also confirmed by the research

of Horcicka and Jelinkova (2014) in Czech manufacturing companies, where managers indicated the ability to improve relations with customers as one of the advantages of performance measurement systems.

Contemporary middle and top managers in Czech companies, however, very often lack awareness of the components and characteristics of effective performance measurement systems (Striteska, Svoboda, 2012).

3. Monitoring and Measuring Customer Satisfaction

The area of monitoring customer satisfaction is becoming increasingly important. The basic reason for monitoring customer satisfaction and loyalty is, according to Nenadal, et al. (2004), to provide sufficient relevant information on the needs and expectations of customers and their level of satisfaction - in applying one of the basic principles of the quality management system such as feedback.

In this context, satisfaction can be defined according to Zithaml and Bitner (2000) as the customers' evaluation of a product or service in terms of whether that product or service has met their needs and expectations. Failure to meet their needs and expectations is assumed to result in dissatisfaction with the product or service. Customer satisfaction is also characterised as a very strong and apt indicator of the operating performance, as the measure of the market-oriented performance of the company, such as sales volumes or market share, are primarily benchmarks of success oriented back into the past (Blanchard et al., 2004). They show how successfully a company was in satisfying markets and customers in the past, but show almost nothing about how successful the company will be managed in the future. At this point it should be noted that a company may have excellent short-term financial results, even if their customers are disappointed. This is due to the fact that the majority of customers seek alternative solutions only later; their dissatisfaction may first be displayed through reduced purchases from the company and later by a cessation of purchases.

According to Nenadal et al. (2004), procedures for monitoring and measuring customer satisfaction (internal and external) can be divided into two basic groups, for procedures using customer perception output indicators and for procedures using internal performance indicators. The first group includes procedures which work with indicators that directly show the level of perception of individual products among various customer groups and are derived from data collected through regular surveys. In contrast, the second group of procedures is based on analysing data acquired from internal databases of organisations supplying products to the customers; it is not acquired from customer feedback, but is a reflection of how the organisation develops processes which cause positive or negative perceptions from customers.

Bateson and Hoffman (1999) state that companies should develop a satisfaction information system which incorporates customer complaint measures, after-sales surveys, customer focus group interviews, mystery shopping scores, employee surveys and total market service satisfaction surveys. There is also a growing trend towards the use of concepts such as dashboards and Balanced Scorecards to bring these measures together and highlight the connections between them as well as their impact on the bottom line (Wilson, 2000). Companies using satisfaction surveys need to clearly define the linkage between satisfaction and corporate goals (Wilson, 2002).

This information is acquired systematically by a performance process which allows the current and anticipated requirements of the company's customers to be examined. A systems approach of ensuring customer satisfaction and loyalty is an increasingly important process, as evidenced by the rapidly developing field of CRM (Customer Relationship Management) (Beldi et al., 2010; Johnson et al, 2012).

CRM is an integration of technologies, people and business processes that is used to satisfy the customers' needs and to improve the relations with them (Kincaid, 2003; Foss et al., 2008). Even though it is widely accepted in the marketing literature that CRM is an effective approach to collect and analyse useful customer information to increase customer satisfaction and ultimately improve company performance (Ernst et al., 2011), many academic and business reports have shown disappointing results.

A survey of 202 CRM projects has found that only 30.7% of the organisations recognised that they had achieved improvements in the way they sell to and serve customers (Dickie, 2000). The Giga survey (2001) or Gartner Group study (2003) estimates that 70% of companies will fail eventually and found that companies generally underestimate the complexity of CRM, lack clear business objectives, and tend to invest inadequately in the provision of CRM software. Therefore the emphasis on viewing CRM as a strategy is now evident in the literature (Keramati et al., 2010). Payne and Frow (2005) describe CRM as a continuum which, on the one hand, relates to the implementation of a specific technology solution, and on the other hand, is a strategy for managing

customer relationships to create shareholder value. A better definition in our view is provided by Keith and Richards (2008) that define it as a set of business activities directed by strategy and designed to improve business performance in the area of customer management. CRM is not conceptualised as a strategy, but rather as a means to achieve desired strategic goals as well as to improve customer relationships.

4. Objectives and Methodology of the Investigation

The main objective of the investigation was to determine whether the companies surveyed had set a long-term strategic concept including objectives and processes focused on the customer and whether the strategy was implemented by means of the strategic performance measures. Attention was also paid to specific areas of performance which the companies monitor. Partial objectives of this investigation were also to identify the attitude of the companies to monitoring and measuring customer satisfaction, the use of customer satisfaction measurement as an input in the process of continuous improvement and identifying the ways in which the companies determine their competitive position. Consequently, an analysis was made of how the information gathered is used in the company. The results and partial results are then evaluated in the context of the theoretical background and results of similar studies.

This study was conducted in selected companies at the end of 2013 in the form of semi-structured interviews and analysis of internal company materials relating to the areas surveyed.

The data collection phase of the study began with a general examination of relevant literature and research studies, to provide researchers with a sufficient theoretical background. After that, the characteristics of the basic information on the companies (legal business form, branch of operations, annual turnover, number of employees, form of ownership, company headquarters), vision, values and strategy, performance management system and measurement of customer satisfaction in the selected companies were analysed on the basis of all available internal documents.

Interviewing was the second technique used for data collection. The semi-structured interview was based on the methodology and rules presented by Allhoff (2008) and Scharlau (2010). The semi-structured interviews were conducted with 20 managers of selected companies. In total there were 6 basic questions that were discussed in detail with the company managers. These questions were focused on charting and analysing the current state of performance management in the context of strategy, measuring customer satisfaction and the use of information that the companies obtain from these activities.

The basic set included all top management and middle (line management) levels of management of all companies in the Czech Republic. Non-random selection was intentionally used to obtain a sample of respondents (Gavora, 2010; Surynek, et al., 1999).

The final sample for interviewing included a total of 20 managers, 11 of which were at the highest management level and 9 were at mid-level management of the companies, the activities of which were manufacturing, process manufacturing, chemical processing, energy, automotive, information technology, transportation, health, banking, insurance and other services. According to Commission Regulation (EC) No. 800/2008, the selected companies can be divided into 9 large companies (over 250 employees, over 50 million Euro), 7 medium companies (51 - 250 employees, over 10 to 50 million Euro) and 4 small companies (11-50 employees over 2-10 million Euro). In terms of the forms of ownership, the sample contains 14 domestic and 6 foreign companies. Of the companies studied, 17 have their headquarters in the Czech Republic, 1 in Sweden, 1 in Austria and 1 in Switzerland.

All of these companies have an assumed relation to the issue being investigated (the business activity, assumption of performance measurement, monitoring customer satisfaction, etc.). The relationship of the selected companies to the subject of the investigation was determined by a previously performed secondary analysis. A content analysis technique was used.

5. Findings and Discussion

The starting point of the strategic performance management of the companies is to define a strategy that expresses what the company wants to achieve in the future and through which activities. All the companies surveyed have a set long-term strategic concept including objectives and processes focused on the customer. A

far more interesting finding is, however, that only three companies have a strategic concept set for a time period of 10 years and seven companies for a time period of 5 years. The other half of the respondents said that the time period set for their strategy is in the range of up to 3 years, of which six companies have defined a strategic concept only for 1 year. Here discussions arose with the managers as to whether it was not actually a question of tactics rather than strategy. Additional questions revealed that strategy in the longer term is defined only as a rough outline and is worked out in detail for a period of one year. Unfortunately, managers of two companies did not discuss the time limitations of their strategies in the interviews.

These results correspond to the modern concept of a strategy which is presented in current literature. This concept responds to several troubling facts which are discussed in relation to strategic management by the important representatives Mintzberg, Porter and others. The original concept presents strategy as a pathway to a clearly set objective. In today's rapidly changing environment a managerial approach to strategy must be dynamic, flexible and innovative. Meeting the strategic objectives then cannot be seen as a rigid and routine approach to stationary targets. In the new concept, therefore, strategy is rather a synthetic perception of the proper direction and must be created or modified comprehensively and continuously. Jirasek (2002) compares the modern strategy to shooting at a moving target, while also firing on the move. Dytrt (2006) adds to this that the length of the strategy is not generally given, but arises from the specific conditions of the environment in which the company is positioned and the managerial ability to analyse and predict the development of trends.

A positive finding is also that almost all companies, except one, have for their strategy, defined strategic performance measures which ensure its implementation. These results are confirmed by the trend when measuring performance is based on the strategic goals of the company. If we compare these results with research studies conducted among Czech companies in recent years (Knapkova, et al., 2011; Striteska, Svoboda, 2012; Striteska, 2012), it can be said that this trend is constantly growing. In practice, meeting with medium or large companies whose performance measurement is not based on strategy is beginning to be an exception.

The following graph (Fig. 1) shows how many companies monitor a given area by means of strategic performance measures. At this point it should be emphasised that only nine companies from the sample monitored were involved in manufacturing. All companies surveyed which link performance measurement with strategy use performance measures defined in the areas of finance and customers. The area of finance, in particular, deals with absolute indicators, cost-effectiveness indicators and financial analysis indicators. Only one of the companies surveyed measures their financial performance with the use of the modern indicator EVA "profitability". Among the companies surveyed, the extent of the defined measures in the area of customers differs considerably. They mostly relate only to satisfaction or the market share in the relevant market. Only 4 companies from the sample analysed use measures defined also for maintaining and acquiring customers; an example is the Customer Loyalty Index (CLI), or the Net Promoters Score (NPS). In this, most authors (such as Best, 2005) recommend categorising customers according to their loyalty and profitability for effective customer relationship management in relation to their retention.

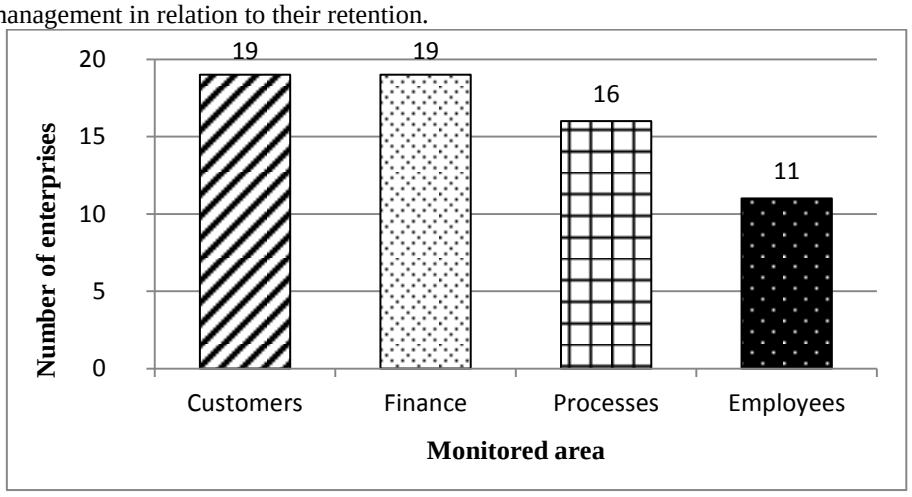

Fig. 1. Areas in which the companies surveyed have defined strategic performance criteria

Even greater differences are evident in the area of processes (Fig. 2), where most companies supplement their financial and customer measures, and sales, production, quality, and purchase measures. A somewhat surprising finding is that only three companies have defined performance measures in terms of innovation process.

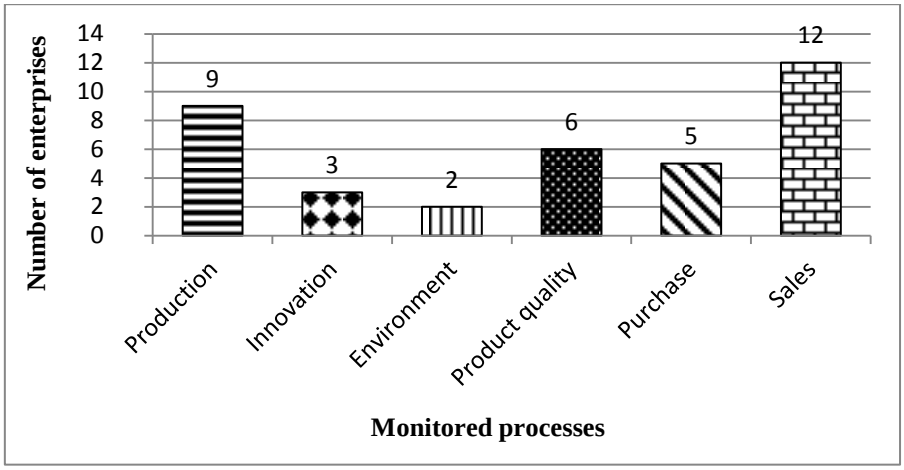

Fig. 2. Strategic criteria of process performance

In the field of purchasing and sales, it is primarily a question of optimising costs and evaluating suppliers. In the area of manufacturing, consumption is monitored primarily as to technical and economic standards, cost effectiveness, ensuring the flow of material, maintaining the principles of Lean Manufacturing (Lean Management) and continuous improvement of the production process. As part of the innovation process, the number of innovations and their costs are monitored. A more detailed analysis of internal company documents revealed that only five companies characterise and monitor all processes that are key to achieving customer and financial goals.

Few companies have defined measures in the area of employee performance. In the area of employees, the most commonly monitored indicators are average wage, number of workers, labour productivity and training costs.

Overall, therefore, the above findings can be summarised as follows. Only three companies have demonstrably defined strategic measures in terms of finance as well as customers, processes and employees; thus within the four perspectives of a Balanced Scorecard. 5 companies monitor the areas of finance, customers and employees, and 10 only finance and customers. These results show that the companies surveyed no longer primarily monitor the financial sector, as also shown in other similar research studies (Marr, 2004; Fibirova, 2007; Kral, et al., 2007), but monitoring the financial and customer areas is balanced. On the contrary, the fact is confirmed that defining the performance measures of employees for the companies surveyed remains problematic. Although many research studies have confirmed the strong relationship between human resources management and the attitude of the employees on the one hand and the performance of the organisation on the other hand (Armstrong, 2007 provides a number of relevant research surveys), HRM indicators are not yet the norm in examining the effectiveness of human resources management and its impact on company results (Guryn, 2006).

Despite the fact that all the companies stated that their performance measurement is based on their strategy, a more detailed analysis revealed that only two of them have demonstrably defined performance criteria for all strategic objectives and create a strategic plan. The analysis clearly shows that the current management of the companies surveyed do not pay sufficient attention to discovering logical links between the performance indicators used. No relationship was revealed between the skills and motivations of employees or key processes and the development of customer satisfaction, which we discuss again further. And if these relations are examined in a company, they usually remain at the level of apparent hypotheses.

All the companies analysed further stated that they monitor external customer satisfaction. The most commonly used techniques to determine customer satisfaction are survey questionnaires (13 companies) and discussions with customers (10 companies) either by telephone or personal meetings. Customer satisfaction based on the number of complaints or returns is carried out by nine companies. Other techniques and methods of

measuring satisfaction were mentioned only very rarely in the interviews. Only three companies conduct internal surveys and two have customer satisfaction surveyed by independent specialised firms. Only three companies draw up a customer satisfaction index (CSI) based on customer satisfaction surveys and one uses the technique of mystery shopping. Other methods used for monitoring customer satisfaction are: a market share indicator, supplier evaluation, contact forms, service days, communicating through Facebook, letters from customers, organising various competitions with control questions related to satisfaction and complaint and suggestion books.

Research shows that only 3% of unsatisfied customers complain (Kotler, 2001). It is thus clear that companies cannot use complaints as a measure of their satisfaction. Forward-looking companies determine customer satisfaction through the use of regular surveys. None of the companies surveyed use only complaints to monitor customer satisfaction, but all of them use a combination of several techniques. A more detailed analysis of internal documents showed, however, that only 9 companies regularly and systematically analyse customer satisfaction. These results are consistent with the findings of similar research studies, where the online survey by GfK Prague concerning the current situation of determining and monitoring customer satisfaction in the Czech business environment indicates that only 43% of companies regularly analyse customer satisfaction. According to this survey, the most commonly used methods of monitoring satisfaction are: reporting from their own teams (65%), consumer survey (51%) and complaint and suggestion systems for "quick solutions and troubleshooting" (40%) (GfK Prague, 2004). If we analyse these results in the context of other measures which the companies surveyed use to measure the area of customers, we can identify the degree of excellence of performance measurement in relation to customers according to Nenadal, et al. (2004)[8]. 16 companies can be classified into the second degree of Measurement of Customer Satisfaction and four companies into the fourth most advanced grade of measurement of Customer Loyalty.

Attention was also paid to the use of information obtained from the measurement of customer satisfaction. This is used in the company as an input in the process of continuous improvement, and in what specific ways. Eighteen managers were able to answer this question comprehensively and said that this information, whether it is about customer satisfaction or requirements, is used as input in the process of continuous improvement. 14 companies are doing so by improving relationships with customers and 12 companies use this information primarily to improve the quality of their products or services. Only 11 of them mentioned the above responses simultaneously. Surprisingly, only two companies use benchmarking in this context. Only one company mentioned the use of information as a basis for strategy and one for process improvement. Only once, increasing demands on suppliers was mentioned, as well as process improvement, creating innovation, remedying defects, kaizen, expanding the range of services, employee training, improving work organisation and improving communication with customers. Nenadal et al. (2004) suggests that measuring customer satisfaction is essentially a directed measurement on specific products. Therefore, past experience shows that if these measurements and the results obtained react at all, the improvement activities are exclusively towards the improvement of products. Improving the performance of various processes associated with it is simply ignored. This fact is confirmed by the above results.

For a more comprehensive evaluation of measuring the performance and competitiveness of the selected companies, tools and methods were found that are used for determining their competitive position. Most often, their competitive positions in their respective fields are found through financial analysis (13 companies) and benchmarking (7 companies). Among these comprehensive methods of measuring performance, one company also uses a Balanced Scorecard. Four companies reported, as methods for determining their competitive positions, methods used for strategic analysis, namely SWOT analysis (3 companies) and Porter analysis (1 company). Other methods mentioned were market research and feedback from sales representatives, by means of various information websites or specialised periodicals. An interesting finding is that the survey results are not much different from the findings of similar studies conducted among Czech companies in previous years (Trunecek, 2005; Horova, Hrdy, 2007). The Balanced Scorecard is still, despite its unprecedented boom in the world, very little used. An equally surprising finding was the relatively low use of benchmarking for measuring

[8] Nenadal, et al. (2004) identifies four levels of measurement excellence in relation to customers - data analysis for complaints, customer satisfaction measurement, customer value analysis and customer loyalty measurement. These steps must be understood such that each higher level in itself logically includes the previous level. Thus, for example, measuring loyalty should imply logically integrated work with complaints, customer satisfaction index calculations and mapping the analysis of customer value.

competitiveness, which, according to a study by Bain & Company (2013), has long been amongst the most commonly used tools supporting strategic management[9].

At the end of the interview, it was ascertained what information is obtained by applying the above mentioned tools and methods used in the company. At the same time space was given to the managers to assess whether this information provides them with a sufficient view of their company's performance and thus competitiveness, or whether there was some room for improvement. This question was answered only by seventeen managers. During the interview it was clear that the search for an answer to this question was difficult for the managers. At the same time, the managers differed greatly in their responses. Only four of them stated that this information was used for the revision of their strategies, and three for increasing awareness of the company among customers. As well, two managers considered this information to be important in increasing sales of their products and creating new innovations to strengthen their positions in the market and to improve communication with customers. It was further stated that the information is used for the continuous improvement of all company processes, for management and planning, learning from mistakes, improving the quality of the work, creating new offers, improving service quality and increasing customer satisfaction.

Six managers said that the information ascertained was insufficient and that they see room for improvement in this area, especially in the use of modern methods and tools. However, the other managers (11) did not answer this question. The question remains whether the managers who did not answer consider the information obtained from the performance measurement to be sufficient or whether they do not concern themselves with the issue of improving the current system of performance management. Three managers were satisfied with the information obtained, which corresponds to the results of the previous analysis, as these companies create their performance management system in accordance with theoretical principles.

6. Conclusion

Increasing pressure on the companies' competitiveness in a globalising environment leads managers to try to continuously improve their company's performance and strengthen its market position. Performance especially in the context of customers is becoming a central issue for discussion. The results of this investigation make it apparent that the companies surveyed are realising that their strategic concept must be dynamic and flexible and must respond quickly to changes in today's competitive environment. The companies are also aware that the implementation of a strategic concept must be ensured by means of strategic measures defined in the key areas of performance measurement.

Monitoring performance in various fields is becoming more balanced. The area of finance is no longer dominant, but is supplemented by monitoring the areas of customers and processes. There remains however, the problematic question of defining performance measures in the area of employees, even though previous research has shown that one of the most common reasons for performance management is influencing the behaviour of employees, their motivation and their remuneration. This is closely related to finding logical relationships between key performance indicators. It is here that the greatest lack in performance measurement in the selected companies can be seen.

Development also occurred in measuring customer satisfaction, especially in the techniques that companies use in monitoring these areas. The companies surveyed focus not only on past results, but strive for a comprehensive understanding of the needs and attitudes of their customers. More than half of the companies studied, however, do not measure customer satisfaction regularly or systematically. Room for improvement can also be seen in the supplementary approaches to ensuring customer satisfaction on satisfaction indices, which allow a more detailed analysis of the relationship between the customer and the company. Moreover, it is important to realise that measuring customer satisfaction is only one of the steps towards customer orientation. In the future, it will be necessary to use more sophisticated methodologies that allow companies to analyse customer value and measure their loyalty. It will be suitable, for example, to introduce macro and micro models that can combine different parameters of the customer and organisation relationship in the so-called "Relationship Network" and a detailed analysis of customer satisfaction and loyalty (Nenadal et al., 2004).

[9] Since 1993, Bain and Co. have been conducting regular research on the identification and evaluation of the 25 most popular management tools in terms of the extent of their use in business practice and in terms of managers' satisfaction with the application of these tools. The respondents come from more than 70 countries in North and South America, Europe, Asia, Africa and the Middle East.

This survey showed that a number of modern trends in the field of performance management and measuring competitiveness have appeared in the companies; the introduction of sophisticated approaches and complex methods, however, are still missing.

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Searching for opportunities for development and innovations in the strategic management process

Letycja Sołoducho-Pelc*

Wrocław University of Economics, Komandorska 118/120, Wrocław 53-345, Poland[a,]

Abstract

The search for opportunities is generally associated with some factors – primarily the changes, creativity and innovations. So this is an ambiguous concept, but it can be assumed that it is of innovative character. Opportunities are developing dynamically and change along with the occurring changes, therefore in the approach to opportunities it is a challenge to take an active attitude. Hence, it seems that the key settlements concerning the strategic management process should appear to be helpful. The implementation of the strategic management process imposes the preparation for changes and initiates a search for new development opportunities. There are many questions relating to the practice of strategic management. When analysing the strategic management process, it is justified to indicate the need to deal with the challenge posed by the paradox of variability and durability.

The aim of the study is to analyse and identify the elements or areas of the strategy that are associated with the search for new fields of operation. The study indicated that the formalization of the strategy, the preparation of development plans in a long time horizon, the selection of ambitious development priorities, taking expansive measures or long-term cooperation with business partners were linked with the search of opportunities as an expression of the striving for innovations.

The results of the studies presented in this paper are a part of the project entitled "Strategic management practices in publicly listed enterprises and joint-stock companies", which was financed from funds of the National Science Centre as the research project No. N N115 402240. The studies were conducted on a sample of 150 Polish companies.

- *Keywords:* Strategy, Strategic management, Opportunities, Innovation, Entrepreneurship, Development, Vision, Strategy formalization, Cooperation,
-

Introduction

Popularity of a strategy does not go hand in hand with finding a clear answer to the following question: What is a strategy? It is difficult to define this term universally, however there is no doubt that the preparation and implementation of the strategy are essential for harmonious development of an organization. The necessity to implement the planned strategy in a variable environment in a long time perspective constitutes a canon included in the strategic management procedure.

Despite the fact that various aspects associated with the implementation of the strategic management process are emphasized in many studies, the problem of integrating the sustainability and variability of the strategy in response to emerging opportunities is rarely raised. When confronting the uncertainty and risk, a particularly strong emphasis is put on avoiding or overcoming the threats. Much less attention is paid to searching for and using the opportunities for development in the strategic management process. Therefore, it is still a current issue to seek answers to the question about practical solutions in companies concerning the following issue: How to

* Corresponding author. Tel.: +48713680195; fax: +48713680209.

E-mail address: letycja.soloducho@gmail.com

combine the creation and implementation of the development concept in a long time perspective with the use of opportunities and the necessity to revise the strategy.

Literature Review And Hypotheses

Key assumptions of the strategy in the process of strategic management

Certainly the strategy is among the terms, which are difficult to define explicitly. In the general meaning, the strategy is understood as a specific intention, a plan for achieving the goals. Therefore, when working on the strategy, it is advisable to define development priorities, the manner of achieving the goals or the necessary resources (Davies 2000). Among many definitions that particularize the understanding of this concept, from the viewpoint of the subject of the considerations it seems important to emphasize the use of new possibilities and opportunities under the assumptions concerning company's long-term future operations (Eisenhardt, Sull 2001; Markides 2004; Steensen 2014).

Not all assumptions of the strategy are of the same importance, but the problem of formulating the vision is raised particularly frequently. Organizations do not operate in an environment, the changes of which can be defined as rational and predictable. The dynamics and complexity of changes also characterize the inside of the company (MacIntosh, Beech 2011). Rapid changes that are uncertain and difficult to predict oblige or even force companies to modify the operations concept (Altiok 2011). In order to confront the changes, it is required to indicate a long-term vision of development. The vision relates to long-term objectives of the company and allows understanding its current and future situation. It must be emphasized that the vision allows planning for the future in a long time horizon. When emphasizing the idea of formulating the vision, it should be indicated that it is impossible to make changes without a vision, because the vision sets the direction for the company (Altiok 2011). This is certainly an important challenge for harmonious development of the company, which is reflected in the management method known as visionary management (Malaska, Holstius 1999). In this approach a special emphasis is put on the dynamics of visionary leadership (McLarney, Rhyno 1999).

Another dilemma that needs to be resolved is the degree of the strategy formalization. In the light of the research on the formalized strategic planning, the definition and implementation of strategic initiatives resulting from the choice of objectives and the degree of formalization of this process are of key importance (Jarzabkowski, Balogun 2009; Mintzberg, 1994; Schwenk, Schrader, 1993; Eisenhatt, Zabaracki 1992). In this case, it seem that importance should be attached not only to the issue of strategic planning but also to the flexibility of planning (Dibrell, Craig, Neubaum 2014; Titus 2011; Wiltbank 2006).

It is equally important to specify the activities in relation to other entities. Key settlements made in the strategy relate to the cooperation as well as to the creation of networks and alliances (Levitt 1983; Johnson 1999; Beverland, Bretherton 2001). Such relations should essentially be built based on a reduction of the uncertainty and risk. In a longer perspective, the cooperation contributes to expanding the possibility to use opportunities and innovations (Beverland, Bretherton 2001).

The strategic management process and the dilemma of variability and durability

In order to address the need for the development in a long time horizon and the necessity to cope with the variability of the environment, organizations should implement the strategic management procedure. The practice of strategic management allows finding responses to the occurring changes and refreshing the ideas in order to develop as planned and adequately to the changes (Penbek, Zaptcioglu, Gunerergin 2011). The centre of attention is the strategy, the formulation and implementation of which provide the basis for the strategic management process. The differences result from the fact that various aspects of strategic management constitute a basis for a discussion, but the emphasis is put on the factors that indicate different paths to success (Hijji 2014).

There are many questions relating to the practice of strategic management. Their solution requires knowledge about the activity of companies in the implementation of this procedure. In particular, putting the rigid planning procedure in the centre of attention may raise doubts, if the acceptance and realization of the permanent variability of the environment take place (Pricop 2012). When analysing the strategic management process, it is justified to indicate the need to deal with the challenge posed by the paradox of variability and durability.

Development of Hypotheses

The innovative character of the search for opportunities

In the last several dozen years the innovation effort of companies gained a particular importance as a key factor determining the competitiveness (Kirzner 1973, Miller, Friesen 1982, Covin, Slevin 1989, Dibrell, Craig, Neubaum 2014). It seems reasonable to assume that such efforts are based on discovering new possibilities and opportunities to develop new products, services and technologies that reflect the striving for developing the competitive advantage is at its core (Dibrell, Craig, Neubaum 2014; Lumpkin, Dess 1996). In this case, the innovative approach can be defined as a competent use of opportunities within the strategic planning process thanks to the planning flexibility. The research results presented in the literature can be interpreted as an indication that there is a relationship between the innovations and profits and the formalized strategic planning and the planning flexibility, because these factors affect innovations in a directl and positive manner (Titus, Covin, Slevin 2011; Dibrell, Craig Hansen 2011; Witbank , Dew, Read, Sarasvathy Venkataraman, Dew, Velamuri, 2006; Barringer, Bluedorn, 1999; Dibrell, Craig, Neubaum 2014). It can be assumed that similar dependences exist in relation to search for opportunities as the actions associated with the striving for innovations. Therefore, the search for opportunities as a part of the strategic management process is associated with the formalization or flexibility of the strategic planning.

The search for opportunities is an ambiguous concept, but it can be assumed that it is of innovative character. The search for opportunities is generally associated with some factors – primarily the changes, creativity and innovations (Kirzner 1998). The process of searching for opportunities is conditioned by the acceptance of changes as a permanent state of reality and the search for sources of innovations (Robert 1993). Creativity is a unique element which determines the initiation and efficiency of the process of searching for, identifying and using the opportunities that provide a basis for the development. The considerations concerning the definition of an opportunity constitute a difficult challenge due to a wide range of interpretations of this term. Opportunities can be understood as new business ideas which, thanks to the creativity and the ability to use, are included in the strategic management process. (Eckhardt, Shane 2003, Korsgaard 2013).

The considerations and research results presented in the literature of the subject so far were dedicated primarily to the approach to the search for opportunities in terms of entrepreneurship (Kirzner 1979; Kirzner 1997). The creation, identification and use of lucrative opportunities constitute key activities of entrepreneurs (Venkataraman 1997; Schwartz, Teach 2000, Shane, Venkataraman 2000; Eckhardt, Shane 2003; Rae 2007). The entrepreneurship requires a unique way of thinking, as well as the awareness and skills necessary to find, create and develop opportunities (Taylor 2008). Opportunities and in particular the action oriented at the use of opportunities constitute one of the most important concepts of the research in the area of entrepreneurship (Kaish, Gilad 1991; Busenitz 1996; Gaglio, Katz 2001; Busenitz 2003; Korsgaard 2013). The existing scientific achievements indicated the fundamental issue presented as two alternative or complementary options: discovering or creating the opportunities. Another direction is set by the studies on measurement of opportunities (Alvarez, Barney 2007; Korsgaard 2013; Sarasvathy 2002; Chiasson, Saunders 2005; Gregoire, Shepherd, Lambert, 2010; Short, Ketchen, Shook, Ireland 2010; Fiet, Norton, Clouse 2013; Eckhardt 2013; Anokhin, Troutt, Wincent, Brandyberry 2010).

Opportunities are developing dynamically and change along with the occurring changes, therefore in the approach to opportunities it is a challenge to take an active attitude. Hence, it seems that the key settlements concerning the strategic management process should appear to be helpful. The implementation of the strategic management process imposes the preparation for changes and initiates a search for new development opportunities. The decisions associated with the development and implementation of the strategy can be described as active and reactive ones due to the adaptation to the existing changes and the necessity to predict new changes (Malaska, Holstius 1999). The combination of an active search for opportunities and an analysis of competitors allows implementing the strategy of searching for opportunities in the environment (Miller 1987; Puhakka 2007; Heinonen 2010; Heinonem, Hytti, Stenholm 2011). It should be emphasized that the main factor determining the attractiveness of opportunities is the profitability (Kirzner 1973; Kihlstrom, Laffont 1979; Zahra, Rawhouser, Bhawe, Neubaum, Hayton 2008). Also for this reason, the concept of the search for new of development opportunities in the strategic management process seems to be particularly interesting.

In order to test the relationship between the strategy and continuous search for new fields of operation (associated with the market or product), 16 hypotheses were formulated and presented below. All hypotheses relate to the investigation of the relationship between the continuous search for opportunities and the strategy assumptions.

The above arguments lead to stating of the hypothesis:

H1: Continuous search for new business opportunities requires recording the basic elements of the strategy (mission, vision, objectives).

H2: A clear definition of the vision enables continuous search for new business opportunities (associated with the market or product).

H3: There is a relationship between a regular verification of the consistency of operations with the company development vision and the continuous search for new business opportunities.

H4: Continuous search for new business opportunities require subordination of strategic decisions to the company's values.

H5: Particularization of the development plans in the perspective of minimum 5 years has an impact on the continuous search for new business opportunities.

H6: Dynamic growth as a strategic priority requires a continuous search for new business opportunities.

H7: Continuous search for new business opportunities is associated with taking more expansive actions.

H8: Setting ambitious development priorities requires a continuous search for new business opportunities.

H9: Continuous search for new business opportunities determines the strive for global expansion.

H10: Continuous search for new business opportunities causes that placing products in new market segments becomes a priority.

H11: Continuous search for new business opportunities causes that expansion of the product portfolio becomes a priority.

H12: Continuous search for new business opportunities results in a significant competitive advantage.

H13: Building a competitive advantage on the basis of the operational flexibility and the speed of reaction determines the continuous search for new business opportunities.

H14: Continuous search for new business opportunities allows becoming a leader by setting new standards in the industry (process, product, organizational, and similar standards).

H15: The company's primary competitive advantage based on innovations and technology enables continuous search for new business opportunities.

H16: Continuous search for new business opportunities requires a long-term cooperation with business partners.

Methodology

Research Goal

The results of the studies presented in this paper are a part of the project entitled "Strategic management practices in publicly listed enterprises and joint-stock companies", which was financed from funds of the National Science Centre as the research project No. N N115 402240.

The research results presented in this paper concern the problem of looking for an opportunity under the development strategy implemented.

The general aim of the study is to analyse and identify the elements or areas of the strategy that are associated with the search for new fields of operation. The aim of the studies was to find an answer to the following research question: How can the approach associated with the use of an opportunity (which in certain situations requires modifications of the strategy) be adapted under the implementation of the development strategy?

Sample and Data Collection

The main research sample included 150 Polish companies divided into three separate samples according to the company size. The legal form of these companies was a joint-stock company. These were companies listed on the Stock Exchange in Warsaw, companies listed on the New Connect market (50.7%), as well as non-listed companies (49.3%). The first pre-qualifying criterion under the study was that a company had to be established in the period of 1989 – 2009, while the second condition was that the company had to be founded on the basis of a Polish capital. When analysing the criterion of the employment level, it should be pointed out that the survey involved 50 large entities (over 250 employees), 50 medium-sized companies (50 to 250 employees) and 50 small businesses (less than 50 employees). Considering the subject matter of the study, persons occupying top management positions in companies were selected to be respondents.

The study used the research technique called Paper and Pencil Interview, while the interviews with the managing staff were conducted by a research agency. The respondents referred to the statements contained in individual questions by selecting answers in the Likert scale.

The survey included topics related to the strategic management practice in companies. The questionnaire used in the interviews contained 4 qualification questions, 11 demographic questions, and 84 questions in the main part of the survey. The questions in the main part concerned four areas:

- Strategic management process,
- Participants in the strategic management,
- Forms of the strategy,
- Contents of the strategy.

Analyses and Results

A method based on the collection of data in an open (overt) and standardized manner was used in the quantitative study conducted. An open manner of data collection consists in providing respondents with initial information about the subject matter of the study. Before the interview, respondents were informed about the research problems.

In order to ensure the highest possible representativeness, the research sample was selected using the stratified random sampling method.

In order to verify the hypotheses, correlations were determined on the basis of the Kendall's tau-b correlation coefficient – a non-parametric measure of correlation for ordinal variables. The correlations were determined on the basis of the Kendall's tau-b correlation coefficient. Kendall's tau-b measure is a non-parametric measure of correlation for ordinal variables. The questions in the main part of the questionnaire are on an ordinal scale. This means that it is possible to put them in order by size, but quantitative differences between individual answers cannot be given. Hence, the use of this correlation can be considered as justified. In the case of this correlation, it does not matter whether the variables being analysed have distributions similar to the normal distribution. That is why the Kendall's tau-b correlation is treated as a non-parametric correlation. The coefficient takes values from the range of -1 to +1. The sign of the coefficient used in this measure indicates the direction of the relationship, while its absolute value represents the strength of the relationship. Larger absolute values suggest stronger dependencies.

Further considerations focused on the purpose of studies on the relationships between the continuous search for new business opportunities (understood as factors affecting the level of innovations) and the strategy assumptions. Therefore, the answers relating to the continuous search for new fields of operation (associated with the market or product) were confronted with the statements concerning the strategy.

In order perform a detailed analysis of the company's strategy, attention was paid to the following issues:

- Recording the basic elements of the strategy, such as the mission, vision and objectives.
- Defining clearly the company development vision and subordinating strategic decisions to the company's values.
- Defining and preparing the development plans for a time perspective of 5 years or more.
- Selecting ambitious development priorities and taking expansive actions.
- Placing the products in new market segments and expanding the product portfolio.
- Having a significant competitive advantage.
- Long-term cooperation with business partners.

In order to test the relationship between the strategy and continuous search for new fields of operation (associated with the market or product), 16 hypotheses were formulated. All hypotheses relate to the investigation of the relationship between the continuous search for opportunities and the strategy assumptions.

The results regarding the hypotheses and the Kendall's tau-b correlation coefficients are shown in the Table 1.

Table 1 . Tau Kendall correlation

Hypothesis	**Tau – b Kendall correlation coefficient**
H1	0,199**
H2	0,371**
H3	0,226**
H4	0,235**
H5	0,362**
H6	0, 461**
H7	0,256**
H8	0,265**
H9	0,204**

H10	0,287**
H11	0,293**
H12	0,184*
H13	0,226**
H14	0,165*
H15	0,162*
H16	0,328**

* Correlation significant at the 0.05 level (bilateral)

** Correlation significant at the 0.01 level (bilateral)

Source: Own work

Hypothesis 1 concerned the relationship between the continuous search for new business opportunities and recording the basic elements of the strategy, such as the mission, vision and objectives. The result obtained (0.199) indicates the existence of a weak positive relationship. This means that the importance of recording the basic elements of the strategy (mission, vision and objectives) increases along with the intensification of the activities associated with the search for new business opportunities (and conversely). It can therefore be concluded that the continuous search for new development opportunities is possible provided that companies have invariable strategy guidelines that constitute a baseline. In turn, recording the key elements of the strategy allows the company not only to search for new business opportunities, but also makes it easier.

Hypothesis 2 concerned the existence of a relationship between a clear definition of the vision and a continuous search for new business opportunities. In this case, there is an average positive correlation (0.371), so it can be assumed that actions aimed at a continuous search for new development opportunities intensify along with an increase in the accuracy in defining the vision. This indicates the importance of a clear definition of the vision for a continuous search for new business options. Continuous undertaking of initiatives aimed at the identification of new business prospects is possible due to referring to the clearly indicated development vision.

In the case of Hypothesis 3, a weak positive correlation (0.226) was obtained as a result. This means that there is a positive relationship between regular checking of the consistency of actions with the company's development vision and a continuous search for new business opportunities. It is worth noting that the vision of development serves as the fundamental idea of the organisation's future, which verifies the sense of taking any initiatives by the company. Recurring checks of the consistency of the actions carried out by the company with the vision of its development allows finding new business options. In turn, in relation to the actions associated with searching for new opportunities, it is important to verify regularly their consistency with the vision.

Hypothesis 4 concerned the relationship between a continuous search for new business opportunities and the subordination of the strategic decisions to the company's values. The result in the form of a weak positive correlation (0.235) allowed testing this hypothesis positively. This means that along with an intensification of the actions aiming at a continuous search for new development opportunities, it is necessary to subordinate strategic decisions to the company's values. It follows that, in addition to the vision, the realization of new business options is the next stable point of reference in respect of company's values. The verification of strategic decisions in terms of their conformity with the values also supports or even intensifies the search for new development initiatives.

Hypothesis 5 indicated a relationship between particularization of development plans in a perspective of minimum 5 years and a continuous search for new business opportunities. In this case, there is an average positive correlation (0.362) that describes this relationship. The following dependence was tested with a positive result: the frequency of searching for pioneering business opportunities increases along with a more precise definition of the development plans in a time perspective of 5 years or more. The importance of the particularization of the development plans in a time horizon of at least 5 years also increases along with an intensification of activities aimed at a continuous search for new business options. This indicates the possibilities to search for new business options, however the point of reference is the company's development strategy in a long time horizon.

Hypothesis 6 indicated a correlation between a dynamic growth as a strategic priority and a continuous search for new business opportunities. A result in the form of positive average correlation (0.461) was obtained, which proves that the continuous search for new business options intensifies along with an increase in the importance of the strategic growth as a strategic priority. Simultaneously, the existence of an inverse relationship was confirmed.

When analysing Hypothesis 7, a confirmation of the interdependence of the correlations between the questions was found. The result obtained can be interpreted as the existence of a weak positive relationship (0.256) between the continuous search for new business opportunities and taking more expansive actions. This

means that more expansive initiatives are taken more often along with an increase in efforts aimed at searching fro new development options. Therefore, it seems justified to say that the search for new business opportunities requires an expansive orientation, while striving for the expansiveness is conducive to the search for new business options.

Hypothesis 8 concerned the relationship between setting ambitious development priorities and the continuous search for new business opportunities. This hypothesis is statistically significant – the correlation is at a level of almost 0.265, which can be considered as a weak relationship. The interest in the continuous search for new business opportunities increases along with more intense definition of courageous development priorities, and conversely: when the continuous search for new business options increases, an intensification in setting ambitious development priorities occurs. It is therefore important to define courageous and ambitious objectives of crucial importance, because this is a factor that stimulates the search for new options of development activities.

Hypothesis 9 concerning the relationship between the continuous search for new business opportunities and the striving for global expansion was tested with a positive result. A weak positive correlation (0.204) occurs here. It can therefore be concluded that the striving for global expansion increases along with the growth of the interest in the continuous search for new business opportunities, and conversely: the search for new business options intensifies along with an increase in the striving for development of the business activity in the global market. It is important here to emphasize that from the viewpoint of the selection of the development strategy in the global market, a constant, active attitude aimed at searching for new business options is one of the factors determining the success of the global expansion.

Hypothesis 10 referred to the relationship between a continuous search for new business opportunities and the priority objective that consists in placing products in new market segments. A weak positive correlation coefficient (0.287) was obtained. Therefore, a positive result was obtained when testing the dependence indicating that the importance of the priority of placing products in new market segments grows along with the intensification of activities associated with the continuous search for new business opportunities, and conversely: the continuous search for new business options intensifies along with the growing importance of the priority of placing new products in the market. Thus, it can be assumed that the interest in finding new development options activates the company's development through the placement of products in new market segments.

Hypothesis 11 indicated a relationships between the continuous search for new business opportunities and the priority of broadening the product portfolio. The correlation level of 0.293 suggests a weak positive relationship, in which the importance of broadening the product portfolio as a priority grows along with the intensification of activities associated with the continuous search for new business options. This relationship also occurs in the inverse version. This proves the importance of an active search of new business opportunities in order to broaden the product portfolio, and thus the importance of being innovative.

In turn, Hypothesis 12 draws attention to the dependence between the continuous search for new business opportunities and the fact of having a significant competitive advantage. A positive correlation at a level of 0.184 was obtained, which indicates a weak relationship. So there exists a dependence that the significant competitive advantage grows along with the intensification of activities associated with the continuous search for new business opportunities. There was confirmed also the existence of an inverse relationship, i.e. that the search for new business options intensifies along with an increase in the significant competitive advantage. The openness, a search for new solutions and the reluctance to build a competitive advantage based on invariable elements are conducive to gaining the position of the market leader.

Hypothesis 13 referred to building a competitive advantage based on the operational flexibility and the speed of reaction as well as to the continuous search for new business opportunities. The result in the form of a weak positive correlation (0.226) was obtained. Thus, there exists a relationship indicating that the continuous search for new business opportunities intensifies when building the competitive advantage based on the operation flexibility and the speed of reaction. In this case, the need of flexibility and quick reactions seems to be obvious. These both factors enable the search for new business options and form the basis for the competitive advantage.

There is a weak correlation between the questions included in Hypothesis 14 – a positive correlation coefficient (0.165) was obtained. This means that along with an increase in the continuous search for new business opportunities, companies achieve the position of a leader by setting new standards in the industry. It does not seem possible to achieve and maintain the position of a leader without continuous search for new business options, which in turn should allow surpassing the competitors thanks to innovations.

Hypothesis 15 referred to the relationship between the company's primary competitive advantage based on innovations and technology and the continuous search for new business opportunities. In the case of this hypothesis, a positive correlation coefficient (0.162) was obtained. This means that there is a relationship, according to which the interest in the continuous search for new business opportunities intensifies along with the growth of the company's primary competitive advantage based on innovations and technology. It follows that

building a competitive advantage based on innovations imposes the necessity of dynamic search for variable development options.

Hypothesis 16 concerned the continuous search for new business opportunities and a long-term cooperation with business partners. In this case, the correlation can be described as positive and average (0.328). This means that the importance of a long-term cooperation with business partners grows along with the intensification of efforts aimed at the continuous search for new business opportunities. The opposite dependence was also confirmed: the continuous search for new business options intensifies along with the intensification of long-term cooperation with business partners. In this case, two approaches collide: the first variable approach associated with the search for new business opportunities and the second fixed approach associated with building relationships with partners in a long time horizon. A long-term cooperation with other organizations should guarantee the company the stability, thanks to which it is possible to focus on the search for new solutions.

Conclusion

Some important guidelines and determinations affecting the search for opportunities can be derived from the research results presented:

- Formalized form of the strategy,
- Visionary management,
- Long-term planning,
- Courageous development priorities,
- Long-term cooperation.

It would seem that the search for opportunities has more in common rather with the activities undertaken as a part of daily operations than with planning under the strategy. However, the research results can be treated as an indication of a strategic management challenge that has not been studied so far. This challenge consists in developing and implementing a strategy, in which searching for, identifying and seizing an opportunity is equally important to building a competitive advantage. So far there is a lack of reference to the strategic management process, which, in addition to the implementation of the planned strategy, should include opportunity management.

In the new approach to the strategic management, it is important to focus initiatives around two priorities – the predominant types of activity should include, apart from the creation of a competitive advantage, also the discovery, creation and use of opportunities. Thanks to such an approach, a cyclical renewal of the strategy in response to emerging opportunities may take place in the strategic management process. As a result, companies should derive more benefits from the changes that constitute a permanent element of the company's environment anyway. The main advantage of the inclusion of the search for opportunities in the strategy is the final outcome in the form of an increased level of innovations and competitiveness.

When indicating future directions of research, it seems important to examine the company practices associated with modifications of the strategic management process in terms of perception or creation of opportunities, selecting them, as well as including and using them in the strategy. Such research should allow increasing the dynamics of the implementation of the strategic management process in response to development opportunities. A positive orientation toward changes, in particular opportunities, and thus intensification of the strategic management process in response to changes should be an unquestionable advantage.

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The Importance of Strategic Leadership for Port Management: A Delphi Research on Top Managers of Turkish Private Ports

Çağdaş Emiroğlu[a], Didem Özer Çaylan[b*]

[a]*Ataşehir District 8229/1 Street Çiğli, Izmir, 35630, Turkey*
[b]*Dokuz Eylül University, Izmir, 35160, Turkey*

Abstract

Ports have a key role in facilitating trade, playing a critical interface between sea and land based transportation. They are essential parts of international supply chain networks. Considering the strategic importance of ports, there is a need to evaluate strategic leadership perspectives of port management in this chain. The purpose of the study is to analyze the strategic leadership perceptions of top managers in Turkish private ports and to evaluate their main motives for giving importance to strategic leadership at port management. The study used a three- round Delphi technique to collect data. A questionnaire was conducted among 12 top managers at nine private ports in Turkey between March and August, 2014. Most of the private ports included in the sample are the members of TURKLIM (Port Operators Association of Turkey) and their major is containerized cargo. The findings presented here indicate that there is an increasing need for strategic leadership characteristics of top managers of private ports. The findings reveal that it is critical for top managers of Turkish private ports to have strategic leadership qualifications for such reasons as customer loyalty, human resource management and turnover rate, international integration of ports and volatile market conditions in shipping business.

Keywords: Port Management, Strategic Management, Strategic Leadership, Delphi Survey

1. Introduction

Strategic leadership is the ability to anticipate, envision, maintain flexibility, and empower others to create strategic change as necessary (Hitt et al., 2003). It can be deduced from the definition that the management of change is, often directly linked to the role of a strategic leader (Johnson et al., 2008). Strategic leadership has a direct effect on an organization's strategic flexibility and competitive advantage through the major actions (Lear, 2012) which are associated with effective strategic leadership of (1) determining strategic direction; (2) exploiting and maintaining core competencies; (3) effectively managing human capital; (4) sustaining effective corporate culture; (5) emphasizing ethical practices; (6) establishing strategic control; and (7) investing in the development of new technologies.

Seaports as one of the most strategic points of the countries are the main scope of this study. They always play a strategic role in the development of domestic and international trade of a country. However, in a globalized world where distances are diminished, ports play an active role in sustaining the economic growth of a country (Gaur, 2005).The choice of strategies must be made by the senior managers and approved by the chief executive at port management (UNCTAD, 1993). The role of the port's chief executive can be defined as being largely concerned with government relations and strategic planning of port policies (Frankel, 1987) and also changes in the shipping market. In this context, port management needs strategic leadership qualifications of top and senior managers to manage the change.

The main aim of the study is to find out the important factors that contribute to the possession of strategic leadership qualifications of top managers in Turkish private ports and to analyze their perceptions related to strategic leadership concept. In order to reach this objective, the Delphi technique was used as a qualitative research method. The questionnaire of this technique was designed in three rounds. The paper contents the following sections: First section includes a literature review of strategic leadership, port management and strategic leadership in ports. The second part explains the methodology of the study, presents the findings, and finally, in the third section, the main conclusions and recommendation of the study are presented.

2. Literature Review

2.1. Strategic Leadership

The concept of strategic leadership was handled first by Hambrick and Mason (1984) in a study related to top management of organizations in 1984 (Ünal, 2012: 140). Hambrick and Mason's main theory behind strategic leadership is 'Upper Echelon Theory'. According to this theory, demographic characteristics of senior executives such as age, education and experience affect the type and level of information they use; therefore it affects strategic decisions and financial performance (Kıyak et al., 2011). Recently, considerable interest has been shown in understanding effectiveness of strategic leadership with respect to firm performance, managing organizational change, and sustaining new forms of organizational structures (Wanasika, 2009).

Strategic leadership sets the directions, meaning, purposes, and goals of the organization (Bass, 2007). According to Ireland and Hitt (1999), strategic leadership requires creating meaning and purpose for the organization with a powerful vision and mission that creates a future for the organization. Moreover, strategic leadership is the creation of an overall sense of purpose and direction (guide) integrated strategy formulation and implementation in organizations (Shrivastava and Nachman, 1989).

According to Hitt et al. (2003), strategic leadership is "the ability to anticipate, envision, maintain flexibility, and empower others to create strategic change as necessary." Strategic leadership is the influence process that facilitates the performance of the top management team to achieve objectives (Clegg et al., 2011). In addition to "influence", long-term decisions are as important as short-term decisions in the strategic leadership.

In addition to setting directions, purposes, and meaning; and ability of influence, maintaining and sustaining competitive advantage are also other vital traits of strategic leadership according to the definitions. According to Hitt and Ireland (2002) strategic leadership sets the path for firms to gain and maintain sustainable competitive advantage. Individuals and teams enact strategic leadership when they think, act, and influence in ways that promote the sustainable competitive advantage of the organization (Hughes and Beatty, 2005).

Another important point is that strategic leadership provides some fundamental characteristics in an uncertain environment. Aslan et al. (2011) focused on this point by defining strategic leadership as "the wisdom and vision capabilities of planning and implementing of the plan in an unstable, complex, uncertain strategic environment that an experienced leader should have." Strategic leader envisages, designs and realizes change by ensuring flexibility under circumstances where strategic changes are required. The most distinguishing aspect of a strategic leader is his/her ability to manage the uncertainty imposed by the rapid change (Tutar, et al., 2011). It can be deduced from definitions that strategic leadership is multifunctional, involves managing through others, and helps organizations cope with change that seems to be increasing exponentially in today's globalized business environment (Jooste and Fourie, 2009).

To compete in the global marketplace, organizations need to have strong and effective leadership (Dessand Lumpkin, 2003). According to Dess and Lumpkin (2003), there are three key leadership activities, namely setting a direction, designing the organization, and nurturing a culture committed to excellence and ethical behavior. Strategies cannot be formulated and implemented to achieve above-average returns without effective strategic leaders (Hitt et al., 2003). If executives are able to exhibit strategic leadership that achieves a long-term focus, promotes development and application of core competences, emphasizes the development of human capital, develops an effective culture, and achieves strategic control simultaneously with the allowance of autonomy, there is a higher probability that restructuring efforts become successful (Hitt and Keats, 1992).

There are different approaches to the criteria of effective strategic leadership. Figure 1 lists those criteria:

(1) determining strategic leadership;
(2) exploiting and maintaining core competencies;
(3) effectively managing human capital;
(4) sustaining effective corporate culture;
(5) emphasizing ethical practices;
(6) establishing strategic control; and
(7) investing in the development of new technologies.

There are also important studies on this subject which emphasized the importance of the effective role of strategic leadership (Bass, 2000; Lear, 2012; Hitt et al., 2010; Jooste and Fourie, 2009; Davies and Davies, 2004).

Fig 1. Criteria of Effective Strategic Leadership

2.2. Port Management Functions

Ports are very complex and dynamic places where various activities are carried out by and on account of different actors and operators; they are often dissimilar to one another (Bichou, 2010). In the past decades, the role of port management has changed quite fundamentally. The port landscape has, after all, been changed in many respects, too. New technologies and strategic developments have led almost automatically to greater port competition, both at port authority level and at the level of companies operating within the various ports (Meersman and Voorde, 2005).

Port management consists of a number of functions (Frankel, 1987):

1. Medium-to-long-term planning and strategic decision making. This involves also the setting or review of objectives and is performed by the top management of the port.
2. Operational planning and control, including management of day-to-day (or real-time) operations. This is performed by operating management which is concerned with traffic, operations, and engineering.
3. Commercial and financial control that involves marketing (real-time) accounting, short-term financial management, personnel management, and other management functions involving short-term financial performance.

2.3. Port Industry and Management in Turkey

Ports have been important structures for nations since ancient times. The fact that 80 % of the world trade and approximately 90 % of import and export of Turkey are being transported by sea reveals the importance of ports from an economic aspect (Turkish Chamber of Shipping, 2013 and Küçükosmanoğlu et al., 2013).

Turkey has a great potential in terms of transportation with its important location as a natural bridge between Europe, Central Asia and Middle East (DPT, 2007). Additionally, Turkey is encircled by the Black Sea, the Marmara Sea, the Aegean Sea and the Mediterranean Sea. Turkey's position as a land bridge in north–south and east–west transportation means that ports are of vital importance to the efficiency of logistics operations of the country (Oral et al., 2007). Turkey's geographical location enables the ports to handle significant amounts of cargo between the West and the East. Cargo coming from Europe and the Americas are handled in transit to CIS Republics, Iran, Iraq, and the Balkans and vice versa. Maritime transport plays a major role at the lengthy Turkish coast, for national as well as international transportation. Turkey also has great potential in terms of intermodal transportation, owing to its privileged geographical position between European, Central Asian and Middle Eastern countries. The country's position as a land bridge in North–South and East–West transportation ensures that ports play a vital role in logistic and shipping operations (Bloem et al., 2013).

387.426.232 tons of cargo was handled at Turkish ports in 2012 which had been increasing gradually since 2009. In addition, according to Turkish Chamber of Shipping (2013) 23,6 % of handling is export with 91.307.486 tons; 49,7 % of handling is import with 192.474.928 tons; 12,1 % of handling is cabotage with 46.919.387 tons; and 14,6 % handling is transit with 56.724.431 tons.

Turkey aims to become a center for transit cargoes in the region. The strategic position of Turkey is on increase with the pipe lines like Baku-Tiflis-Ceyhan and projects like Nabucco Gas Pipeline and South East Anatolia Project (GAP). Privatized and modernized ports will also add strength to its position (Turkish Chamber of Shipping, 2013).

In Turkey, there are more than 200 coastal facilities (port/pier/pipeline and buoy systems) providing international transportation services. Ports in Turkey can be categorized as follows (Esmer and Karatas-Cetin, 2013):

- Public ports (Turkish State Railways, Turkish Maritime Organizations, etc.)
- Municipal ports
- Privately owned ports (Ambarlı, Gemport, etc.)

TURKLIM has industrial ports of state-owned or private companies in this categorization as members (Esmer and Karatas-Cetin, 2013). Besides, Oral et al. (2007) and Bloem et al. (2013) depicted that the ports of Turkey are classified into four groups; public ports, municipal ports, affiliated ports and privately owned ports.

According to Aksoy and Terzi (2008) and Esmer and Karatas-Cetin (2013), ports in Turkey can be analyzed in two main categories as private and public ports. While public ports comprise municipal piers, TSR (Turkish State Railways) ports and TMO (Turkish Maritime Organizations), private ports include privatized ports and ports directly established by private sector as illustrated in Figure 2.

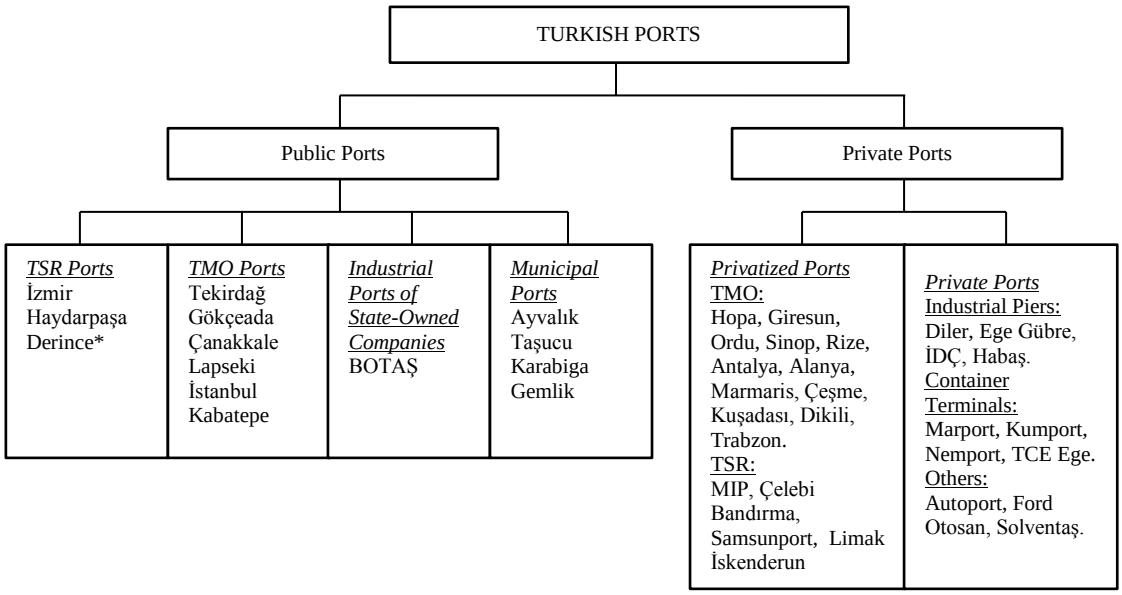

Fig.2. Classification of Turkish Ports According to Administration Models
Source: Esmer and Karatas-Cetin, 2013: 411
** Derince port has recently been privatized with the method of transfer of operational rights on 5th June 2014*

2.4. Strategic Leadership in Port Management

Strategic leadership is the wisdom and vision capabilities of planning and implementing of a plan in an unstable, complex, uncertain strategic environment. As it is seen in the definitions, strategic leadership has a significant role for organization in environmental uncertainty (Aslan et al., 2011). Today port operations are faced with larger uncertainties and risks than ever before. These do not only include risks in cargo and therefore in ship traffic demand, but also technological risks, investment risks, risk of competition, market risk, risk in labor availability, and more (Frankel, 1987).

As mentioned before, strategic leadership is the ability to anticipate, envision, maintain flexibility, and empower others to create strategic change as necessary (Hitt et al., 2003). It can be assumed from the definition that the management of change is, however, often directly linked to the role of a strategic leader (Johnson et al., 2008). In the port system, there is a direct link between the change and effectiveness concepts. A port cannot be effective without adapting to the change in its environment (Karatas-Cetin and Cerit, 2010). In most ports, port management has found it hard to keep up with the pace of change. Furthermore, an important aspect of the legitimacy of a separate port management is being undermined, namely the previously often heard argument of the strategic significance of seaports to the economy of a country or region (Meersman and Voorde, 2005). Since the port environment is continually changing, various forms of restructuring can be employed at different times (UNCTAD, 1995). The important point here is how to manage change to achieve organizational effectiveness and sustain competitive advantage (Karatas-Cetin and Cerit, 2010). Strategic leadership is one of the key answers to this question.

Overall port objectives must be used to develop long-range or strategic plan for effectiveness in strategic decision making process (Frankel, 1987). Strategic leadership focuses on the way the decisions which guarantee the long-term viability of the organization are made in the short term (Lear, 2012). A port must first agree to the

plan, meaning that top management must accept and be committed to the strategic planning process and its results. Without such top level support (from senior management and directors) the strategic planning process can hardly succeed (Ircha, 2001).The choice of strategies must be made by the senior managers and approved by the chief executive (UNCTAD, 1993). The role of the port's chief executive can be defined as being largely concerned with relations with the government and strategic planning of port policies (Frankel, 1987).

3. Methodology

3.1. Purpose of the Research

The objective of this study is to investigate importance of strategic leadership characteristics and perceptions of top managers in Turkish private ports. It is important that top managers have characteristics of strategic leadership for effective strategy implementation. Ports play a strategic role in Turkey. That's why perceptions of port top managers with regard to strategic leadership are significant to be researched.

3.2. Method

The Delphi research technique as a qualitative method is a powerful tool for strategic management. Organizations should consider the Delphi method when tackling significant decision-making that will set the future directions for organizations (Loo, 2002:762). For this reason, Delphi technique was chosen as a research method.

The preposition below is the starting point of the research and was asked to panelists in order to reach a consensus in the first round of Delphi research.

Preposition: It is important that top managers have characteristics of strategic leadership in strategic management process in ports.

Most changes in Delphi response occur in the first two rounds (Mitchell and McGoldrick, 1994: 59). On the other hand, this method may take several weeks or months to complete and tends to be administratively complex, and the investigator must try to collect, analyze, and mail the new questionnaires in an efficient and timely manner so as to maintain respondents' high level of interest and participation (Lloyd et al, 2000: 405). For these reasons, the three-round Delphi questionnaire has been developed and answers have been collected between March and August, 2014.

The first round Delphi survey includes one open-ended question which aims to evaluate perceptions of top managers of some private ports in Turkey concerning strategic leadership in ports. The question is designed to analyze whether possessing strategic leadership qualities is important in port management or not and, if it is, why. The second survey has been developed by using the responses of top managers, who participated in the first round Delphi survey, in order to reach a consensus. A three level likert scale including "agree", "disagree" or "no comment" has been used for each statement in the second round. The third round Delphi survey covered two questions for which no consensus was reached in the second round.

3.3. Sampling and Data Collection Process

A set of criteria were established in order to select panel members who were not only experienced in the port management but also were knowledgeable in strategic management and leadership. Selection of ports was an important decision. Therefore, 24 private ports (especially container-based ones) from the member list of TURKLIM (Port Operators Association of Turkey) were chosen as the sample of the research. TURKLIM was established in order to provide cooperation and to seek solutions to the problems of the administrators of the private ports and piers in a shared platform in 1966. The association provides information flow between government and related national and international organizations like Turkish Maritime Organization. In addition, the association contributes to port managements to operate efficiently in harmony with regulations (www.turklim.org).

All questionnaires were sent by e-mail to 44 top managers with a cover letter explaining the research process individually on 14th March, 2014. After making reminder calls, finally, 12 participants from nine private ports responded to the first round Delphi survey. The last response was received on 30th April, 2014.

The second round Delphi survey which aimed at reaching a consensus on statements concerning strategic leadership was sent by e-mail on 26th June, 2014 to the 12 participants who had responded to the first round Delphi survey. After reminder calls, 10 participants responded the survey. The last response received on 24th July, 2014.

The third round Delphi survey which aimed at reaching a consensus on controversial statements in the second round was sent by e-mail on 22th August, 2014 to the 10 participants who had responded to the second round of the Delphi survey. Seven participants responded the survey within 5 days.

Response rate was approximately 28 % for the first round. Fortunately, response rate increased to roughly 84 % for the second round of the Delphi process. Finally, 70 % response rate was achieved in the third round of the Delphi research.

3.4. Analysis of the Delphi Survey: APMO Technique

One of the aims of using Delphi is to achieve greater consensus among panelists. Empirically, consensus has been determined by measuring the variance in responses of Delphi panelists over rounds, with a reduction in variance being taken to indicate that greater consensus has been achieved (Rowe and Wright, 1999: 363). In order to determine if consensus has been reached, the APMO (The Average Percentage of Majority Opinion) technique which is a consensus measurement formula has been used in this study. First, the number of majority agreements and disagreements has to be calculated by expressing the participants' comments "agree", "disagree", and "no comment" in percentages per statement. Majority is actually defined as a percentage above 50%. In the second step, the researcher has to sum up the majority agreements and disagreements. The formula {Majority Agreements + Majority Disagreements} ÷ {Total Opinions Expressed} has been used to calculate the APMO cut-off percentage (Von Der Gracht, 2012: 1531).

3.5. Results of the Delphi Survey and Evaluation

3.5.1. Results of the First Round of the Delphi Survey

The first round of the Delphi survey covers an open ended question: "In your opinion, is it important that top managers have characteristics of strategic leadership in strategic management process in ports? Why? Why not?"

Firstly, after the question is answered as "YES" (Agree) or "NO" (Disagree), the respondents are asked to explain why it is important or not. The most remarkable point here is that the answer of this yes-no question showed 100 % consensus. It means that all panelists agree that it is important to have characteristics of strategic leadership in the process of strategic management in ports. Their reasons for the importance of having strategic leadership characteristics are given in Table 1.All answers are classified according to the general subjects in the table.

Table 1.Answers of Panelists to the First Round Question

QUESTION: "In your opinion, is it important that top managers have characteristics of strategic leadership in strategic management process in ports? Why? Why not?"	
CATEGORIES	ANSWERS OF PANELISTS
Position	1. Ports are organizations of strategic importance due to their positions. 2. Ports have a strategic importance in supply chain.
Customer	3. Customer orientation is fundamental for ports. 4. Ports are organizations with low customer loyalty.
Service	5. Ports have a strategic importance with the services they provide.
International Integration	6. Ports operate in an environment of extreme international integration. 7. Ports have international integration so it is important that top managers should have the characteristics of strategic leadership in ports in order to make strategic decisions not only in Turkey but also globally.
Investment decision and feasibility	8. Ports are organizations where the initial investment decision requires detailed knowledge, documentation and calculations. 9. Ports are organizations which are required to take an appropriate position in the long term. 10. There is no stability in the short term in port sector; it takes time to see the results of steps. 11. It is important that ports position themselves in the correct way and at the right time. 12. It is important that top managers of ports guide board of directors financially and make strategic decisions in this way in order that progress of port management can be healthy. 13. Industries managed by strategic leaders make a difference because of the fact that their principal is to work in accordance with strategic plans.
Vision	14. The most important things in port management are planning the future and creating a vision. 15. To predict the roles and missions of ports in the supply chain and to convince the team and shareholders by creating a vision in this direction are among the most important duties of top managers in ports.
Competition	16. Thanks to top managers who have strategic leadership qualifications, ports can engage in competition as well-equipped and minimize the risk.
Risk	17. Ports are organizations which provide services in the market with high seasonal variability.
Human Capital	18. Ports are organizations where workers have a tendency to quit.
Corporate Responsibility	19. Ports are organizations which have corporate responsibility apart from their commercial targets.

Evaluation of First Round Results: Position, customer profile, services, international integration, investment decisions and feasibility, vision, competition, risk, human capital and corporate responsibility of ports can be considered as the main factors determining why it is important that top managers have strategic leadership characteristics in the process of strategic management in ports.

3.6.2 Results of the Second Round of the Delphi Survey

APMO cut-off percentage rate for the second round Delphi survey has been found as 93 %. In other words, if the percentage of either "agreement" or "disagreement" for each statement is greater than 93 %, consensus is reached. 15 statements have been developed for the second round survey by using the 19 opinions of panelists as to why it is important to have strategic leadership qualifications in the process of strategic management in ports. These 15 statements were used with the purpose of reaching a consensus on the view that characteristics of ports make possessing strategic leadership characteristics important in ports.

Evaluation of Second Round Results: Eleven statements (1st, 2nd, 3rd, 4th, 7th, 9th, 10th, 11th, 12th, 13th, 15th) reached a consensus whereas 5th, 6th, 8th, and 14th statements did not(See in Table 2). Sixth and 8th statements reached the consensus partially because agreement percentages of those statements are very close to the APMO Cut-off Rate (93 %). Considering the answers of the panelists, the non-consensus statements proceed to a following Delphi round in a revised form.

3.6.3. Results of the Third Round of the Delphi Survey

The statements without consensus along with the answers of the panel members have been used to draw up the third round Delphi survey. APMO cut-off percentage rate for the third round Delphi survey has been found to be roughly 70 %. In other words, if the percentage of either "agreement" or "disagreement" for each statement is greater than 70 %, consensus is reached. One of the two statements has reached a consensus with the rate of 83,3%. Other statement has not reached a consensus (See in Table 3).

Table 3.Total Results of the Third Round Delphi Survey

It is important that top managers have strategic leadership qualifications in the process of strategic management in ports BECAUSE	**Number of Answers**			**Number of Opinions Expressed**				**TOTAL RESULTS**	
	Agree	**Disagree**	**Unable to Comment**	**Agree**		**Disagree**		**Consensus**	**Non Consensus***
	N	**N**	**N**	**N**	**%**	**N**	**%**		
5.Ports are organizations with low customer loyalty.	5	1	1	5	83,3	1	16,7	83,3 % agreed	
14. Ports are organizations where workers have a tendency to quit.	4	3	0	4	57,1	3	42,9		57,1% (a) 42,9% (d)
* (a): agree & (d): disagree									

Evaluation of Third Round Results: The majority of the panelists in the third round believe that customer loyalty is low in port business (5th statement). They suggested that port managers can deal with this situation with gaining strategic leadership characteristics. One of the panelists stated that it would be hard to provide customer loyalty if there are multiple ports in the same region. There are different parameters to sustain customer loyalty. The two most important factors are price and port performance. Top managers of ports in a competitive region should make strategic decisions on price first (profitability, cost, etc.) and then port performance. They have to exhibit leadership behaviors and make decisions in order to sustain these parameters. It can be said that ports are strategic organizations and all decisions and elements should be considered strategically. Customer is one of the most significant and strategic elements for ports. Customer loyalty depends on how successfully ports are managed by top managers. For this reason ports should be managed by strategic leaders to deal with this loyalty issue.

The 14th statement has not reached a consensus. One of the panelists depicted that turnover rates are actually low in port business. The two top-ranking factors motivating the employees are salaries and workplace environment. Any improvement in these factors decreases the turnover rate. Nonetheless, they are directly proportionate to port revenues. Any port which is making high revenue can provide the satisfaction of employees but it would be hard to provide this in small sized companies. Leadership characteristics of managers can affect employees' loyalty. However, salary policy of the port is a determinant factor. Despite the fact that managers have strategic leadership qualities, it cannot be possible to prevent the employees' decision about changing their jobs if port does not have economic power. At the same time, avoiding improvements in workplace environment because of economic reasons can be an important source of high level of turnover rates.

Table 2.Total Results of the Second Round Delphi Survey

It is important that top managers have strategic leadership qualifications in the process of strategic management in ports BECAUSE	No of Answers			No of Opinions Expressed				TOTAL RESULTS	
	Agree	Disagree	Unable to Comment	Agree		Disagree		Consensus	Non* Consensus
	N	N	N	N	%	N	%		
1. Ports are organizations of strategic importance due to their positions	10	0	0	10	100,0	0	0,0	100 % agreed	
2. Ports have a strategic importance in supply chain.	10	0	0	10	100,0	0	0,0	100 % agreed	
3. Ports have a strategic importance by value added services they provide.	10	0	0	10	100,0	0	0,0	100 % agreed	
4. Customer orientation is fundamental for ports.	10	0	0	10	100,0	0	0,0	100 % agreed	
5. Ports are organizations with low customer loyalty.	4	5	1	4	44,4	5	55,6		**44,4% (a) 55,6% (d) (Third Round applied)**
6. Ports operate in an environment of extreme international integration.	9	1	0	9	90,0	1	10,0	***Partially agreed***	***90,0% (a) 10,0% (d)***
7. Initial investment decision in ports requires detailed knowledge, documentation and calculations.	10	0	0	10	100,0	0	0,0	100 % agreed	
8. There is no stability in the short term in port sector so; it takes time to see the results of steps.	8	1	1	8	88,9	1	11,1	***Partially agreed***	***88,9% (a) 11,1% (d)***
9. Ports are organizations which are required to take an appropriate position in the long term.	10	0	0	10	100,0	0	0,0	100 % agreed	
10. It is important that top managers guide ports' board of directors financially and make strategic decisions in this way in order that progress of port management can be healthy.	10	0	0	10	100,0	0	0,0	100 % agreed	
11. The most important things in port management are planning the future and creating a vision.	9	0	1	9	100,0	0	0,0	100 % agreed	
12. Thanks to top managers who have strategic leadership qualifications, ports can engage in competition as well-equipped and minimize the risk.	10	0	0	10	100,0	0	0,0	100 % agreed	
13. Ports are organizations which provide services in the market with high seasonal variability.	8	0	2	8	100,0	0	0,0	100 % agreed	
14. Ports are organizations where workers have a tendency to quit (turnover rate).	4	5	1	4	44,4	5	55,6		**44,4% (a) 55,6% (d) (Third Round applied)**
15. Ports are organizations which have corporate responsibility apart from their commercial targets.	10	0	0	10	100,0	0	0,0	100 % agreed	

* (a): agree & (d): disagree

4. Conclusion

The study examined the main factors determining the importance of top managers having strategic leadership characteristics in the process of strategic management in Turkish private ports. The findings show that all the respondents totally agree that it is important to have characteristics of strategic leadership in the process of strategic management in private ports. Top managers who are responsible for administration of ports are expected to have strategic leadership qualifications because of the fact that ports have a strategic importance in the globalized world's transportation chain.

According to three-round Delphi Survey results, position of the ports, customer needs and wants, value added service, international integration, requirement of extensive investment decision, need to be visionary, excessive competition, risk factor, human capital and corporate responsibility of ports are main titles which can be considered as reasons why it is important to have strategic leadership characteristics in ports. Customers and human resources are the key elements for ports in the competitive shipping market. Therefore, the top managers as strategic leaders should pay more attention to customer relations and the causes of personnel turnover rates. In other words, ports should be managed by strategic leaders in order to be able to deal with the disloyalty of customers and human resource issues.

In order to manage an internationally-integrated port efficiently, top managers should have strategic leadership characteristics because strategic leaders can envision the direction where world trade is leading and what will be needed in the future. Therefore, ports can be affected by various macro and micro environmental factors; thus, it is difficult to maintain stability in the long term. This means that the shipping market is volatile and there is high uncertainty and risk in the port sector because of this volatility. For this reason top managers in private ports should have strategic leadership features to cope with the instability in the port sector.

The findings may reflect the general opinions of top managers of private ports about the strategic leadership; however, the authors believe that strategic leadership qualifications are also important for top managers in public ports. Further study may focus on in-depth analysis of the strategic leadership qualifications of public port managers and differences or similarities of public and private port managers in this concept.

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Project and Knowledge Management

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Building Information Modeling in Project Management: Necessities, Challenges and Outcomes

Saeed Rokooei[a] , a*

[a] *University of Nebraska-Lincoln, Nebraska, USA*

Abstract

Building Information Modeling (BIM) is becoming a comprehensive collaborative process in the construction industry. Despite its short history, BIM has had an increasing growth during the last decade. This is happening mainly due to its capabilities on construction projects. BIM can create a common language between all parties and system divisions in a project and make them an integrated team. The approach of BIM strongly matches with integrated project delivery systems. The role of BIM as a coordinator of project system is quite similar to the duties of a project manager. BIM integrates different disciplines by effective communication, analyzes the project systems for constructability, estimates the cost and time of projects at any time using quantity takeoffs, draws a big picture of projects using visualization and builds collaborative teams. All these are what a project manager does in a different scale during a project life cycle.
This paper aims to show the correspondence of BIM and project managers' roles on construction projects. It emphasizes the importance of having proper BIM knowledge and experience for project managers to succeed. This paper also discusses the requirements of BIM knowledge and experience enrichment of project managers.

Keywords: Building Information Modelling, Project Management, Construction

1. Introduction

1-1. History

Building Information Modeling (BIM) can be defined as a reliable, digital, three dimensional, virtual representation of the project to be built for use in design decision-making, construction scheduling and planning, cost estimates and maintenance of construction projects (Words & Images, 2009).The BIM Handbook (2008) defined BIM as a computer-aided modeling technology for the purpose of managing the information of a construction project focusing on production, communication and analysis of building information models. The National Building Information Model Standard Project Committee defined the BIM as following:

> "A BIM is a digital representation of physical and functional characteristics of a facility. As such it serves as a shared knowledge resource for information about a facility forming a reliable basis for decisions during its lifecycle from inception onward."

The concept of BIM theoretically emerged and was developed at Georgia Institute of Technology in the late 1970s and grew rapidly after that. The growth happened because of the increasing attention paid to construction teams and firms that found merits in using BIM in order to integrate the process of the construction projects and managing them. The term Building Information Modeling was first used in 2002 to describe virtual design, construction and facilities management (Harris, 2010).

Graphisoft in 1986 introduced its new software as a solution for virtual building. This software, Archicad, was really a drastic improvement in CAD programs of that time since Archicad allowed the creation of three dimensional (3D) models of projects (Dey, 2010). The terms Building Information Modeling and Building Information Model and the acronym of BIM were widespread when Autodesk released the "Building Information Modeling" (Autodesk, 2003).

* Corresponding author. *E-mail address: srokooei@unomaha.edu*

1-2. Construction Project Management

Construction projects constitute the main part of all disciplines projects due to their amount, variety and cost. The U.S. Census Bureau News (2013) estimated that the construction industry would spend more than $874 billion in 2013. These projects range from small residential or retail projects to mega multifunction projects. Needless to say, with any scale of a construction project, there is a necessity for managing it. The management of construction projects requires knowledge of modern management as well as an understanding of all construction processes. Along with the change in technology, organizational arrangement or procedures and new features and methods, the management of construction projects differs (Hendrickson, 2000). Construction project management is a series of activities for determining how, when and by whom the work, including all life cycle activities, will be performed.

Similar to the Project Management Body of Knowledge (PMBOK) definitions, the construction project manager handles project management planning, cost management, time management, quality management, contract administration, safety management and risk management. The project manager is also in charge of communication between all stakeholders on the project including owner, designers, engineers, professional crew and administrative staffs. Generally, construction project management shares the common and overall characteristics of general projects, therefore, the rules and methods required for general project management can be applied to this type of projects.

2. Building Information Modeling Aspects

2-1. Integrated Project Delivery System

Integrated project delivery (IPD) is a growing approach for delivering projects that unifies different disciplines' efforts and integrates all parties including project managers, designers, engineers, systems and practices into a collaborative process. IPD optimizes the value of a project by improving efficiency through all phases. IPD recruits all parties involved in the project and makes them a coherent team. With IPD all parties are encouraged to concentrate on project general outcomes rather than individual objectives. In order to have a more effective approach, BIM tools enable the whole team to communicate, visualize and analyze great deals of complex project information in a holistic and cohesive way. Combining and unifying detail information from all parties into an integrated model will improve the productivity of a project team and facilitate its management.

A BIM-based IPD approach results in many advantages during the construction project lifecycle. With an integrated collaboration approach, the project team can effectively track, assess and review the project, make decisions when necessary, resolve conflict and discrepancies and execute the project successfully. IPD is an integrating approach for project management, and BIM is the technological interface that facilitates this process.

2-2. Unique Language

Having an identical usage and comprehension of vocabularies is a key factor for success in project management (Project Manager Education and Opinion, 2012). Therefore, managers tend to be well educated and improve their verbal skills to be involved in various projects, understand what people are saying, and perhaps more importantly, be understood by others (Ward, 2008). For this purpose, some efforts have been implemented during the last decade, for instance, buildingSMART, formerly the International Alliance for Interoperability (IAI), is an international organization which has the mission to enhance the informative communication between

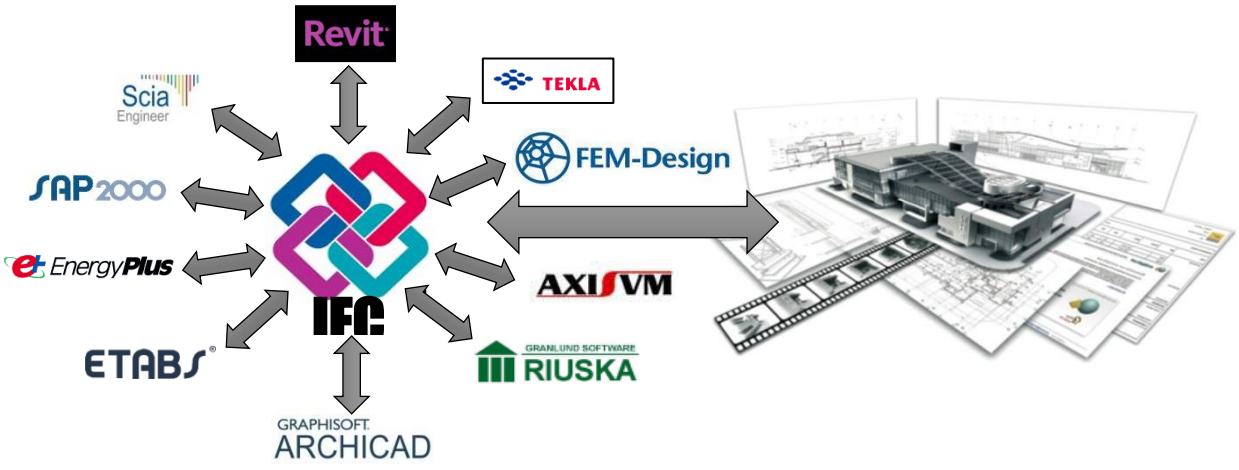


Fig 1. Mutual relationship between IFC and Some BIM applications

various construction software applications. BuildingSMART has developed Industry Foundation Classes (IFCs) as a neutral specification for Building Information Models (Words & Images, 2009). The Industry Foundation Classes were developed to build a vast set of consistent data representations of building information for exchange between different softwares in the construction industry (Figure 1). This is a holistic approach which considers all phases of a construction project life cycle. As an object of the buildingSMART alliance, data interoperability is a main factor for obtaining the BIM efficiency. Thus, it tries to develop a common data schema that facilitates the data exchange between various BIM applications. This data schema comprises interdisciplinary building information as used throughout the project phases from feasibility to operation and maintenance.

2-3. Technical Aspects of BIM

BIM has some specific features that can effectively be used in project management. These features, which are increasingly developed, can be summarized as follows (Lahdou & Zetterman, 2011):

- Clash Detection

  One of the common problems of different disciplines' plans for a construction project is the geometrical design inconsistencies. This issue happens when there is an overlap between the plans of different disciplines. Using BIM, it would be possible to bring the plans together and detect the clashes. Modifying the aesthetic problems is another possibility of this visual checking.

- Constructability

  Using BIM, it would be possible for teammates in a project to review and handle constructability issues and (if needed) promote issues into RFIs. In addition, visual information can be provided from a vantage point to show the problems. This visual information accompanying markup allows further investigation for finding solutions and, thus, mitigates the risks.

- Analysis

  Helping the project managers, designers and engineers in doing more analyses and enabling better decision making is another aspect of BIM. By linking the building information models to appropriate tools, it would be possible to analyze the energy consumption of a construction project and then find better solutions such as changing materials and orientation, mass and space, etc. Moreover, light, mechanical and acoustics analyses are also available to be performed by BIM.

- Time & Cost Estimation (4D & 5D)

  Time and cost estimation are other features of BIM which enable project managers to visualize the construction project at any point in time and have a clear understanding of project phases. Time and cost estimation, which are generally called 4D and 5D, can be properly utilized in the first stages of a project and facilitate the decision making process with minimum cost and time needed. Furthermore, BIM has the capability to simulate the various alternatives for a construction project and hence helps project managers and executives to reliably predict the consequences of their decisions.

- Integration

  The project team can deal and interact with a unified model when a composite model is built from an amalgam of various disciplines' models. Having this capability, and through the different phases of a construction project, BIM can coordinate the design, analysis, and construction activities on a project and, therefore, results in integrity of projects.

- Quantity Take-off

  Quantity takeoffs in a BIM model can be very helpful for the project teams and managers to analyze their decision and have a clear and reliable insight to various alternatives in the design phase or even throughout the project lifecycle. Since there is a possibility of integration between the BIM model and a database containing cost estimation, an accurate estimation can be obtained faster. Moreover, these takeoff items can be used easily in procurement procedure.

- Element Based Models

  Since the BIM models generally are composed of objects –and not geometries, such as line, surface, etc. – the whole model can be divided into a specific number of smaller objects. This breakdown makes

it possible to have a defined and clear scope of projects. The distinction between the elements will result in a better management design, estimation and construction.

- Collaboration and Team Building

  Collaboration and team building is another key factor for BIM success on construction projects. All efforts made by various specialties on a project are unified and applied to one model. This results in direct correspondence and team building. All disciplines have to work on a unified model as a team and have an effective collaboration during a project using the BIM concept.

- Communication

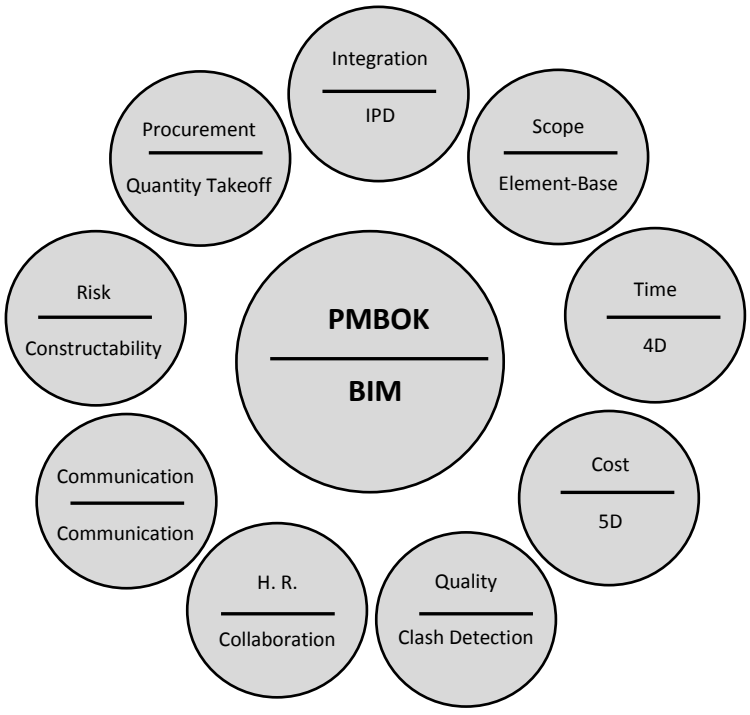
  The Nature of a unified model to input, modify and analyze the data in BIM models will improve communication and collaboration between all parties involved on the construction project including project managers, architects, engineers, and contractors. These unique building models facilitate the communication throughout the project and lessen the disputes between different parties.

3. Role of BIM in Project Management

3-1. BIM vs. PMBOK Knowledge Areas

Capabilities of BIM on construction projects correspond to the PMBOK knowledge areas, since the nature and role of each item are alike. Therefore, BIM can be considered as an effective and powerful tool in project management in the construction industry.

Integration management is the first area of PMBOK, which has the same function as the BIM. BIM integrates the documents, plans and efforts of all parties involved on a project. BIM is also an object-based environment that can categorize different elements of a building and break it down into different groups, like what occurs in project scope management. Another characteristic of BIM is its capability in managing time and cost or what is allegedly called 4D and 5D. This is similar to project cost and time management areas in PMBOK standard. Although the constructability does not illustrate all risks associated with a construction project, it is a powerful tool in building a project and mitigates the construction risks. Clash detection in BIM acts as a quality process which visually recognizes, modifies and analyzes the soft and hard clashes. Collaboration and team building in BIM is what human resource management considers as a project management area. Communication is a main feature of BIM which facilitate the professional relationship between all parties including project managers, designers and engineers on a construction project by creating effective and direct communication channels. Finally, procurement management would be possible by quantity takeoffs which are produced by BIM. In addition, changes in any item can be easily reflected in cost and time and work needed for its procurement. In spite of the extensive framework of project management, BIM can be presented as a main and effective concept corresponding to project management knowledge areas. Figure 2 shows a model of PMBOK knowledge areas considering BIM on construction projects.



3-2. BIM Benefits and Advantages

Different sources of construction project management identify key advantages of using BIM as follows (Qian, 2012):

- "Enhanced project collaboration and control among stakeholders
- Improved productivity (less re-work, conflicts and changes)
- Better project quality and performance
- Faster project delivery
- Reduced wastages
- Reduced construction costs
- New revenue and business opportunities"

BIM as a centralized repository allows everyone involved on construction projects to access the same version of data which mitigates the risk of poor communication for project managers (Alagarsamy, 2000). Eastman et. al. (2008) believe that concept, feasibility and design analysis, which result in increased building performance and quality, is the main advantage of BIM in the pre-construction phase. More accurate visualizations of a design, automatic low-level corrections when changes are necessary, 2D drawings generation, earlier collaboration of multiple design parties, cost estimates extraction during the design stage and energy efficiency and sustainability improvement are advantages in the design phase of a construction project. BIM also synchronizes design and construction planning, detects design errors and omissions, utilizes design models as the basis for fabricated components, and implements lean construction techniques in the construction phase. In addition, using BIM would enable better facilities operation and management in the post construction phase.

3-3. Challenges

One of the most rigorous discussions in implementing the BIM comes from personal beliefs toward this concept. In a recent survey, Lahdou and Zetterman (2011) show that if the project team members do not really believe in the importance of BIM and its advantages on a construction project, the outcome will not be satisfactory. In another survey, Qian (2012) shows that top rated areas of BIM for investment includes software and hardware, developing internal collaborative BIM workflow and procedures, and BIM education. Brewer et. al. (2012) state that the challenges for using BIM on construction projects can be grouped and presented as 1) technical challenges, which are generally conflicts and issues regarding data sharing among team parties and BIM softwares' problems; 2) skills and training challenges, which are mainly about the training project team members and improving their skills; 3) legal and procedural challenges which refer to the lack of a standard and legal definition for BIM professional responsibilities; and 4) cost challenges, which sometimes hinder the construction firms from changing and upgrading their current systems to a BIM oriented system.

4. Discussion

4-1. Project Managers' Knowledge

Since mutual relationships are a main feature of BIM, characteristics of users influence the effectiveness of BIM. BIM users include all parties and professionals involved; hence, attitudes of teams members should be considered as an effective factor, specifically, project managers as the core of communication channels. Experience level of project managers has a direct relationship with the success of BIM on a construction project. Qian (2012) believes that the BIM merits and advantages are directly proportionate to the experience level of the users.

Hardin (2009) asserted that having an experienced BIM project manager on the project team is a key factor of construction project success. BIM knowledge of project manager enhances the capabilities of BIM from a software application to a holistic notion which integrates and coordinates all parties and systems on the project. Thus, considering the BIM knowledge as an excessive capability for construction project managers should be withdrawn; instead, having appropriate experience and knowledge in BIM should be set as a criterion for admission of a construction project manager.

4-2. Education

Education is a basis for professional development in industry. Education of project management has inconsistencies among different colleges and programs (Rokooei & Miralami, 2010; Rokooei, Azizi & Miralami, 2010). Like any other practical concept, BIM education is first introduced as a theoretical notion. Particularly, alongside the growing use of BIM in industry during the last decade, different universities in the world have paid

more attention to BIM education and put it in their curricula. The U.S. universities as pioneer educators have the main role in this regard. The BIM-related courses are offered mainly in construction engineering and management programs. Within these courses, the concept of BIM and the related software trainings are being taught. O'Brien et al. (2003) designed a collaborative design course, which utilized available software. As a goal for this course, the integrity of the design process was highlighted. Peterson et al. (2010I) believed that instructors at various universities have tried to offer innovative courses that focus on preparing students for professional collaboration and training construction management concepts with the last technological achievement in BIM. They also showed that the introduction of BIM-based project management tools is a helpful method to develop more realistic project-based class assignments. This method enables students to utilize different formal project management methods in real-world project management problems. Ghosh and Chasey (2013) used BIM as a concept in relevant construction management contents and applied it as a new experience for Project Management in a capstone course. Despite the efforts for BIM education in construction management programs, it seems that there is still a gap between education of BIM and project management. Merging these two concepts together in order to present BIM-oriented project management contents can found a concrete basis for future project managers to promote their theoretical knowledge as well as practical capabilities.

5. Conclusion

This paper shows the main aspects of BIM including clash detection, constructability, analysis, time and cost estimation (4D and 5D), integration, quantity take-off, element-based models, collaboration and team building, and communication on construction projects. These capabilities have empowered BIM to play a significant role in project management as a new tool. Obviously, BIM, like any other tool in a system, should be utilized by a user, and one of the best persons for filling this role is the project manager. There are close similarities between the performance of BIM in the construction process and the project manager as the heart of decision making. Therefore, BIM can be considered as a managerial tool rather than a technical one on construction projects. This viewpoint is the result of a comprehensive definition of BIM. What BIM really does is different from what a set of software does. Similarities between the role of project manager and BIM on construction projects necessitate some more considerations such as having clear understanding of the BIM concept and enough knowledge and experience in BIM. For this purpose, construction curricula should have an effective combination of BIM and project management contents offered for the students who pursue project management positions in their future professional lives.

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Support of Project Management Methods by Project Management Information System

Jana Kostalova.[a] , Libena Tetrevova[b] , Jan Svedik[c], a*

[a,b,c] *University of Pardubice, Studentska 95, 532 10 Pardubice, Czech Republic*

Abstract

Utilization of project management methods in practice in more extensive projects is, due to high demands, only possible with support of a Project Management Information System. Project managers can use a number of applications offering a wide range of functions in the areas of project planning, monitoring and continuous evaluation of project implementation, and final evaluation when it has finished. An important function offered by a Project Management Information System is the possibility of sharing data concerning the running projects across the project team and their surroundings. Project Management Information System applications are primarily designed to support project management, so it is worth considering how much the available applications support the project management methods defined in the project management theory, how much software applications make it possible to get support in individual stages of the project life cycle, and if this scope is sufficient from the point of view of quality project management. The evaluation involved selected project management methods suitable for individual project life cycle stages, and the scope of support of individual project management methods within the respective project life cycle stages was evaluated in selected software applications.

Keywords: Project Management Methods, Project Management Information System, Project Management Software Application, Project Management Software Function.

Introduction

The project management theory offers a number of simple and advanced methods which help with project management in individual project life cycle stages and lead to increased success of project implementation. A number of studies confirm that the project success rate increases if project management methods are used, e.g. Patanakul et al. (2010) and Lappe, Spang (2014). Application of project management methods is made easier by software applications which lead to a decrease in the time demands of project management, simplification of the process of implementation of the respective method, and also an increase in the success rate of project implementation. Utilization of software applications to support project management is implemented in a number of ways. One of them is utilization of the existing applications, e.g. within office software, spreadsheet processors, text editors, or software applications supporting time management. In view of the fact that these tools are not able to cover the specific requirements relating to project planning, implementation, and evaluation, specific software applications have been developed to support project management. Apart from software applications that are available on the market, a number of organizations solving projects make use of their own applications to support project management, which they have developed as a superstructure within the company information system. Their benefits reside in their high integration with other software applications and use of common database sources. Overall, these software applications designed to support project management are called a Project Management Information System (PMIS).

The functions of software applications supporting project management are gradually extended. Apart from project management support in individual project life cycle stages, the other important functions of most such applications include project documentation administration, sharing of this documentation across the project team, and any other involved parties (Meredith and Mantel, 2006; Braglia and Frosolini, 2014), and support in the multi-project environment (Ahlemann, 2009; Kaiser and Ahlemann, 2010; Reyck et al., 2005).

An increase in the project success rate thanks to utilization of a PMIS has been confirmed by available studies (Ali et al., 2008). Therefore, utilization of project management methods and their processing using PMIS helps

* Corresponding author. Tel. + 420466037789 fax. +420466036308
E-mail address: jana.kostalova@upce.cz

increase the project success rate. So, it is necessary to assess how much the available PMIS software applications make it possible to apply project management methods in practice.

Literature Review

Project Management, Project and Project Life Cycle

The basic project management terms are defined not only by the project management theory, but also by the international project management standards. The basic project management standards include the standard of the Project Management Institute (PMI), the standard of the Association for Project Management called PRojects IN Controlled Environments 2 (PRINCE 2), and the standard of the International Project Management Association (IPMA), creating national versions of the standard through its branches, e.g. in the Czech Republic in the form of the National Standard Competences of Project Management.

The Project Management Institute (2004) states, in its standard, that "Project management is the application of knowledge, skills, tools and techniques to project activities to meet project requirements. It is accomplished through the application and integration of the project management processes of initiating, planning, executing, monitoring and controlling, and closing." The Association for Project Management (2012) defines, in its PRINCE 2 standard, project management as "the process by which projects are defined, planned, monitored, controlled and delivered such that the agreed benefits are realised". According to the National Standard Competences of Project Management (Pitas et al., 2010), "Project management is the planning, organizing, monitoring and controlling of all aspects of a project and the management and leadership of all involved to achieve the project objectives safely and within agreed criteria for time, cost, scope and performance/quality."

The Project Management Institute (2004) standard defines a project as "a temporary endeavour undertaken to create a unique product, service, or result". The Association for Project Management (APM, 2012) defines, within its PRINCE 2 standard, a project as "a unique, transient endeavour undertaken to achieve a desired outcome". So, both standards particularly point out the temporariness of a project and the uniqueness of the outcome project implementation brings. Similarly, a project is defined by the National Standard Competences of Project Management (Pitas et al., 2010) as a unique process limited by time, costs, and sources, implemented to create defined outcomes (to fulfil project objectives) in the desired quality and in compliance with the valid standards and approved requirements.

Project preparation and implementation is usually divided into partial phases, which together form the project life cycle. According to the standard of the Project Management Institute (2004), division of a project into partial phases brings better control over the project and better interconnection within the solving organization. The Association for Project Management (2012) divides, within the PRINCE 2 standard, the life cycle into five basic, successive phases: concept, definition, implementation, handover and closeout. The National Standard Competences of Project Management (Pitas et al., 2010) presents the project life cycle as a group of sequential successive phases expressing the course of the given project, also taking account of pre-project stages dedicated to specification of the project intent, and of post-project stages, intended for project evaluation. Maylor (2003) and Meredith and Mantel (2006) agree on four project life cycle phases including the project concept, planning, implementation, and closeout. Oellgaard (2013) divides the project life cycle into more phases: sales, scope, analysis, design, build, implementation, and operation.

Regardless of the number of phases into which the project life cycle is divided, this division makes it possible for the solver to structure the course of action within the project and to focus on different activities in each phase. Division of a project into time-limited phases aims to improve the conditions for controlling processes and activities within individual phases. If needed, it is possible divide and structure individual phases further into lower levels for clearer arrangement.

For successful implementation of individual project life cycle phases, there are different project management methods available. However, there are also methods whose benefits are used within more phases or within the entire course of the project life cycle (Patanakul et al., 2010).

Project Management Methods

The project management theory and practice offers a number of methods, tools and techniques supporting project management. In the phase of concept, it is possible to use the Feasibility Study (Hapanova and Al-jiburi, 2009), the Cost Benefit Analysis (Cambell and Brown, 2003), the financial analysis and assessment of the economic effectiveness of a project (Mian, 2011), and the Logical Framework (Couillard et al., 2009; Norwegian

Agency for Development Cooperation, 1999) to define a project as precisely as possible and to assess its benefits.

In the phase of planning, the scope of a project and its time course can be precisely specified thanks to the Product Breakdown Structure (APM, 2012), the Work Breakdown Structure (PMI, 2004), a network analysis method (the Critical Path Method, the Metra Potential Method, the Critical Path Method/Cost, the Program Evaluation and Review Technique, the Graphical Evaluation and Review Technique) (Hillier and Lieberman, 2005; Ravindran, 2008), the Gantt chart (PMI, 2004) and the Critical Chain Method (Goldratt, 1997). For planning human resources, it is suitable to make use of the Resource Breakdown Structure and the Resource Leveling (Rad and Cioffi, 2004), the Responsibility Assignment Matrix (Melnic and Puiu, 2011), and the Stakeholders Analysis (PMI, 2004). It is also important to identify any potential project risks in the planning phase, where it is possible to use the Risk Breakdown Structure (PMI, 2004), or the quantitative and qualitative risk analysis (PMI, 2004; APM, 2012). To propose the time schedule of a project and to plan the risks, it is convenient to use the Monte Carlo Method (PMI, 2004; APM, 2012).

In the project implementation phase, it is important to monitor the course of project implementation. The Earned Value Management (Solanki, 2009; Storm, 2008) is a method that makes it possible to assess the course of action of a project. When a project has finished, it is important to make assessment of the project using, for example, the Lessons Learned (Carrilo et al., 2013; Jugdev, 2012), or using the McKinsey 7S model (Poster and Applegarth, 2006). A specific approach to project management within the entire project life cycle is then represented by the Agile Methods (Beck, 2001; Koerner, 2005).

Project Management Information System

PMIS represents a standardized set of automated tools available on the level of the organization and integrated into the system (PMI, 2004). The scope of automated functionality of software tools and their implementation is always based on particular requirements set by the project solver, and it is suitable to proceed from simpler solutions to sophisticated integrated software systems.

Meredith and Mantel (2006) particularly appreciate the PMIS benefit in processing more extensive projects. For the choice of PMIS, they recommend choosing an application that offers the functions of friendliness, schedules, calendars, budgets, reports, graphics, networks, charts, migration and consolidation. According to Briglia and Frosolini (2012), PMIS "allows individuals or teams to track projects from their conception to their execution, providing project managers and other team members with pertinent information such as the scheduling of resources, budget management, supplier management, time management, task assignment, quality control, documentation and collaborative tools". The current trends in development and utilization of PMIS in practice head from single-project management towards integrated multi-project planning with exploitation of shared sources (Briglia and Frosolini, 2012).

When using software tools, it is necessary to remember that software applications are auxiliary tools only, and definition of their scope and utilization in project implementation must be based on the general concept of procedures within project management of the given organization. PMIS is helpful for an organization solving projects only of the functionality of the installed software application is used entirely.

Software Applications Supporting Project Management

PMIS in the form of particular software applications offers several possibilities of solution. There are simple freeware applications, cloud solutions, more complex applications developed by smaller local software houses, complex internationally available applications, and sophisticated solutions supporting portfolio management with a wide scope of functionality and the possibility of adaptation to user requirements.

For project management, it is possible to use, from the current offer on the market, the simplest freeware tools, like OpenProj, since 2012 known as ProjectLibre (ProjectLibre, 2014), GanttProject (GanttProject, 2014), dotProject (dotProject, 2005), or Open Workbench (Open Workbench, 2014). There are also web applications in the cloud mode, e.g. Gantter (Gantter, 2014), iProject (iProject, 2012), or AdminProject (AdminProject, 2014), bringing, on the one hand, a various scope of functionality and, on the other hand, an advantage in unlimited availability of data with ensured internet access. The web application principle was also used in development of the British software of Concerto Project Management Software (Parasoft, 2014).

For simple, but also more complex projects in a wide scope of functionality for project planning, project monitoring during their implementation, and for evaluation, or, as the case may be, also for project portfolio management, it is possible to make use of the most wide-spread application of Microsoft Project in the available

version in the form of a number of products intended for management of individual projects and project portfolios (Microsoft, 2013). The applications of EasyProject (EasyProject, 2013) and MinuteMan Systems (MinuteMan Systems, 2013) are some of the other applications available on the market with the possibility of adaptation of the scope of application, the size and number of implemented projects. For complex projects or for project portfolio management, there are also software applications that are superstructures or parts of management information systems, e.g. Primavera - Primavera P6 Enterprise Project Portfolio Management and Primavera Instantis PPM tools (ICZ, a.s., 2014), PD TRAK (PD TRAK, 2010), JIRA (Atlassian, 2014), Hewlett Packard Project and Portfolio Management Software (Hewlett Packard, 2014), IBM Rational Portfolio Management (IBM, 2014), or a specialized part of SAP (SAP, 2014).

Utilization of Software Applications Supporting Project Management in Practice

On the basis of available surveys, it is possible to assess what the scope of utilization of software applications supporting project management is in practice. As evidenced by the survey of the Information Week´s 2012 Enterprise Project Management implemented in North America in 2011, which analyzed answers of 508 respondents, utilization of software tools supporting project management reaches 53% (Feldman, 2012). A similar survey assessing the scope of utilization of software tools was implemented by Pricewaterhouse in 2006 evaluating answers of 213 respondents from 26 countries. This study proved utilization of PMIS by 77% respondents (Pricewaterhouse, 2007). In comparison, a survey implemented in the Czech Republic by Spolecnost pro projektove rizeni in 2012 with 178 respondents – project managers proved utilization of software applications by 62% respondents (Kratky, 2012).

The Pricewaterhouse survey also proved that software applications are used more for support of individual projects than for management of project portfolios. Exploitation of PMIS is higher in more complex projects and also in organizations with a higher level of project management (Pricewaterhouse, 2007). The Pricewaterhouse survey also assessed the areas in which the respondents use software support; this support was most of all used in the areas of time management, cost management, risk management, and reporting (Pricewaterhouse, 2007). A similar focus of used software applications was confirmed by a survey implemented by Spolecnost pro projektove rizeni in the Czech Republic in 2008 assessing answers of 30 respondents, which declared use of software applications especially for time planning, source planning and management, budget planning and management, project monitoring within the course of its implementation, and for ensuring availability of the monitored data (Spolecnost pro projektove rizeni, 2008).

Software Support of Selected Project Management Methods within the Project Life Cycle

Research Goal, Methodology and Data Collection

Within the survey, the authors were aiming to assess available PMIS applications from the point of view of support of project management methods used in individual project life cycle stages within the functionality of these applications. Applications representing all the groups of software applications present on the market were chosen from a large group of software applications within discussion with experts from the academic environment. The chosen applications included a representative of freeware applications (ProjectLibre), freeware cloud solutions (Gantter), software developed by a local producer (Easyproject), a representative of applications used on a mass scale (Microsoft Project) and applications for complex management of projects and project portfolios (Primavera).

Once the applications were chosen, on the basis of the set research goal, the suppliers of the above five selected applications were then addressed and asked to specify which project management methods are supported within their applications. The suppliers were addressed by email. Data collection was performed from June to August 2014, and the collected data was subsequently analyzed.

Analyses and Results

The chosen representative of freeware applications was one of the most widely spread applications – ProjectLibre. This application makes it possible, when planning, to structure the project outcomes, to plan the schedule, sources, and costs. It does not support project portfolio management. Its advantage is that it is compatible with other applications, it is possible to view files created in MS Project and in Primavera. The software is available under all the most commonly used operating systems (Windows, Unix, Linux, Mac).

Freely accessible cloud solutions were represented by the application of Gantter. The condition of availability of this application is access to the web environment. Gantter is integrated with Google Drive. Also in this application, it is possible to view files created in different applications (MS Project). The scope of its functionality is limited; the application serves for support of management of project time and sources. Its advantage is availability of data and synergy with other Google applications.

MS Project was chosen as the most commonly used application on the market. Currently, it is available in the versions of Microsoft Project Standard 2013 for management of single projects, and Microsoft Project Server 2013 for management of project portfolios. In this application, it is possible to use its compatibility with other Microsoft products. Microsoft also offers a cloud solution through Microsoft Project Online and Project Lite within Project Pro for Office 365. Microsoft Project enables a wide range of activities within project planning, implementation, and evaluation.

Smaller local applications of the Czech origin were represented by EasyProject. It is also an on-line application with the possibility of extending its functionality in the form of additional installations. It covers project management from the points of view of project time, source and cost management. It makes it possible to plan a project and monitor its course, it offers the possibility of saving the project documentation, and it is a quick tool for communication and data handover within the project team. It also supports projects applying an agile approach, Kanban and SCRUM. This application is also accessible through iPad, iPhone, iAndroid.

Primavera represents the group of the most sophisticated applications supporting project management. It is an application built on Oracle database, offering a large support of activities in project management, project portfolio management, activity project management office. The name Primavera covers a number of products of Oracle Primavera P6 Enterprise Project Portfolio Management for complex management of project portfolios; there are also extensions of this application in the form of Primavera Instantis PPM Tools, Primavera P6 Progress Report, Oracle Primavera P6 Analytics, Risk Analysis P6 Professional Project Management, Primavera P6 Progress Report, and Primavera Gateway. These extensions make it possible to perform more detailed analyses, to monitor fulfilment of tasks, to analyze and manage project risks, and to access data through the web interface, mobile communication tools, and interconnection with other IT systems. Its disadvantage is that it is a costly application, and so it is only suitable for management of a large number of extensive projects.

The support of the selected project management methods was assessed in each of the selected applications. Table 2 presents an overview of functions of the selected software applications from the point of view of support of the selected project management methods.

Table 2 Project management methods within software applications supporting project management

Project Management Methods	**Gantter**	**ProjectLibre**	**MS Project Standard 2013**	**Easy Project**	**Primavera - Instantis PPM tools**
Phase: concept					
Feasibility Study			X*)		X
CBA (Cost Benefit Analysis)					X
Financial Analysis and Evaluation of Project				X	X
Logical Framework					X
Phase: planning					
PBS (Product Breakdown Structure)		X			X
WBS (Work Breakdown Structure)	X	X	X	X	X
CPM (Critical Path Method)	X	X	X		X
MPM (Metra Potential Method)					X
CPM/COST (Critical Path Method/Cost)					X
PERT (Program Evaluation and Review Technique)		X	X		X
GERT (Graphical Evaluation and Review Technique)					X
Monte Carlo simulation					X
Gantt Chart	X	X	X	X	X
Critical Chain Method					X
Resource Breakdown Structure and Resource Levelling	X	X	X		X
Responsibility Assignment Matrix			X*)	X	X
Stakeholders Analysis			X*)		X
RiBS (Risk Breakdown Structure)			X*)		X
Qualitative Risk Analysis			X		X
Quantitative Risk Analysis			X		X
Phase: implementation					
EVM (Earned Value Management)		X	X		X
Phase: evaluation					
Lessons Learned			X*)	X	X
McKinsey model of 7 S for Project Evaluation			X*)		X
Phases concept, planning, implementation and evaluation					
Agile Methods			X*)	X	X

Legend:

X method is supported

X*) method is partially supported

On the basis of the collected data, it is possible to state that the support of project management methods is different in different project life cycle phases. In the phase of preparation of the project intent, freeware applications do not offer any support. The support is also limited in the other applications with the exception of Primavera.

A similar situation is with the methods intended for the final project phases. Freeware applications do not offer the possibility of support when the project is evaluated, and so it is possible to use them as a source of data only. By contrast, Primavera and MS Project offer sufficient support in the final project phase.

Most supported project management methods within the assessed applications are in the phases of project planning and implementation, where all the applications offer project planning in time, even though the tools are limited in the case of freeware applications.

10. Assessment of Selected Software Applications and Approaches to their Utilization

On the basis of the collected data, it is possible to state that the support of project management methods is not sufficient in the representatives of cloud solutions, as they only support the basic methods for management of the project scope using the Work Breakdown Structure, project management in time using the Gantt Chart and the Critical Path Method, and source management using the Resource Breakdown Structure.

A similar situation is in freeware applications. Also there, the offer of support is limited to management of the project scope, project management in time using the Gantt Chart and the Critical Path Method, and source management. However, compared with cloud solutions, it is also possible to use, apart from the Work Breakdown Structure, the Product Breakdown Structure, and support of the PERT method is available for project management in time.

This means that both applications are only suitable for management of smaller, simple projects, and application of other methods is only possible without help of software support.

The software of a local production of EasyProject offers insufficient support of the network analysis method; it only offers a simpler tool for project management in time using the Gantt Chart. However, the application can be used for other areas, specifically for financial assessment of projects, and also partly for source management. Also, as one of the few, it offers support in the case of application of Agile Management. Also here, the project solver has to opt, when applying other methods, for tools different from software support of the chosen application.

Microsoft Project covers the basic range of methods and offers sufficient support for project management in time, source management, and cost management. Support of risk management is sufficient, too. Support is weaker in the phase of project preparation. The advantage of Microsoft Project is its wide range of possible adjustments according to the project solvers' requirements. There are individual installations, and also server solutions enabling data sharing, with a different scope of the possible access. The application can be used for management of project portfolios, including management of shared sources. There is also the possibility of a cloud solution and data access via the internet.

Primavera is financially the most demanding solution, but it offers full coverage of the selected project management methods. Compared to the other applications, it also offers support of management using the Critical Chain Method and Agile Management. Therefore, in this case it is possible to manage both single projects of different scopes and a portfolio of projects with full support of PMIS within the entire course of the project life cycle.

Conclusion

Mainly freeware applications and freely available cloud tools for support of project management offer insufficient range of supported methods. These tools are only usable for simple projects with small budgets, short implementation periods, or uncomplicated implementation processes. In the case of more complex and extensive projects, it is necessary to make use of more sophisticated software applications, like MS Project or Primavera. However, their disadvantages include high financial demands, demands on extensive knowledge of project managers and project team members for work with these software applications, and the necessity of reflecting their utilization in a single project management methodology on the level of the organization.

Next research should be aimed at assessment of the scope of utilization of PMIS by project managers and project team members. Such research could evaluate to what extent project management methods using PMIS are actually used in practice, what functions are the most suitable from the point of view of project managers, and where the functionality is insufficient for support of any of the project management methods.

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Organizational Change via Social Hubs: A Computer Simulation Based Analysis

Kadir Alpaslan Demir[a*] , Barış Egemen Ozkan[b],

[a] *Gebze Institute of Technology, Kocaeli, 41400, Turkey*

[b] *Marmara University, Istanbul,34722, Turkey*

Abstract

Organizational change is a risky and challenging endeavor for any type of organization. There are many aspects to change management and one important aspect is persuasion. Persuasion helps to implement a successful change management program. A social hub is person who has social ties to many other people compared to most people. In popular culture, this type of person is also called a popular person. In organizations, there are popular employees who are in fact a social hub. These employees have influence on other employees and they can persuade others towards a particular belief. In this paper, we investigate the role of persuasive social hubs for organizational change. We believe persuasive social hubs can be used to achieve organizational change. In social studies, it is hard to replicate conditions and isolate certain factors. Therefore, in this paper, we benefit from computer simulations and isolate the effect of persuasion by stabilizing all other factors. Our analysis revealed that using social hubs increase the chance of success in organizational change.

Keywords: Change Management, Organizational Change, Social Hub, Persuasion, Change, Computer Simulation, Popular Employee, Organization

Introduction

How to handle change in organizations is still far from being a solved problem. Many researchers are actively investigating various aspects of change management related issues. As organizations evolve, change related issues evolve as well. Peter F. Drucker points out that the large knowledge organization is the central reality (Drucker, and Wilson 2001). As the number of organizations composed of knowledge workers increase, handling change will not be as easy as changing the work procedures for blue collar workers.

There are various studies investigating the nature and success of change projects for software developing and other organizations. (Passos, Dias-Neto, Barreto, 2013; Mathiassen, Ngwenyama, Aaen, 2005; Sirkin, Keenan, and Jackson, 2005; Moitra, 1998; Stelzer, Melis, 1999).

Garvin and Roberto (Garvin and Roberto, 2005) investigates change through persuasion. According to Garvin and Roberto, "leaders can make change happen only if they have a coherent strategy for persuasion". Following Garvin and Roberto, in this study, we would like to investigate and propose models of persuasion to successfully implement change. This study is actually a precursor and preparation for our upcoming research studies investigating the how social hubs and persuasion plays a role in organizational change. Therefore, at this point in our research, we are actually more interested in formulating questions rather than providing answers to hard questions.

A key concept integral to our study is the concept of "social hub". Our definition of a social hub is as follows: A social hub is a social persuasive employee with many friends in the organization. He or she is an employee

* Corresponding author. Tel. + 90-532-333-39-88
E-mail address: kadiralpaslandemir@gmail.com

who can easily persuade other employees in the organization. A social hub has strong social skills therefore her or she has many friends in the workplace. Simply, a social hub is one of the popular employees.

A social hub is not actually a new term. It is used with slight different definitions in various disciplines. Emanuel Rosen categorized social hubs and investigated their role in spreading news and hubs in his book "Anatomy of Buzz" (Rosen, 2001). An emerging technique in marketing is called "mouth-to-mouth marketing" that benefits from concepts such as social hubs.

Our definition of a social hub creates a person that is actually a mixture of Malcolm Gladwell's definition of a connector, a maven, and a salesman (Gladwell, 2006). Gladwell states, what is called as The Law of the Few, "The success of any kind of social epidemic is heavily dependent on the involvement of people with a particular and rare set of social gifts". According to Gladwell, these people with a particular and rare set of social gifts are connectors, mavens, and salesmen. A connector is a person with many acquaintances. A maven is an information specialist connecting us with new information. A salesman is a persuader, a charismatic person with a strong skill for negotiation.

In this study, we used computer simulations to investigate the validity of our proposal for organizational change. Using computer simulations for social theories and studies is rather new approach even though the first examples date back to 1960s. (Gilbert, and Troitzsch, 2005). One of main purposes of using computer simulations in social studies is to obtain a better understanding of various phenomena in the social world. The topic is widely discussed in various literature (Gilbert, and Troitzsch, 2005; Davidsson, 2002;).

The rest of the paper is organized as follows. In the second section, we explain different organizational change approaches for our models. In the next section, we detail the design of our simulations. The fourth section summarizes our analysis on the results. The last and fifth section includes our conclusion.

Organizational Change Models

For our study, we identified four different organizational change approaches. We modeled each of these approaches. Models enable us to investigate complex issues while keeping focus on the topics under research. Naturally, there are assumptions enabling us to reduce the complexity of change management related issues. Our focus is organizational change through persuasion.

Our models consist of certain concepts. These concepts are explained briefly below:

Organization: The organization referred in our models can be any type of organization subject to change. It can be a government, a commercial, or a non-for-profit organization. In principle, the size of the organization can be of any size. However, very small and very large scale organizations may be subject to very different assumptions. Therefore, staying on the safe side, we preferred to model medium scale organizations. In our models, there are 100 employees in the organization including management.

Change: In our experiments, change is modeled in a very simplistic way. Since the focus of our study is organizational change through persuasion, naturally our models revolves around the concept of persuasion. We believe organizational change occurs when the number of employees in the organization persuaded for change exceeds a certain threshold. Since we normalize the results of our simulations, where this threshold is set is outside the scope of this study. Our focus is on the comparative analysis of organizational change approaches. We simply investigate which approach provides a better outcome.

Persuaders and Persuadees: In our models, the organization consists of two types of employees. The first type is an employee or a group of employees responsible for making change happen. We simply call this type as "a persuader or persuaders". When organizational change is needed or required, persuaders persuade other employees for organizational change. Therefore, the second type of people in our organization is the employees that are subject to persuasion for change. We simply call this type as "persuadees". As expressed earlier, in the models when enough number of persuadees is persuaded, change occurs.

Persuasion: As noted earlier, persuasion is the key method for making change happen in our models. Persuaders may persuade other employees with many different approaches sometimes with a combination of

these approaches. These may include training, seminars, installation of various procedures, using certain motivators, or simply by talking. Different types of organizations may respond differently to any of these approaches. Every organization should have the responsibility of identifying which method works best for themselves. In our models, every employee has a certain persuasion capability and a level of openness to change. We model the persuasion level of an employee as the multiplication of the persuasion capability (Conger, 1998; Cialdini, 2001) of the persuader and the level of openness to change (Wanberg and Banas, 2000; Chawla and Kelloway, 2004) of the persuadee or in other words the employee subject to organizational change. If the persuasion level of an employee exceeds a certain threshold, we simply state that the employee is persuaded for change. Finally, if the total persuasion level of employees exceeds the threshold set for organizational change, then we infer that the organizational change occurred.

The assumptions related to this study are listed as follows:

Assumption 1: Persuasion is the only method used for change in the models.

Assumption 2: Except persuasion all factors regarding change stays the same for the approaches subject to this study.

Assumption 3: The persuasion capability and the level of openness to change of the employees in the organization have a normal distribution.

Assumption 4: Only one-way positive persuasion between persuaders and persuadees occurs. One-way positive persuasion means that persuaders only try to persuade the other employee for the benefit of the change.

Assumption 5: The effort and the duration required for change are not factored in the models.

In our study, the models differ from each other based on how the persuaders are selected. This is important since the persuaders affect the success of the organizational change.

Model 1: The manager of the organization tries to persuade all the employees in the organization.

Model 2: There are department heads or managers in the organization. Naturally, there are employees working in these departments. The department managers try to persuade the people in their department.

Model 3: In this case, the organization benefit from the social hubs in the organization. These social hubs try to persuade the people that are socially tied to the respective social hub. To simply the model, we assume that one employee is connected to only one social hub.

Model 4: This case is a specially modified version of case 1. In this case, the most charismatic and persuasive employee of the organization is selected as the leader and manager of the organization. This is actually a reference case for discussing the other cases.

Organization Manager as the Persuader

In this model, the manager of the organization tries to persuade all the employees in the organization. Figure 1 depicts this approach.

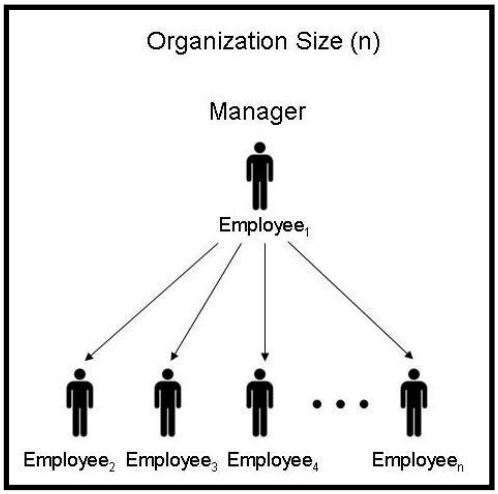

Figure 1. Organization Manager as the Persuader

Most Persuasive Employee as the Persuader

This model is actually a special case of the organization manager as the persuader. In this model, the most persuasive employee of the organization is selected as the manager of the organization. Then, this manager tries to persuade all the employees in the organization. In most cases, this manager is a charismatic strong leader of the organization and employees of the organization would be happy to follow this leader. Figure 2 shows the organizational model.

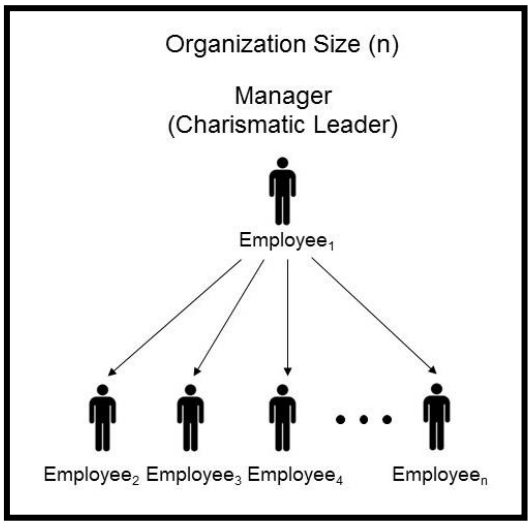

Figure 2. Most Persuasive Employee as the Persuader

Organization Department Managers as the Persuaders

In this model, the organization department managers try to persuade all the employees in the organization. The organization manager does not play a role in this approach. The burden for change rests upon the department managers. Naturally, in this case all department managers believe in the benefit of the change and therefore they are the persuaders. Figure 3 presents the model.

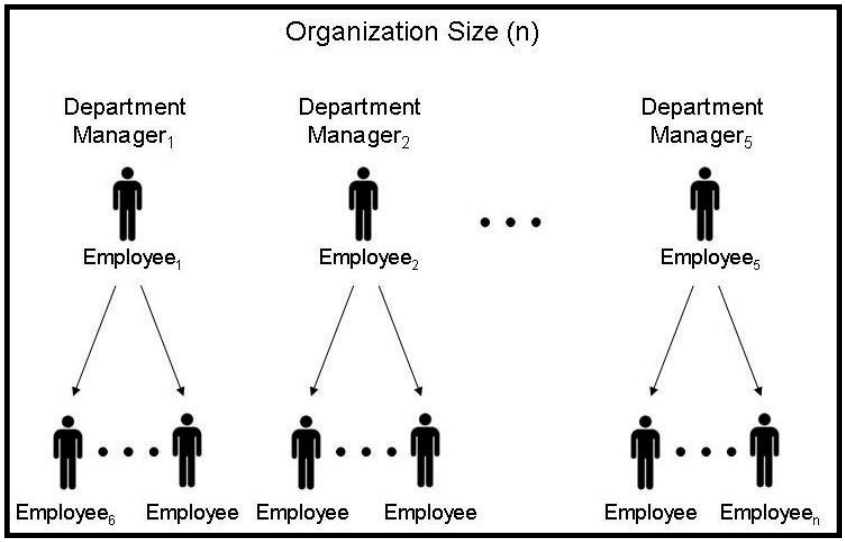

Figure 3. Organization Department Managers as the Persuaders

Social Hubs in the Organization as the Persuaders

In this model, the social hubs of the organization are used in creating the change. They persuade their coworkers within their respective hubs. Figure 4 illustrates the model incorporating social hubs in the organization.

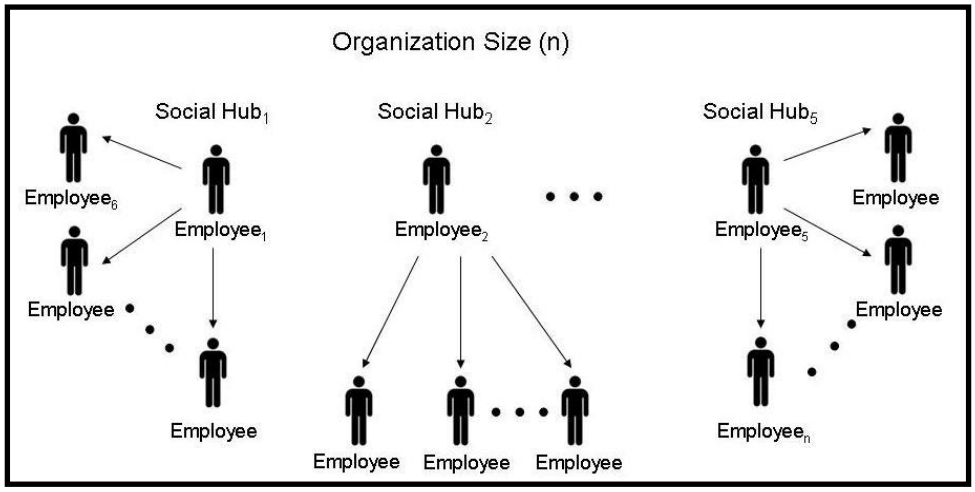

Figure 4. Social Hubs in the Organization as the Persuaders

Computer Simulation Design

Based on the models for change, we designed computer simulations. The organization size is 100 employees including the manager. Normal distribution is used for characterizing the persuasion capacity and the level of openness to change of the employees in the organization.

The tool used for creating simulations is MATLAB, a well-known tool with extensive mathematics software libraries. Any simulation tool can be used for simulating the models as long as they are considered suitable for these kinds of studies.

We ran 1000 simulations for each model with the same assumptions and configurations.

The computer simulations are created using the following steps:

Step 1: Create an organization with 100 employees.
Step 2: Using normal distribution, every employee is assigned with a persuasion capability score.
Step 3: Using normal distribution, every employee is assigned with a level of openness to change score.
Step 4: Depending on the selected approach, the persuaders are selected.
Step 4.1: If the "Organization Manager as the Persuader" approach is selected, a random employee is chosen as the manager of the organization. The persuasion of other employees is the responsibility of this manager.
Step 4.2: If the "Most Persuasive Employee as the Persuader" approach is selected, the employee with the highest persuasion capability is chosen as the manager of the organization. The persuasion of other employees is the responsibility of this specially selected manager.
Step 4.3: If the "Organization Department Managers as the Persuaders" approach is selected, five employees are chosen randomly. These employees are thought to be the department managers in the organization. The number of employees in the departments is distributed evenly. The persuasion of other employees is the responsibility of these department managers.
Step 4.4: If the "Social Hubs in the Organization as the Persuaders" approach is selected, five employees with the highest persuasion capability is chosen as the persuaders. These are the social hubs in the organization. The number of employees for each hub is distributed evenly. The persuasion of other employees is the responsibility of these social hubs.
Step 5: The effectiveness of persuasion activity is calculated by multiplying the persuasion capability score of the persuader and the level of openness to change score of the persuadee.
Step 6: Previous step is repeated for each employee in the organization.
Step 7: The change potential of the organization is calculated by adding all the scores of persuasion activity effectiveness. This sum represented represents the change potential of the organization.
Step 8: The previous steps is repeated for each simulation.

The results of the simulations are recorded. Then, the results are normalized to create simple plots to be analyzed in depth. The next section summarizes the details of our analyses.

Analysis

Figure 5 summarizes our findings as a plot of our simulation results. Each model is listed in the horizontal axis. The vertical axis is the change potential. The results of simulations are normalized to the scale of 0 to 1. The average of change potentials are denoted with a dot. The dispersion of simulation results are also presented in the figure.

Our initial analysis reveals that a strong leader has the best potential for creating organizational change. History reports the extraordinary changes created by such strong and charismatic leaders. However, such strong leaders are rare. Moreover, the success of change attempts by these types of leaders is also closely affected by circumstances.

When social hubs in the organization are used for organizational change, the change potential is considerably higher than the other two alternative models, "Organization Manager as the Persuader" and "Organization

Department Managers as the Persuaders". Based on the simulations, it is observed that the change potentials for these two models are similar. The only notable difference is in the dispersion of simulation results for the two models. In some cases, "Organization Manager as the Persuader" model has a better chance for a successful organizational change. In addition, in some cases, the results are poorer than the "Organization Department Managers as the Persuaders" model. This is the result of variability in the organization manager's persuasion capability. In the "Organization Department Managers as the Persuaders" model, some of department managers do a better job in persuading, therefore the poor performance of other department managers are evened out. Thus, the dispersion in the simulation results is less compared to the "Organization Manager as the Persuader" model.

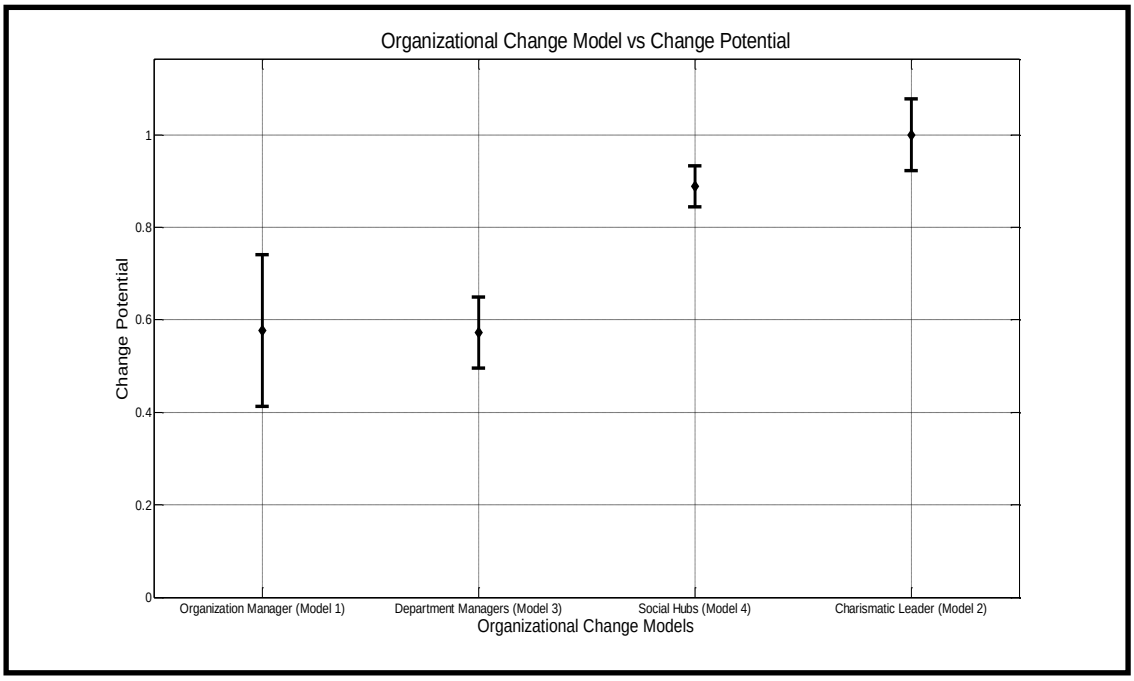

Figure 5. Change Potential for Each Model

Conclusion

Social hubs are a natural phenomenon. Social hubs will exist in organizations whether they are clearly recognized or not. They may have some positive and some negative effects on the dynamics of the organizations. We believe we may benefit from such natural informal groupings within the organization especially for change management.

Our belief is that focusing on social hubs will provide another view of organizational hierarchy revealing a different social structure. There is a formal structure in an organization defined by the hierarchical structure of jobs. Another informal structure exists in the forms friendship and social structure.

Our initial analysis showed that utilizing social hubs for change management has the second highest potential for achieving change. The first one is having a very strong, charismatic leader as the manager of the organization. However, such leaders are not easy to come by. Therefore, we propose using social hubs inside the organization for organizational change. Our study shows that "Social Hubs in the Organization as the Persuaders" is a promising approach.

It is important to note that it is always possible to extend how change is modeled. However, we should be very careful if our models become too complex since it may lead to very different conclusions. As a result, we prefer a step by step increase in complexity of models for further studies.

We conducted this research as a precursor and foundation for our research work. Therefore, in this research, we used computer simulations to test the validity of this promising approach. We identified the following research questions.

a. How do we identify the social hubs in an organization?
b. As stated earlier, our definition of a social hub creates a person that is actually a mixture of Malcolm Gladwell's definition of a connector, a maven, and a salesman. Which approach is better?
c. What are the personality traits and characteristics of a social hub?
d. A common tool used for measuring psychological preferences in how people perceive the world and make decisions is Myers Briggs Type Indicator (MBTI) (Myers, 1987; Myers, and McCaulley, 1988; Quenk, and Hammer, 1998). Is it possible to identify social hubs by the use of MBTI or other similar assessments?
e. What kind of persuasion activities can be used for organizational change? How do we model such persuasion activities to increase the validity of the models?
f. How the duration of persuasion activities affects our models?
g. In general, how do we relax the assumptions of our study?

Limitations and Opportunities for Future Research

Naturally, this study is based on computer simulations of change with modeled organizations. The next step in this line of study is conducting survey studies on organizations. However, we have to note that this is clearly a hard study. Since, finding or recruiting organizations that may want to follow the change models presented here will be a hard task. Additionally, it will be nearly impossible to replicate the studies with all the other change related factors remains the same.

Based on the identified research questions, we plan to refine our models and moreover propose new models. The next step in developing the model would be investigating how organizational change is affected when there are opposing ideas to the change in some of the social hubs. So, the organizational will consist of social hubs who are proponent of the change and opponent to the change. In addition, some of these social hubs may be strong supporters of the change or strong opponents of the change. The models may include these concepts as well. How the change is affected depending on the strength of the support from social hubs will be another research question.

Naturally, there will be a cost of the desired organizational change. A cost model may be incorporated to the organizational change model. The cost may be in the terms of money, workload, and infrastructure. In addition, there will be social costs to the organization. This cost model may include all the listed aspects. For example, if the costs are too high, the managers may change their position on the idea of organizational change.

A main research question in this line of study is the identification of social hubs in organizations. There are studies on how to identify social hubs in online social networks existing on the internet. These studies may shed light on the question of identifying social hubs in organizations. Furthermore, there may be differences on the characteristics of these two different social hubs. A research study may focus on these differences and the reasons.

Investigation of the personality traits and characteristics of the social hubs in organization may be the next step in this line of research studies. The common set of personality traits in social hubs may provide insightful improvement opportunities on human resource management practices.

This study is actually providing us a good set of research ideas and questions for the future. Philosophically this adds value to the study.

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The views and conclusions contained herein are those of the authors and should not be interpreted as necessarily representing the official policies or endorsements, either expressed or implied, of any affiliated organization or government.

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An Evaluation On The Process of Being A Brand City Of Muğla

Nihal Tataroğlu[a], Aslı Karataş[b], Nedret Erboy[c10]

[a,b,c,] Muğla Sıtkı Koçman University, Muğla, 48000, Turkey

Abstract

The importance of urban marketing has been increasing today, when a rivalry between products and enterprises has arisen based on cities in terms of development of countries by the help of globalization and brand strategies applied for products are being adapted to cities, which aims to highlight cities. Cities are significant actors in efforts of economic, social and cultural development of countries. Branding, which means being different in the eyes of target mass, more chance of being recognized, and establishing values, is preferred. For a city, what being a brand means to attract local and foreign tourists, encourage investments, to increase the life standards of local public, and so to add value. Branding process is to create an identity for the city and position. In this study which includes three different disciplines, which are public management, economics and business administration, closely related to the issue, during the process of identity creation, Muğla's potential of being a brand city was evaluated and interviews were made in depth with the shareholders having a role in its being a brand city and results obtained have been suggested.

Key Words**:** Muğla, Brand City, Branding, City Identity, Local Development

1. Introduction

Cities which have taken place in the centre of financial mobility for centuries have a dynamic structure in social and financial means. In this sense, when the concern is development, it is possible to say that the most significant centers are cities. Today, cities have been influenced more closely and deeply by effects of global rivalry and become the subject of the rivalry under these new competition conditions.

Even though a city has the potential to be a brand city with its own values, today the concept of "brand city" has increasingly become more significant, especially due to the necessities of global rivalry, which arises the concern that it should be professionally managed. "Brand city" concept is one of the terms used in business administration field and transferred to urban literature. However, it is an obligation to evaluate this issue not only in terms of business discipline but also in terms of public management and economics since it is a multi-dimensional issue.

The concept of brand city may also be defined as a means that cities use in order to establish their own identities and introduce themselves to the globalized world in frame of this identity (İşler and Tüfekci, 2014). To make cities center of attraction, to highlight their different ways apart from other cities, to provide advantage of rivalry and to create added value are some of the fundamental aims of the city's branding process . ın this sense, branding of cities is a vision.

Kotler et. al. (1993) states in their study that rivalry not only exists between products and companies but also countries and cities are in competition with each other, which means they also emphasize cities need to be branded. City branding can be defined, in its simplest meaning, as adapting marketing of product, company or service in traditional marketing to cities (Peker, 2006). In other words, a city's branding is the effort to establish image by creating financial and social value in natural beauties as well as historical and cultural values which will enable that city to be discriminated from other cities. Professional and careful branding management is needed for other products' branding efforts; likewise, city branding can be realized through a professional branding management. Otherwise, it is inevitable that a demanded brand city cannot be created, which causes negative changes and that values and local people of the city can be damaged.

To create a brand city requires a vision to be formed and in the most fundamental statement, it is an image-creating project. Creating city brand defines a process at which brand strategies are used as in products and

[10] Corresponding author. Tel.: 0 252 211 21 94.
E-mail address: aslikaratas@mu.edu.tr.

services in developing spaces and cities. Stages of this process are to establish brand identity, position brand and establish marketing communication related to the brand and a Professional brand management.

Since it is a necessity for a city to get branded under global competitive conditions today, it is a matter of concern to evaluate the potential of being a brand city in terms of the city of Muğla. Especially, the fact that Muğla has values which differentiate it from other cities such as natural beauties of Muğla, length of its coast, undestroyed surrounding, historical and cultural structures, geographical position and accessible life space is one of the advantages reinforcing its potential in branding. In addition, the fact that it has provinces which have developed in branding in national and international scale makes us to question the concept of "Brand City Muğla" as a whole.

While evaluating the potential of being a brand city of Muğla, representatives from Muğla Governorship, Muğla Metropolitan Municipality, Menteşe Municipality and Chamber of Trade and Industry of Muğla which are main actors and shareholders who need to be leading in this issue have been negotiated.

2. City, Identity and Brand City Relation

City which is a dynamic concept has had various meanings among countries and in all periods of the history and this variable structure has become an obstacle in making a common definition of city. However, valuable information concerning meaning and importance exist when analyzing the concept of city etymologically.

The words, "Cite", "polis", "medine", have been used as identical to the term, city and have historical value. While "Cite" means a city-state, the word, polis, has been used in meaning of "castle" which stands for the necessity to defend more (Toprak, 2008). During human history, civilization has been developed as a concept concerning cities. In this sense, it has been derived from the word "civilization" in Latin and "civitas", which means "city". This is not limited to Western Culture. The concept of civilization which has the same meaning in Arabic culture has been derived from the word "Medine", which is used in meaning of "city" (Demirkan, 1996).

While there are various approaches about the origin of cities, cities have become the transporter and determinant of socio-cultural, financial and societal change during the historical period, as seen in etymological explanations. Cities have become the center of transformation during the historical period. Industrial cities appeared by the beginning of modern age and end of middle age in the 16th century. Cities, which were the center of trade and industry and whose population increased in an uncontrolled way, have become the fundamental actor in development of nation states. Since 1990s, while nation states have lost their previous function due to the globalization process being experienced; on one hand, post-national institutions due to the statement expressing that the world has changed into a global village, on the other hand, domestic values, identities, differences in sense of localization have gained importance. In this sense, cities have come into prominence as the center of mental and spatial transformation of the globalization process.

Cities have taken place in the center of economic mobility for centuries and even one of the most important elements of earning the characteristic of being a city has become their non-agricultural economic mobility. Therefore, the most significant cities in efforts of development have become cities. However, conjuncture-cities created by globalization process have abandoned the rivalry process at which they have taken place as a sub-element of national economy and been exposed to the new rivalry conditions which are preliminary elements. It means that cities have become subject of the rivalry due to globalization (Kaya, 2008).

The flow of good, service, capital and knowledge which were realized by the help of nation states before have started to be realized by cities due to the globalization. Hence, today there are cities whose names have taken precedence over countries (Pustu, 2006). However, it is not possible to say that these effects of globalization on cities are equally valid for all world cities. In this process, while some cities have become world cities, others have not been able to get their shares from the same development process. For that reason, the demand for financial success of developing country cities has revealed the necessity of developing competitiveness with world cities. In our era, sustainability of existence of cities just depends on their capacity to compete with other cities. One of the fundamental arguments about how cities can provide competitiveness has become the concept of brand city.

The concept of "Brand city" is one of the concepts used in business administration and transfered to city literature. To make cities center of attraction and to provide advantage of rivalry are of the fundamental aims of the city's branding process. In this sense, branding of cities is a vision. Cities will be successful to the extent that they can manage this process with a strategic approach, determine their route map for the city's needs by detecting their existing situations in its whole reality, observe it and monitor its results and revise their plans.

Cities need to be accepted about the fact that they are different from the others and preferable in order to compete with country cities in branding process. At this point, the identity of city appears as a must in branding of cities. Inasmuch as, even if various branding strategies are determined, communication network is established and necessary introduction is made, no permanent achievement will be acquired unless all these efforts are built upon original identity of that city.

City identity is characteristics dispersing a city from other settlements. City identity is a relational identity; the identity is composed of relations established with the world while being alive whether at individual level or

at city level. Relations determine a city's identity. The identity is provided by such kind of a mythologization by the fact that people who are interested in the city are influenced by each other and media and speak about it. When such a mythologization appears, it gets more difficult for the identity to change by being influenced by personal experiences. City identity is something which is built on its own but also manageable. The formation of city identity depends on three elements such as physical values of the city (natural environmental architecture values, cultural heritage etc.), satisfaction based on life quality and discourse on the city identity (Tekeli, 2009).

The fact that a city has a powerful identity in competition with world cities points out, in fact, a paradoxical situation. Influenced by the improvements in information, communication and transportation technologies, reflection of globalization on space appears as cities' becoming more similar to each other in different geographies of the world, losing their own originality and becoming single sampling and city identities' being eroded. This abrasive and dis-identificational influence of globalization on cities are resolved through brand city vision formed over "rivalry" discourse from globalization rhetoric and so marketing cities' identities and differences appear as an irony.

Branding of city should add value to cities and city-dwellers by reinforcing original characteristics of that city. Cities are integral with their history, cultural, environmental and societal values. Benefiting financially from these values of a city should not result in process of earning income which is disadvantageous for the city. Such a circumstance will both make the sustainability of the city impossible and ignore the city-dwellers who are fundamental actors of the city. The perception of society-oriented "governance" at which all shareholders including the city-dwellers take place should be implemented in order that income mechanisms which are disadvantageous for the city are not caused by branding process of cities and social exclusion is prevented through an approach which gives precedence to rights of the city and city-dwellers.

3. The concept of Brand City and Benefits of Being a Brand City

Perspective to the cities have also changed by the help of the concept of globalization as a result of significant economic, social, politic and technological improvements experienced all around the world. The concept of "brand city" may be the most appealing one among this perspective. Now local characteristics and values, culture, history, natural beauties of cities are highlighted and cities have become branded to both national and international extent due to their differences in these areas.

Cities are in competition with each other in means of commercial volume, population, wealth, and immigration and in this sense, make effort to become different from each other by adding values to the products and to be prefered more by increasing their popularity (Kavaratzis and Ashworth 2005).

Kavaratzis (2008) states in his study that the concept of brand city is an effort to create a positive image by emphasizing the city's outstanding functional, symbolic and experiential ways which are different from other cities. The concept of brand city may be defined as a means used by the cities in order to establish their own identities and to introduce themselves to the globalized world in frame of this identity. (İşler and Tüfekci, 2014).

Branding of city may be defined, in its simplest definition, as adaptation of marketing product, company or service in traditional marketing to cities (Peker, 2006). Branding of a place aims to make investment, export, tourism, education, culture, sports, activities attractive for people. When any of them is given prominence, then it is possible to say that place is branded. It is a new discipline which implements what it has learnt from brand strategy and brand communication to the city's development in order to add measurable economic, social and cultural values to the city. It is a holistic and comprehensive process which aims to establish powerful means that will spread strong and positive sides and characteristics of the city over demanded mass (İçyer, 2010).

Strong sides of the city mentioned are associated with the needs of the market during the creating city brand process. As a result of this effort, a different and permanent value specific to that city has been formed and these values created give that city advantage in rivalry between other cities. (Marangoz, Önce and Çelikkan 201; İşler and Tüfekci, 2014). It is obligatory to manage city brand professionally such as product or company brands. City brands which cannot be properly managed will change in an undesired way or be damaged (Kerr and Johnson, 2005). In other words, if characteristics and values of a city which are specific to themselves, differing that city from others, are taken into consideration as the strong ways of that city, the fact that they will become leading in order to create added value and to be developed by turning these characteristics into opportunity may be defined as the effort to create brand city in sense of economics. By the help of this, values to be created both locally and regionally and nationally will provide maximum benefit for the local public in special means and for national economy in general means. However, the important point here is that individuals living in these cities and local values are the subject and added value is managed with this conscience, especially the conscience of preservation of values.

The most important aim of creating brand city efforts is to make the city center of attraction and obtain financial benefits by the help of this. These efforts are also the process which takes a role increasingly in process of identity formation of the region or city. However, it is necessary, at this point, to act by keeping in mind that branding efforts are not just positioning them in consumers' mind maps (Paul, 2004; İşler and Tüfekci, 2014). The perception of identity formed with self-values, natural beauties, history, culture and local people's authentic

life is maybe the most valuable heritage of that city. For that reason, brand positioning should not only be formed with economic concerns but also with social and public sensibility. This is of significance in terms of both branding and preservation of existing values.

To become a brand city adds value to a city in 3 fundamental ways (İçyer, 2010);

• To organize the city's messages given in accordance with its powerful and distinctive vision,

• To provide economic value by encouraging investments for the city by revealing the potentials of the city-dwellers living in the city,

• To create effective ways that will increase the city's international popularity by uttering the city more effectively and in an easily-remembered way.

It is a fact that a city's being "brand city" will provide it both economic and social benefits and support its level of development in both local and national sense. To become a brand city for a city will provide economic benefit that will create many added values such as creating perception of attraction center and identity, increase popularity, increase investments, attract political capital etc. In addition to these, to become a brand city will also provide many socio-cultural advantages such as creating sense of belonging and identity of place on the city-dwellers, establish consciousness of being a city-dweller, improve individual behaviours etc. Furthermore, accurately-managed city branding efforts will help to protect that city's history and cultural heritage, natural beauties and local values. To achieve all these outcomes will provide extra value, in economics means, to that city's society, that region and that country.

4. Brand, Branding Process and Brand Cities

Brand is a name, concept, word, symbol, design, figure and composition of all which help to identify, introduce goods and services of a or a group of producers or sellers by discriminating from their rivals (Kotler and Armstrong, 1989). Brand helps a product to be recognized easily from other similar products, a product or service to be introduced, to create difference, to be liked, to replace company and product image in the market and at last to create dependency to the product (Öngüt, 2007).

Today, concept of brand is not a situation refered to just product and services, but also a concept used for cities. Competition in market has given its place to competition in mind through brands. The increase of rivalry in terms of inter-cities tourism, natural beauty, infrastructure, municipality, number of visits all around the world has started to necessitate looking through brand window to city marketing due to the point marketing has reached (Toksarı et al., 2014). For Kotler (1993), who is one of the most important names in marketing discipline, "Rivalry does not only take place between products and companies. Countries and cities compete with each other as well".

Hanna and Rowley lists the circumstances necessitating brand in terms of cities as: increasing power of international media, decreasing of international travel costs, increase of consumers' ability to spend, of inter-city similarities in terms of services provided and of people's interests in different cultures (Hanna and Rowley, 2008).

A desire not to disappear lies under the effort of a city to be a brand. For this aim, it is necessary to increase economic attraction, which means the start of branding process (İzto, 2009). "Branding process" is composed of studies by an institution to establish brand strategy, select the brand name according to its brand image it will produce and create, sustain quality during the production of good and service and presenting the product to the consumer and finally introduce the good and services produces effectively (Aaker, 2001). Fundamental criteria in successful branding is popularity of the brand, its recognisability, ease-to-remember, perception, associations, and image. To become a brand is to be different from others and create a distinctive awareness. The main element in cities' branding is the effort to introduce a city's opportunities and potential to outside in order to attract resource. While resources keep still for cities, the formation of new needed areas has featured the idea of brand city (Kaypak, 2013).

To become a brand is to be different from others and create a distinctive awareness. City brand is a set of individual beliefs in both rational and emotional quality, which distinguishes the mentioned city and the opportunities it defends from other cities (Kozak, 2009). In light of all these definitions, another point to focus on is how to become a brand city. Brand is the soul of product. If you add a soul specific to your product, and equip it with emotion, story, difference and reputation, then you can create a brand (Kaypak, 2013). When these features and values needed to brand product and companies are implemented on cities, then it will help to create brand city.

City brand is a development-recognition-image project that a city integrates with its cultural, historical, natural and social characteristics it has and puts into practice by supporting with a specific mark in order to discriminate it from other cities (Kozak, 2009). In order that a city is branded, all characteristics varying from the date of being distinctive of that city to its culture should be employed. It has been known that each city's specific originality and change it has acquired during historical development process has also effect on branding (Tekeli, 2008). By creating differences in assets that the city has, it is possible to reveal characteristics which help the

city to be dissolved from other cities. These characteristics are various assets such as historical structure, cultural values, natural beauties, human resource and education (İşler and Tüfekçi, 2014).

One of the branding process stages is establishing the brand identity. Branding is to establish an identity. Brand identity covers meaning belonging to the brand, and all cultural and social aspects. Brand transforms a product or service to value through the visual identity it has (Hoşcan, 2007). Generally, brand city establishment process is built over the city's original identity as well as the importance of brand identity during branding process. City identity is formed within a long period of time. Geographical content, architecture, local traditions, life style of the city forms the city as a mixture of qualifications. In a way, the identity of a city means the soul of that city (Kaypak, 2013). A brand image is needed in order to establish an identity. Brand image is the combination of a person's point of view, emotion, idea, belief and associations about the brand. In other words, it is how a brand is perceived by other rival brands (Yalçınkaya, 2006). An image of a city is people's ideas, beliefs and point of views about that city. Cities can improve their identities and so images by taking the right steps (Aladağ). In this sense, creating a brand is an image study which reveals the strong aspects of the city, makes the city valuable, makes the city culturally meaningful and lastly helps the city to earn economic, social and cultural benefits. During this period while the city is transformed into product, image the city has acquired is a means which helps the city to gain awareness. In this sense, the city which earns identity by adding extra value is transformed into a brand city (Peker, 2006). During the process of creating Brand Identity, all shareholders who need to be involved in this process should act in cooperation. For that reason, everybody and institutions from local people to local media and from local authorities and senior bureaucrats need to take place in that.

During branding process, after forming the brand identity, it is necessary to perform brand positioning. Positioning can be defined as identifying a product or brands which are the most important component of a product by consumers and applications to help them to keep a place in consumers' minds against its rivals (Aktuğlu, 2011). Issues that a marketer needs to consider while developing positioning are target market, how the product is superior to and different from its rivals, the value of this difference in terms of target market and the capability to reflect or transfer this difference in the target market. (Gwin and Gwin, 2003). It is highly important to think branding process of cities at international level, to decide with which values the city will be featured and to make brand positioning based on identity elements which has a consistence and sustainability in itself showing how these values will be achieved in the best way (Yavuz, 2007). Accurate brand positioning is needed in order that a city should become a national and international brand (Anholt, 2005).

One of the stages during branding process is marketing communication. Especially, the importance in communication perception in actions has increased in order to keep up with the swift change today. Marketing communication has a vital importance in brand identity, brand image and brand positioning. Marketing communication to be conducted professionally will contribute to recognition and recognisability of products. Naturally, the importance of marketing communication is undeniable in branding process of cities.

The last stage of branding process is to conduct a good brand management. As in company brands, it is also obligatory to manage city brands. City brands which cannot be managed properly will change in an undesired way or be damaged (Kerr et. al., 2005). Due to improved communication opportunities, negative information about the city have been able to spread over a vast area in a very short time. The image of city brand formed in a long time and with big investments may be damaged to a great extent by small strikes such as dominoes. Therefore, to preserve positive branding image is as important as to establish it (Özdemir and Karaca, 2009).

One of the important issues in city branding is matter of vision because the fact at which point the city is required to be in the long term is a matter of vision. The fact that the vision will be shared by as many shareholders as possible will increase the belonging, which will contribute to more effective efforts in achieving that vision (Aladağ,). It should be kept in mind that the city, as a brand, provides urban quality assurance to the dwellers in the future (Banger, 2006). As vision is foresight of the future and the final target to be achieved in the future, the answer to the question "what our cities desire to be" in the future should not what we expect but should be the possible within existing circumstances (Kaypak, 2013).

5. Analysis of Results of and In-Depth Interviews with Local Authorities About the Process of Being a Brand City of Muğla

5.1.Introduction of Muğla

Muğla, lying where Aegean Sea and Mediterranean joins, is a city which lies along 1.124-Km.-coastline, and has unique environmental values with its breath-taking bays, unique fauna and flora formed by its climate structure, forests consisting of 68% of the city area, and cultural and natural assets at which it has hosted many civilizations. The District of Menteşe has been founded including 4 towns and 48 villages in accordance with the Law No. 6360. The surface area of Muğla city center is 1.652,08 km2, and generally has a mountainous and forestry land structure covered with thick pinewoods from South to North and east. Altitude is 655,83 m, and coastal length is 17,08 km.

Our city has just 6 harbours (Bodrum, Datça, Fethiye, Marmaris, Göcek and Güllük) in addition to having the longest coastline in our country. 4 of these harbours are mostly run as touristic yacht ports. Our city is also rich in terms of underground sources. Marble and natural Stone sector is one of the leading sectors in our city. Muğla has two international airports which are located in Milas and Bodrum which are open to civil passenger transportation. Thanks to the advantages Muğla has in agriculture sector, there are especially greenhouse, dried fruit and vegetables production facilities, frozen fruit and vegetables production facilities, canned fruit and vegetables production facilities, wine, sesame oil, olive oil production facilities. Also, among main investments to be made in livestock sector in our city, we can mention about culture and freshwater fishing, bee-keeping, dairy farming, eggs, meat and poultry, artificial insemination and breeding.

The most outstanding ones of the Muğla's symbols are Muğla chimneys and houses. In addition to them, Karabağlar Yaylası is an outstanding region where agricultural mobility, livestock breeding, vegetable and fruit growing are performed and a place where summer and winter needs are met, a rest and entertainment place, and the center of cultural and economic mobility. This region is 3-km-far from Muğla and below the normal altitude as opposed to an ordinary highland. Karabağlar Highland Coffee Houses have become the center of culture, education and trade, as opposed to ordinary coffeehouse concept, thanks to their grocer's, mosque, restaurant, baker's, butcher's, smith's, barber's, tandouri, water well etc. inside Karabağlar highland.

5.2. Method

As a qualitative research method, in-depth interview method has been prefered in this study. As Kitzinger (1995) stated, this method used often in social sciences is one of the most systematic data collection methods. The most significant advantages of in-depth interview method in which parties of the research or individuals involved in interaction groups can share their ideas, problems and suggestions for solutions highly effectively and independently is to make it easy to reach at different and new findings. This method has been prefered because our fundamental aim in this study is to reveal reasonal powers concerning the object and relations and allow for the shareholders' viewpoints.

The main mass of our research has become the shareholders who have determining roles in Muğla's being a brand city. In this sense, each of the representatives from Muğla Governorship, Muğla Metropolitan Municipality, Menteşe Municipality and Muğla Chamber of Trade and Industry which have been featured among shareholders as they have the authority to make decision was asked 25 open-ended questions. Results of the interviews and findings have been presented below.

5.3. Analysis and Findings

In order to analyze the issue in this research concerning the evaluation of Muğla's potential to bea brand city, we negotiated with Veli Çelik, Director of Culture and Tourism of Muğla on bhealf of the Governorship, Dr. Osman Gürün, the Mayor of Muğla Metropolitan Municipality, Bahattin Gümüş, Mayor of Menteşe Municipality, Bülent Karakuş, Chairman of Administration Board of Muğla Chamber of Trade and Industry, all representing the local authorities. The content of the interview has been concept and conscience of brand city, outstanding features of Muğla in becoming a brand city and the strategies to be followed during this process, information about projects being implemented or to be implemented and shareholders' roles, SWOT analysis of Muğla in being a brand city, where the local people take place or should take place in this process.

In the interview with Mr. Çelik, he commented; " What comes up in my mind first when brand city is said is to be different. I understand to be different with its own values and to be recognized. For example, people who would like to be different either wears differently or uses different equipment or stand in different places interestingly. The matter is to be distinguished…". In this sense, it has been observed that an awareness and conscience about "brand city" has been improved in Muğla Governorship.

Mr. Gürün has stated his viewpoints about this issue as follows, "When "brand city" is said, what comes up in my mind is to empower perception of the city and manage well. Brand is an image. It is an art that highlights the image and introduces and manages this image well. To be a brand has now become an effective means that determine the power of rivalry among cities. It should be kept in mind that brand is a value-added product. Brand is also a quality assurance. It is a product or service produced or provided differently".

Mr. Gümüş has answered our question which is about brand city and level of consciousness as follows; "For me, when brand city is said, it doesn't have to be a very developed city. It is possible to be a brand city by creating that city at peace with its past, and sympathetic and where authentic values from past to present are still alive".

Mr. Karakuş has defined the concept of brand city by giving his answer as follows "A city which is recognized all around the world with its products and services, whose product or service has become first class or reached at certain standards".

In this sense, it has been found out that shareholders who have a role in becoming a brand city have an awareness and conscience in concept of brand city. This is a positive element in terms of Muğla's potential of

becoming a brand city because it is of vital importance that local authorities should have a conscience of brand city during brand city process.

To the question about the outstanding features of Muğla in becoming a brand city, Mr. Çelik has answered as follows, "first of all, Muğla which is a nature-dominated life area, has an unspoiled environment. Secondly, it is an accessible place. It is easily-accessible either domestically or internationally by land, marine, air vehicles... Muğla has been featured, in terms of space, as a place where you can both have fun, and rest and pursue your works "; Mr. Gürün, "The features we should give prominence should be its nature, sea, forestry, sun, monumental structures and historical structure, museums, entertainment and resting places, cultural characteristics and Aegean culture in terms of humanity. "Mr. Gümüş, in his viewpoints," Features to be given precedence about Muğla should be its historical, cultural and geographical values. For example, Karabağlar Highland of Muğla and local food ("büryan", tandouri, "mumbar dolması" (stuffed sheep sausages), "tarhana" (soup with dried yoghurt), "kaburga dolması" (stuffed lamb ribs etc.)) are featured "; Mr. Karakuş, "Fundamental features are tourism, natural beauties, historical sightseeing places, local products such as fresh fruit and vegetables production, marble production, pinewood honey and culture fishing and the fact that it has a clean environment because there is no heavy industry in Muğla ".

In light of the answers got from local authorities, we can say that Muğla has a significant potential to become a brand city thanks to its outstanding features.

Local authorities' viewpoints about the strategies, projects being implemented and to be implemented in process of Muğla's being a brand city are generally as follows: The general strategy should be the fact that shareholders should be in cooperation with each other. Especially, introductory activities should be performed in common mind through a single channel. There are many existing projects being implemented about its being a brand city. However, it is more important that these project should be able to support each other and sustainable than to create projects. In this sense, hosting culture tourism with projects such as The Project "DijitalRehber" of Muğla Metropolitan Municipality, Muğla Chamber of Trade and Industry Yörük Village and amusement park, projects authentic stories are transformed into city legends, to benefit from advantages of university can be leading projects. Also, for example, to build rail system model transportation networks can be an important Project in order to make both urban and interurban transportation. In addition, in order to benefit from the capacity of being a metropolitan, 1/100.000 Landscaping Plan which is the strategic plan of metropolitan municipality and, as well as, 1/25.000 Datça, Bozburun, Marmaris Plan, Transportation Main Plan, Tourism Master Plan can be evaluated as significant steps in branding.

In questioning strong and weak sides of Muğla in order to evaluate realistically Muğla's potential to become a brand city, local authorities' viewpoints can be summarized as follows: Strong sides of Muğla can be listed as its geographical characteristics which is suitable for tourism and preserved historical structure, coastal length, its accessibility, especially possessing two airports, stable social structure, dwellers who are sensitive, modest and sustain regional features, regional food, its nature, climate and local products, having provinces which are in high capability of being recognized at international platform and in public etc. Weak sides of Muğla are; convergence of authorities and responsibilities of numerous institutions and enterprises, little cooperation and reconciliation between institutions, lack of coordination in communication and Project production issues, the city center's being far from the sea, transportation routes' being far from the city center.

The answers of our interviewees to the question asked in order to identify the available opportunities and threats of Muğla's being a brand city are as follows: opportunities are the fact that Muğla has become a metropolitan in terms of increase of resources and grants, its level of development in terms of socio-economy is high, it has human structure whose education level is high, and a potential of growth and a developed university, it has alternative tourism resources that may extend to twelve months in addition to tourism of sea, beach and sun. Even though the fact that Muğla's provinces such as Fethiye, Marmaris, Bodrum are brand provinces at national and international scale is a strong side, the fact that the provinces sometimes act independently from each other in their efforts for communication and introduction and keep away from cooperation has become a threat in terms of Muğla's being an integrated introduction and brand city.

The interviewees have answered the question which is about where the local people are or should be in the process of brand city as follows:

Mr. Çelik, "I don't know how conscious the public is about being a brand city. But if people are proud of being from Muğla, it means that they already know they are different. However, there might be lack of knowledge about the fact that this means being a brand. But I think if they are proud of being from Muğla, they have perception of such a difference. Indeed, in my opinion, to be brand means being different"

Mr. Gürün, "People of Muğla can easily be organized in a very short time thanks to its modern, democratic and educated structure. The people in Muğla need to take part in this process effectively and support this process in order that Muğla becomes a liveable World city and reaches at the value it has deserved."

Mr. Gümüş, "I don't think the public in Muğla has sufficient conscience about being a brand city. I think this lackness can be compensated by raising the level of people's conscience about brand city by the help of efforts of non-governmental organizations and local authorities."

Mr. Karakuş, "In fact the public should take place in the very center. But, I believe, the consciousness about this is unfortunately not even 10% now. Only the ones taking place in non-governmental organizations and spending a bit more time in this work are knowledgeable about this. But as we said such a conscience should also be earned."

When analyzing the answers to the question about where the local people are or should take place in brand city process, it has been found out that the people have a certain conscience, though limited, about Muğla's being a brand city, however, it may be also said that they are not conscious enough about the process of being a brand city.

6. Result

Effects of globalization on cities as dwelling places have started to oblige the development of cities. Together with rivalry at global level, cities will reach achievement in the future to the extent that they acquire the ability to move locally without losing their own values by increasing their level of popularity and recognition, creating a positive image in foreign and domestic tourists' eyes, establishing their own identities and expanding to global markets by the help of their different characteristics they will highlight in order to develop economically, socially and culturally and enhance the volume of trade. Making cities places of attraction as a result of implementing product branding strategies on cities in order to add economic, social and cultural values to the cities will enable urban development. In order to achieve a city vision previously defined in communication activities which have a significant place in brand identity, establishing brand image and positioning of brand during the process of being a brand city, it will be helpful for a city to be developed economically, socially and culturally to prepare the messages to be transmitted to the target mass properly and accurately, to provide economic value for the city by encouraging local people and other investors within this target mass to make investments specific to that city and by drawing political capital and to organize activities that will increase the popularity at international level by creating a positive image for the city, and to create a more liveable environment for the local people by enhancing service standards in the city. To be able to exist in the future obliges a country to be branded. The fact that plans will be made in order to highlight historical values, natural beauties, cultural, economic and social infrastructures of cities and these plans will be implemented will enhance a city's image, which will make it a brand city..

The vision of "Brand City" will be achieved by determining the current situation of cities which are in competition at global extent accurately and being managed strategically. During this process, the importance of all shareholders who have or should have a say in city is undeniable and propellant power of the process is undoubtedly local authorities. It has been considered that it will provide useful data for our study to interview with local authorities in order to determine the institutions' approaches at the point of Muğla's potential to become a brand city and accurate proceeding of this potential because effective management of brand city strategy for Muğla has just been initiated.

In evaluating the interviews generally, it has been seen that local authorities have a complete consciousness about the issue and they have various initiatives, and they have adopted approaches which are consistent with each other about the potential of Muğla's being brand city, structural and institutional obstacles in front of this potential and solution methods offered to overcome these obstacles.

In light of the interviews made, it has been seen that three factors are highlighted in defining brand city in the eyes of local authorities. Firstly, a city needs to have meaningful networks to be established between its past and future in order to be a brand city. At this point, it is highly important to conserve and improve historical and cultural values forming a city's identity. Existing historical and cultural heritage of the city is original; for that reason, it is the unique heritage which makes it different from other cities. Secondly, descriptive element of a brand city is its awareness which will make it advantageous in its rivalry against other cities. Cities become brand to the extent that they can be different with their specific values and create a national and international awareness concerning this difference. The last supplementary part of the brand city definition is the existence of awareness concerning the city at global extent. In summary, brand city is a city which differs from other cities through its original values and reinforced identity and whose recognition is enables at national and international level by the help of accurate introductory strategies about this awareness.

It is obvious that Muğla has a natural potential to become a brand city due to its natural beauties it has, coastline length, undestroyed environment, its history and cultural structure, geographical position and accessible life space. Moreover, there is a significant capital consisted of people who are sensitive to the environment, embracing and preserving their city, careful about transferring local values to the future, tolerant against each other and have adopted reconciliation as common language. In evaluating this societal capital Muğla own together with its natural potential , it can be said that it is in an advantageous position in becoming a brand city. However, it is necessary that the city should transform these values into a strong identity in order to be a brand

by using this advantageous position. In this means, it has been observed that institutions have various attempts and local authorities agree with each other about existing obstacles met during the process.

The biggest obstacle the institutions point out in Muğla's being brand city is about the management process. Undoubtedly, the vision of brand city can be achieved by establishing right strategies that will transform the assets the city has into values and management of the process effectively and in an integrated way. However, the fact that there is lack of cooperation, coordination and reconciliation needed between the institutions in Muğla has been stated by the local authorities as the most significant factor which is an obstacle during the process of being a brand city. Yet, common strategies of the institutions which come together around the same aim and their attempts complementing each other create a synergy for the city, which allows the process to be sustained successfully, and in addition, prevents the institutions from wasting labour, time and resource.

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Brand Experience Effects on Consumer Social Media Marketing Perceptions and Brand Value

Tugba Orten Tugrul[11]

Izmir University of Economics, Izmir, 35330, Turkey

Abstract

Previous research demonstrates that customer experiences have significant impacts on brand perceptions, choices and other consumer behaviors. Yet, very little is known about the effects of customer experiences on brands in the context of social media. Therefore, this study examines the roles of initial purchase and social media marketing brand experiences on consumer social media marketing perceptions and brand value. Results reveal that previous experience with a brand's social media sites plays a key role in increasing consumers' favorable evaluations of the sites. However, it is shown that previous brand purchase experience has no significant effect on consumer social media marketing perceptions. Additionally, findings indicate that consumers who have previous purchase and social media experiences with a specific brand evaluate the value of the brand higher than those without such experiences.

Keywords: Customer experience; brand experience; social media marketing; brand value

Introduction

Creating positive customer experiences seems to be one of the key factors that contribute to a company's success in the contemporary business environment. Hence, experiences are retained in the minds of customers with other brand-related thoughts, feelings, images, perceptions and attitudes, and then, translated to favorable brand performances (e.g., price premiums, price elasticity, market share, expansion success) (Keller and Lehmann, 2003). Previous studies reveal that customer experiences are positively associated with brand attitude, brand choice, and brand equity (Berry, 2000; Biedenbach and Marell, 2010; Fazio and Zanna, 1978; Grace and O' Cass, 2004; Ha and Perks, 2005; Havlena and Holbrook, 1986; Sheng and Teo, 2012). Although customer experiences have already received a great deal of attention among marketing practitioners, there is a need for more academic research to better understand the role of customer experiences in the brand value creation process, specifically in a social media marketing context.

Brand activity, such as developing an online brand community, is another important dimension of the customer mindset, and thus, brand value source. In this regard, marketing activities conducted in social media platforms have the potential to influence the customer mindset with respect to a brand. Indeed, previous research proves that favorable social media marketing perceptions have positive impacts on all customer equity drivers; value equity, relationship equity, and brand equity (Kim and Ko, 2012). Yet, very little is known about the interaction between brand perceptions and customer experiences (Verhoef et al., 2009).

Therefore, this article first examines the effects of consumers' previous experiences (purchase and social media sites) with a specific brand on their perceptions of the brand's social media marketing activities. Second,

[11] Corresponding author. Tel.: +90-232-488-8143; fax: +90-232-279-2626.
E-mail address: tugba.tugrul@ieu.edu.tr.

this study seeks evidence for the view that initial brand experiences may influence customers' subsequent brand value evaluations.

The next section provides a brief literature review on customer experiences and social media marketing concepts, leading to the development of hypotheses. After, the research methodology is presented, along with the analysis and results. The paper concludes with a discussion of the findings and their managerial implications, as well as suggestions for future research.

Literature Review and Hypotheses

Customer Experiences and Brands

Customer experience is defined as "the internal and subjective response customers have to any direct or indirect contact with a company. Direct contact generally occurs in the course of purchase, use, and service and is usually initiated by the customer. Indirect contact most often involves unplanned encounters with representatives of a company's products, service or brands and takes the form of word-of-mouth recommendations or criticisms, advertising, news reports, reviews and so forth" (Meyer and Schwager 2007; 118). Therefore, a customer experience can occur at any time during the entire process of information search, decision making, purchasing, product usage and after-sale service (Ha and Persk, 2005; Verhoef et al., 2009).

Previous research illustrates the effects of customer experiences on attitudes, feelings and purchase intentions (Fazio and Zanna, 1978; Grace and O' Cass, 2004; Ha and Perks, 2005; Havlena and Holbrook, 1986). Havlena and Holbrook (1986) highlight the importance of the role of the emotional aspect of consumption experiences in understanding brand choices and other consumer behaviors. Grace and O' Cass (2004) demonstrate the significant impacts of experiences on consumers' feelings, satisfaction and brand attitudes in the context of services. Fazio and Zanna (1978) find that brand attitudes formed through direct experiences are held with greater confidence and lead to better attitude-behavior consistency compared to those derived from indirect experiences. Ha and Perks (2005) examine the impact of consumer website experiences on brands in the context of internet-based marketing. Findings show that, in particular, consumers' positive navigations and perceptions with a specific brand's website enhance familiarity with the brand, customer satisfaction and brand trust.

Brands serve as means to provide and enhance customer experiences (Schmitt, 1999). In this regard, the experience can be considered as the result of the customers' interpretations of their interactions with brands (Ghose, 2007). Several studies clearly show that customer experiences positively affect brand equity (Berry, 2000; Biedenbach and Marell, 2010; Sheng and Teo, 2012). In a B2B context, Biedenbach and Marell (2010) show that customer experience has a significant impact on the formation of all the dimensions of brand equity, namely, brand awareness, brand associations, perceived quality and brand loyalty. Sheng and Teo (2012) focus on the mediating role of customer experiences on the mobile brand equity, and find that perceived usefulness, entertainment, and aesthetics attributes of products enhance brand equity through customer experiences. Berry (2000) argue that brand marketing efforts and word-of-mouth communications have the highest influence on brand meaning when consumers have had little or no direct experience with a company's products or services. In contrast, customer experience is the most influential factor when consumers actually have experienced the offer. In addition, brand meaning plays a key role in cultivating brand equity for experienced customers. An understanding of the role of previous customer experiences with a brand is therefore critical to an understanding of the development of brand perceptions and value. Thus, the interaction between brands and customer experiences is an important area for future research (Verhoef et al., 2009).

Furthermore, social media boosts the co-creation of experience-based brand value. Co-creation refers to the "joint creation of value by the company and the customer", where experiences are the basis for value creation (Prahalad and Ramaswamy, 2004: 8). Many brands are now seeking to deliver perfect experiences leading customers to become advocates for the company (Frow and Payne, 2007). Customer engagements in high-quality dialogues and interactions with companies create an experience environment in which the customer becomes the co-creator of the experience, and the experience itself represents the brand (Prahalad and Ramaswamy, 2004). Social media can be considered as a new venue for an experience co-creation environment. This new communication landscape enables social interaction and information exchange between consumers, consumer communities and brands. Given the fact that networked consumers are increasingly co-creating value with companies (Prahalad and Ramaswamy, 2004), social media marketing activities can be used to create

positive and enjoyable customer experiences. Moreover, such experiences are important brand value chain multipliers.

Social Media and Marketing

Social Media is "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content" (Kaplan and Haenlein, 2010: 61). This form of media incorporates a wide range of highly interactive platforms, such as blogs, company-sponsored discussion boards and chat rooms, consumer product or service ratings websites and forums, Internet discussion boards and forums, moblogs and social networking sites (Mangold and Faulds, 2009). Social media enables consumers to initiate, discuss and share online information to educate each other about products, services and brands (Blackshaw and Nazzaro, 2004). Therefore, internet-based messages communicated through social media channels impact awareness, opinions, attitudes, information searching and decision-making behaviors, and after-sale evaluations of consumers (Mangold and Faulds, 2009). It can significantly influence a firm's reputation, sales performance, and even survival (Kietzmann et al., 2011). A social media report published by Nielsen and NM Incite (2012) provides insights into the impacts of social media on consumer behavior, and thus, brand marketing. According to the report, 60% of consumers learn more about a specific brand or retailer through social networking sites, and 63% prefer to read consumer-generated reviews online, while 3 out of 5 create their own reviews. Research also shows that consumers are more likely to trust the recommendations of their friends and family, but 2 out of 3 respondents said they were moderately influenced by advertising on social media. Moreover, 42% of 18- to 34-year-old social media users expect customer support within 12 hours of a complaint. These findings indicate that social media is becoming increasingly important to consumers in discovering and sharing information about brands and products. Companies, on the other hand, can use this new communication channel in building, promoting and protecting brands, and engaging with target audiences at a customer service level.

As the influence of social media on consumers continues to grow, companies are increasingly integrating it into their traditional marketing activities. The Social Media Examiner report (Stelzner, 2014) demonstrates that 92% of surveyed marketers think that social media is important for their business, 97% participate in social media marketing, 56% have at least two years of social media marketing experience and among these, 65% spend at least 6 hours per week on social media activities. Increasing exposure and traffic are the major two benefits of social media marketing, cited by 80% and 92% of marketers, respectively. The use of social media to facilitate exchanges between consumers and companies is defined as social media marketing (Tuten and Solomon, 2013). This recently emerging concept encompasses a wide range of marketing objectives, including communication, interaction and engagement with consumers in the online platforms where they naturally spend time (Evans and McKee, 2010; Kim and Ko, 2012). Social media delivery tools have global reach capabilities and enables instantaneous, real-time and two-way communication (Kim and Ko, 2012; Mangold and Faulds, 2009). By using social media, marketers can introduce and promote products, brands, or events to consumers more directly and also at lower costs compared to traditional communication outlets (Hun, 2010). Monitoring and analyzing customer interactions with organizations and other customers enables marketers to make a range of adjustments, such as modifying products and tuning messages according to the experiences and desires of customers (Evans and McKee, 2010).

Previous studies point out the effects of the perceived social media marketing activities by consumers on brands (Erdoğmuş and Çiçek, 2012; Kim and Ko, 2012). Erdoğmuş and Çiçek (2012) found that brand loyalty is positively related to four factors; advantageous social media marketing campaigns offered by a brand, the relevancy of the content on a brand's social media platforms, the popularity of the content among friends and other users, and the variety of platforms and applications provided by a brand in social media environments. Kim and Ko (2012) discovered that social media marketing by luxury brands that entertains customers, enables interaction among users and promotes word-of-mouth enhances customer equity and purchase intention.

Given the fact that branding has also an important role to play in building and supporting customer experiences (Frow and Payne, 2007; Schmitt, 1999), marketing activities on social media platforms is expected to create favorable brand experiences. Moreover, Verhoef et al. (2009) speculate that customers' initial experiences with a brand may influence their subsequent brand perceptions. Thus, the following hypothesis is derived:

H1: Compared to those with no purchase experience with a specific brand, consumers with brand purchase experience will perceive social media marketing activities of the brand more favorably; (a) entertaining, (b) interactive, (c) trendy, (d) customized, and (e) word-of-mouth leading.

H2: Compared to those with no experiences with a specific brand's social media sites, consumers with brand social media experiences will perceive social media marketing activities of the brand more favorably; (a) entertaining, (b) interactive, (c) trendy, (d) customized, and (e) word-of-mouth leading.

H3: Consumers with purchase experiences with a specific brand will evaluate the value of the brand higher than those without brand purchase experiences.

H4: Consumers with experiences with a specific brand's social media sites will evaluate the value of the brand higher than those without brand social media experiences.

Methodology

Data was collected through the administration of a structured questionnaire with a convenience sample of 345 undergraduate students. The sample composed of 47.2 % male, and 52.8 % female volunteer participants. The average age of the sample was 21.74 (SD = 1.52). University students were selected because the current generation of young adults are frequent users of online social networks (Wilcox and Stephen, 2013) and also are much more likely to use these sites than adults of thirty or older (Lenhart et al., 2010).

In the first part of the questionnaire, respondents were asked about their purchase and social media experiences with a specific clothing brand. Brand purchase experience (BPE) and brand social media experiences (BSME) were measured with yes or no items. Then participants were asked to indicate how involved they were with clothing product category on a four-item product category involvement scale (PCI) (Yoo and Donthu, 2001, $\alpha = .82$). They also rated the value of the brand on a four-item overall brand equity scale (OBE) (Yoo and Donthu, 2001, $\alpha = .90$). Next, following the pioneering research in social media marketing area, participants were asked to review a visual stimulus expressing the brand's social media marketing activities on its current social media sites (Kim and Ko, 2012). Afterward, participants were asked to indicate their perceptions of the brand's social media marketing activities on the following scales: a two-item entertainment ($\alpha = .94$), a three-item interaction ($\alpha = .87$), a two-item trendiness ($\alpha = .83$), a two-item customization ($\alpha = .86$) and a two-item word-of-mouth ($\alpha = .70$) scale (Kim and Ko, 2012). All items were assessed on a five-point Likert scale ranging from "1 = strongly disagree" to "5 = strongly agree".

Analysis and Results

The reliability of the scales was assessed using Cronbach's alpha. As shown in Table 1, the two-item measure of trendiness did not show acceptable reliability ($\alpha = .42$), and thus, a one-item measurement was used in the subsequent analyses: "Using this brand's social media is very trendy". All the other constructs yielded favorable results with a reliability level of 0.7 or above (Nunnally, 1994).

Table 1. Scale Item Numbers and Scale Reliability

Construct	Number of Items	Chronbach's Alpha
Entertainment	2	.78
Interaction	3	.83
Trendiness	2	.42
Customization	2	.76
WoM	2	.77
Product Involvement	4	.72
Brand Equity	4	.83

Data showed that although 82.3% of participants had purchase experiences, only 18.3% had previous experiences with the brand's social media sites. Results also demonstrated that respondents had a high level of involvement with clothing product category (M_{PCI} = 3.52, SD = .73).

Results for Brand Purchase Experience Effect on Consumer Social Media Marketing Perceptions

Consumers' social media marketing perceptions was examined by five one-way ANOVAs, with brand purchase experience as the factor and product category involvement as a covariate. Hypothesis 1 asserts that consumers with purchase experiences of a specific brand are likely to perceive social media marketing activities of the brand more favorably than those without this experience. Results indicated that there is no significant effect of brand purchase experience on social media marketing perceptions of consumers [$F_{entertainment}$ (1, 341) = .999, p = .318; $F_{interaction}$ (1, 341) = .270, p = .604; $F_{trendiness}$ (1, 339) = .053, p = .817; $F_{customization}$ (1, 341) = 2.775, p = .097; F_{wom} (1, 341) = .944, p = .332]. Therefore H1a, H1b, H1c, H1d and H1e are not supported at $p < 0.05$ level.

Results for Brand Social Media Experience Effect on Consumer Social Media Marketing Perceptions

Consumers' social media marketing perceptions were examined by five one-way ANOVAs, with brand social media experience as the factor, and product category involvement as a covariate. Results revealed a significant main effect of brand social media experiences of consumers on entertainment [F (1, 341) = 8.504, p =.004], trendiness [F (1, 339) = .6.887, p = .009], customization [F (1, 341) = 5.310, p = .022] and WoM [F (1, 341) = 22.518, p < 0.00] dimensions of the perceived social media marketing activities, supporting H2a, H2c, H2d and H2e. Compared to those without social media marketing experiences, consumers with these experiences perceived social media marketing activities of the brand as more entertaining ($M_{withBSMME}$ = 3.59, SD = .81 vs. $M_{withoutBSMME}$ = 3.20, SD = .85), trendy ($M_{withBSMME}$ = 3.15, SD = 1 vs. $M_{withoutBSMME}$ = 2.80, SD = .94), customized ($M_{withBSMME}$ = 3.44, SD = .81 vs. $M_{withoutBSMME}$ = 3.18, SD = .79) and word-of-mouth leading ($M_{withBSMME}$ = 3.44, SD = .86 vs. $M_{withoutBSMME}$ = 2.83, SD = .94). However, the effect of brand social media experiences on interactive dimension (H2a) is not supported [$M_{withBSMME}$ = 3.44, SD = .92 vs. $M_{withoutBSMME}$ = 3.31, SD = .82, F (1, 341) = .765, p = .382]. Results are depicted in Figures 1–4.

Figure 1. BSME Effect on Entertainment

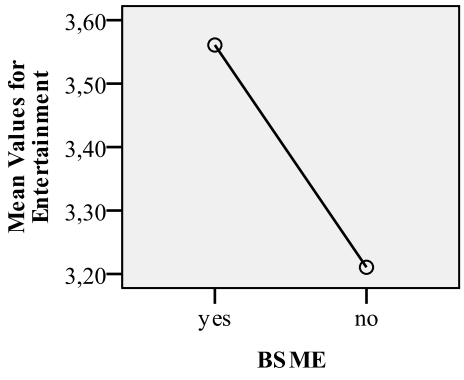


Figure 2. BSME Effect on Trendiness

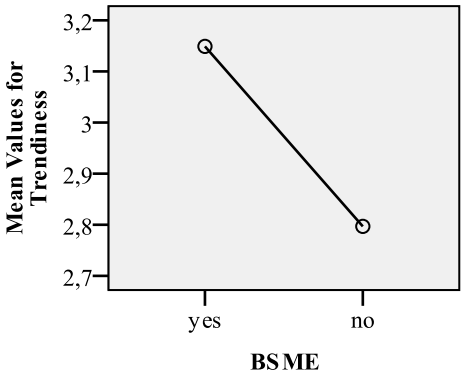


Figure 1. BSME Effect on Customization

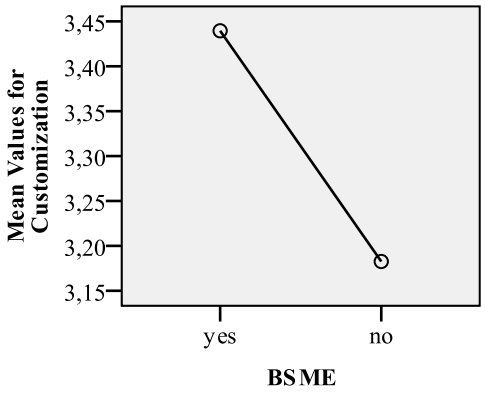
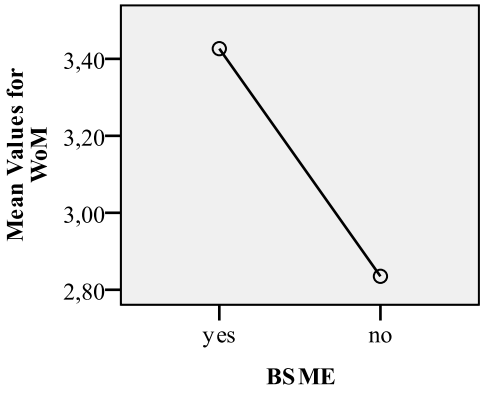


Figure 2. BSME Effect on WoM



Results for Brand Purchase Experience Effect on Brand Equity

The effect of brand purchase experience on brand equity was examined by a one-way ANOVA with product category involvement as a covariate. According to Hypothesis 3, it was anticipated that consumers with purchase experiences of a specific brand are likely to evaluate the value of the brand higher than those without these experiences. The results of one-way ANOVA test demonstrated consumers with brand purchase experiences ($M_{withBPE}$ = 2.84, SD = .74) had higher brand equity evaluations than consumers without any brand purchase experiences ($M_{withoutBPE}$ = 2.47, SD = .80) with F (1, 341) = 11.567, p < 0.00. Thus, Hypothesis 3 is supported.

Results for Brand Social Media Experience Effect on Brand Equity

The effect of brand social media experience on brand equity was examined by a one-way ANOVA with product category involvement as a covariate. Hypothesis 4 predicts that consumers with social media experiences of a specific brand are likely to evaluate the value of the brand higher than those without these experiences. As expected, consumers with brand social media experiences tend to attach higher values to the brand ($M_{withBSME}$ = 3.03, SD = .76 vs. $M_{withoutBSME}$ = 2.72, SD = .75). The results of one-way ANOVA test at p < 0.05 level showed that there was a significant difference between the consumers with and without brand social media experiences [F (1, 341) = 8.382, p =.004]. Results for H3 and H4 are shown in Figures 5 and 6.

Figure 5. BPE Effect on Brand Value

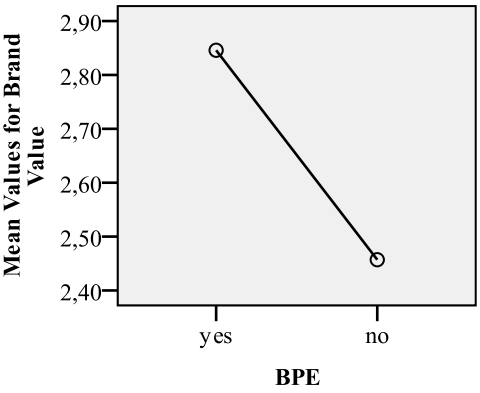
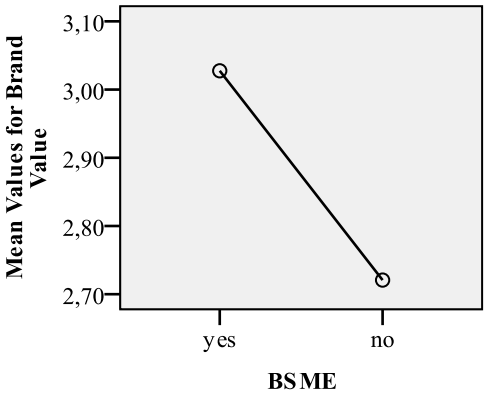


Figure 6. BSME Effect on Brand Value



Conclusion and Discussion

This study examined the influences of consumers' previous purchase and social media experiences with a specific brand on the brand's perceived social media marketing activities and overall value evaluations. The effect of brand purchase experience on customers' perceptions about the social media marketing activities of a brand was not significant. Future research, however, should further investigate the role of purchase experiences on consumer perceptions in the social media marketing context to determine whether, for instance, the interaction between brand purchase experience and brand attitude has a significant impact on the perceived

social media marketing activities of a brand by consumers. In addition, the results support the view that prior purchase experience with a brand has a substantial impact on brand value. This indicates that initial purchase experience has a substantial impact on brand-choice for subsequent purchases. The results also provide encouraging empirical support for the hypothesized effect of social media experiences on social media marketing evaluations. Experiences with a specific brand's social media sites is more likely to lead to an evaluation of the social media marketing activities as entertaining, trendy, customized and word-of-mouth leading. Additionally, the finding that social media experience is a determinant of brand value suggests that consumers with experiences with a specific brand's social media sites are likely to have a higher evaluation of the brand higher than those without. However, an important question that is yet to be answered is whether positive social media experiences influence customer perceptions and brand evaluations differently than negative social media experiences.

The results provides companies with new evidence highlighting the importance of creating customer experiences in developing favorable social media marketing perceptions and enhancing brand value. The findings point to the need for marketing managers to pay more attention to enabling customers to experience a brand on the social media landscape. As a consequence, a company not only needs to have a social media presence, but also to develop effective social media marketing activities, and also to optimize its social media marketing efforts to create customer experiences with the potential to produce more favorable brand perceptions and enhanced brand value in the future. Moreover, regarding the role of purchase experiences, findings suggest that customers evaluate a brand's social media marketing activities independently from previous brand purchase experiences. Thus, social media can be considered as a communication tool that allows marketers to engage in a new and different approach to the brand value creation process, which can reinforce other types of positive brand perceptions. In addition, a social media strategy needs to be integrated with other communication mix elements to promote interactions with target customers, and therefore, achieve various marketing objectives.

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Customer Satisfaction Role In World Health And Third Age Tourism Facilities As A Modern Facility Approach: Bolu Karacasu

Ahmet Emin Serin , Mehmet Onur Balkan[b] , Arzu Özkan[c], a*

[a,b] *University of Turkish Aeronautical Association, Ankara, 06105, Turkey*
[c] *Reasercher, Bolu,Turkey*

Abstract

In order to maintain a healthy life, to protect the health of the people and society of thermal tourism; to treat many diseases, stress and relieves fatigue and eliminating bodily physical treatment-is one of the most important parts of health tourism with care. According to statistics from the Ministry of Health, the tourism potential of advanced age persons, health tourism is seen as an important opportunity for investors. In particular, the developed countries have experienced improvements in human life together. For this reason, third age for countries that are in the age group of the tourism potential of high expectation. This mass is usually hot countries and health tourism holiday selection services are in accordance with.

The main purpose of the study is the to determine customer satisfaction for the third age tourism. In this respect, Bolu Province accommodating 120-customer survey applied to the thermal facilities in Karacasu, and interpreted the results. Analysis made in SPSS 16 the package program. According to the results of the analysis of thermal tourism and customers staying facilities within the scope of the third age tourism.

Keywords: Thermal Tourism, Third Age Tourism, Customer Satisfaction

1.Introduction

When the place of tourism sector in world trade and the position, which it will reach in the next term, are thought it is clear that all World countries will not be uninterested in tourism sector. Especially the significance of tourism sector is high for both the developing countries and the countries that have high touristic population. Tourism is business segments, which will realize in flow of foreign currency to the World countries that is essential for economic development, and it will create new line of business and it will make possible that their national income will advance.

As for that health tourism is defined as journeys that people make for the purpose of therapy. In other words health tourism is a kind of tourism that enables the health facilities to develop using the international patient potential with people who need rehabilitation and physical therapy. The main subject of this study, third age tourism, is the journeys that are made to different countries by people who are over a certain age and mostly they put an end to their work life, namely retired people who left their hometown.

In the third age tourism, increasing the demand is in direct proportion to customer satisfaction. Customer satisfaction is a phenomenon that is connected with meeting the needs of customers at what rate. Customer satisfaction takes place on the top of the key concepts that should be dwelled on with regards to a sustainable profitability with the impact of the raising competition conditions. The main purpose of economic activities is providing benefit and pitching or serving to fulfill the needs of the anticipators. The business firms that are qualified in the way of economic unit also continue the activities in accordance with the same purpose. So, the

* Corresponding author. Tel. + 90-312 444 84 58=6137
E-mail address: obalkan@thk.edu.tr

weighty matter is the delivering of the best quality service to the customers after determining their progressively varying expectations and as a result of it, it is the providing of customer satisfaction.

In the third age tourism services, the evaluating of customer satisfaction and the determining of customer demands in this point will affect positively the third age tourism activities of Turkey. The third age tourism and customer satisfaction will be analyzed in this study.

2. Literature Review And Hypotheses

2.1 Health Tourism

In today's our globalizing world, health tourism is an acquiring awareness of consumer about the problems that occur in country healthcare systems and is a fast growing sector as a result of EU Dynamics. As an exclusive definition, health tourism is a notion that holds both holiday factors and treatment factors together (Yıldırım, 2006).

Health tourism is a tourism movement that occurs as a result of participating in health tourism where people go and changing of their places wishing to cope with health problems to benefit from the values as climate, mud, cave etc. (Ülker, 1988). As for another definition, it is expressed that people who go to a tourist facility where has natural sources on the purpose of sanitation and recruit. They change their places for a period of time (this time is generally 21 days.) It is an event and interaction as a result of satisfying with the people's needs in health cure, accommodation, nutrition and entertainment (Kahraman, 1978).

Health tourism is defined as journeys that people make for the purpose of therapy. In other words health tourism is a kind of tourism that enables the health facilities to develop using the international patient potential with people who need rehabilitation and physical therapy. Health tourism aims to enable medical opportunities fort he purpose of comforting the patients and their relatives. In accordance with the high level of education and welfare, delivery of health care is fairly high cost (The Ministry of Culture and Tourism website).

To have qualified health tourism, these following standards are needed (The Ministry of Culture and Tourism website).

- Health care service that has ethical values.
- Health care service that can be reached easily in terms of economic and physical service.
- Acculturation between the people who need health care service and the result of health care service.
- Physical standards.
- Sufficient medical technology.
- Transfer and transportation Technologies
- Staff standard
- Utilization of health insurance.

One of the most important notion is thermal. Thermal's etymon comes from German. It transferred to Turkish. It is known as being equaled to spa and hot spring in Turkish.

According to the World Federation of Thermalism and Climatism (FITEC) it is explained as hot minerals waters which contain carbondioxyde gas and mineral at least one gram in one liter water as solution and their existing heat is over 20° C (Ülker, 1988).

India is placed on the top where the countries have important roles in health tourism all around the world. Approximately 150.000 tourists come to India fort he purpose of health tourism every year (Yıldırım, 2004). The reason why India is such a popular country is they can advertise their features in low cost.

2.1.1. Thermal Tourism

In order to maintain a healthy life, to protect the health of the people and society of thermal tourism; to treat many diseases, stress and relieves fatigue and eliminating bodily physical treatment-is one of the most important parts of health tourism with care. It is a kind of tourism that people apply it to recuperate, to have a healthy life going on holiday by leaving their hometown. They utilize the services such as accommodation, cure-health and refreshments in thermal tourism facilities.

The definition of thermal tourism for the Ministry of Tourism is a tourism movement to have cure with the treatment such as physical medicine and rehabilitation under senior physicians audit and schedule to contribute in human life positively with mineral waters, muds, the factor of environment and climate near the resource.

Some thermal tourism centers only offer people health service. In these centers there aren't any activities except from health cure in general. Whereas health cure centers set off in just one department of the facility in some thermal tourism centers. Out of this department there are entertainment, recreational and social units (the

Ministry of Tourism, 1993, 13). The first thermal tourism centers that are abovementioned don't do their activities by themselves. There should be refreshment, recreation and accommodation along with the health care service to have thermal tourism (Özbek, 1991).

Thermal tourism takes place near the top of the alternative tourism in terms of health, having all the year round, being able to be integrated with other kinds of tourism, spreading to different regions, the long period of stay and the height of the mean load factor.

Thermal tourism is for to protect people's health for the purpose of maintaining the healthy life. It is one of the most important parts of the health tourism in terms of treating plenty of diseases, removing stress and physical fatigue and having physical therapy and care features.

2.2.Third Age Tourism

Third age tourism, is the journeys which are made to different countries by people who are over a certain age and mostly they put an end to their work life, namely retired people who left their hometown. People who are in this age group take care of the proper climate conditions in the region where they travel, the extensity of health care services, cheapness and the transportation opportunities.

According to the statistics the tourism potential of elderly people is seen as a significant opportunity by health tourism investors. Human life has been extended by means of medical developments especially in developed countries. For this reason, this mass has a high potential for the countries where people have expectations about third age tourism. The choice of this mass is generally hot countries and health tourism services.

One of the effective elements of tourism demand is the population age structure. Third age tourism notion is known as having people aged 55 years and over (in different world countries, it is expressed as people aged 50 years and senior tourism.). It takes place as a ready market for the countries that are in tourism industry leading.

The rapid population ageing all around the world increases the rate of the population as a whole. The generation which is aged 55 years and over consists of well – educated people and their expectations and awareness's have been recently high. That's why; they demand preventive health care more than other people. Furthermore, this mass has all the chronic diseases at most. Therefore, this mass has the most expensive treatment cost in society. On the other hand, third age mass has a new tourism market that has a lot of opportunities because of their income level.

According to researches, there `are 125.000.000 elderly populations in Europe. Today, six to ten people aged 55 years and over live in developed countries and this rate will be eight in 2050.

The cost of care service of elderly people or their cost for insurance company is approximately 2500 Euro per month whereas it is 7500 Euro per month in England. The mass of this age imposes heavily to these insurance companies because of these high costs. Turkey can decrease the cost while offering service without reducing the quality.

According to the Turkish Statistical Institute, the rate of elderly mass and the absolute count of them is not limited not only in Turkey but also in developed countries such as USA and EU countries. At the same time if we factor in elderly population who live in the Balkans, in the Middle East and in other contiguous country, Turkey is has a more important potential role in terms of health tourism.

People who are aged 50 years and over creates third age tourism has more different reasons to travel than people who belong to the other masses. It is the whole relationship between the journeys that is made by people aged 50 years and over except from the places where they work, live and fulfill their needs and the accommodation that demands goods and services while they are travelling. This accommodation has a certain and temporal time period.

Tour organization and unauthorized retired people generally attend in third age tourism. Furthermore, people who haven't been retired yet were determined to attend in this tourism. Especially, the retired mass that lives in northern Europe wants to have a vacation in warm countries. This offers third age mass to take a holiday in low-cost accommodation places in off- season.

2.2.1. The Occurrence of Third Age Accommodation Facilities

The world population increased as a result of the reformation in the area of social and health affiliated with the significant advances in economy and technology in 19th and 20th century. The differences that can be named as demographic earthquake in their population structure occurred correspondingly to this increasing.

It was advised to the Assembly of World Ageing and the members of EU that they should take required precaution against grey – haired movement in Viana in 1982 and in Madrid in 2002 (The Health of Ministry, 2013).

The rapid population growth process in developed West countries after World War II transferred to low birth rate and the population who is ageing day by day. Today's developed countries, the population that is aged 65 years and over has reached % 20 – 25 and it is estimated that the elderly population percentage in the population as a whole will reach % 50 (Selvi, 2008).

Approximately 10.000.000 people who live in Europe take place in people aged 60 and over whereas according to the statistics in 2010 world population average is about % 24. People who are in mentioned age group are generally interested in nature and hot air countries.

2.2.2 The Features of Third Age Accommodation Facilities

People who are in third age tourism prefers these attendants compartment (www.saglik.gov.tr, 2013)

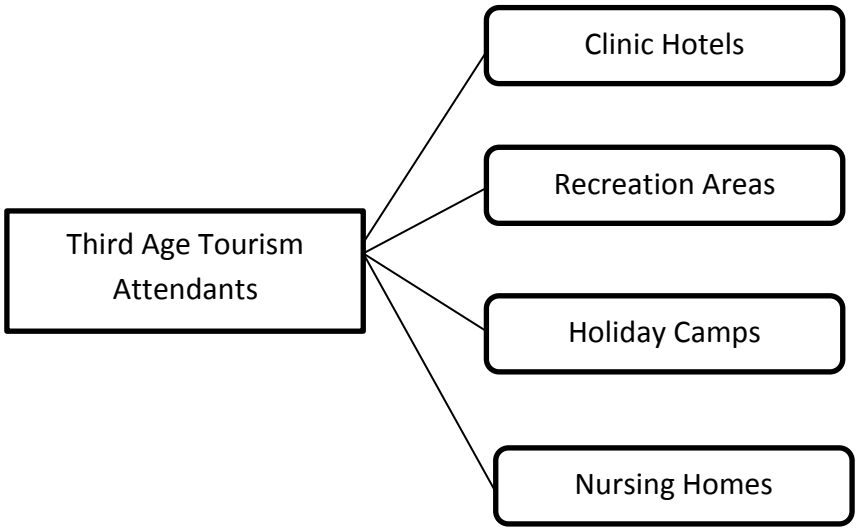

Figure 1. Third Age Tourism Facilities

The number of journey and overnight stay is showed on table 1.

Table 1 The mass aged 65 and over's overnight stay

Years	The number of travelling (Bin)	The number of overnight stay (Bin)	Average number of overnight stay
2009	714	9 191	12,9
2010	855	14 651	17,1
2011	875	14 632	16,7
2012	604	11 039	18,3
2013	873	14 254	16,3

Source, The Ministry of Tourism http,//www.ktbyatirimisletmeler.gov.tr/TR,9857/isletme-belgeli-tesisler.html, Erişim,24.10.2013

People who are the member of third age tourism stayed overnight at most in 2010. The most travelling were made in 2011.The rate of the mass aged 65 and over's overnight stay number is showed on format 2.1. According to this, their numbers are:

12,9 in 2009
17,1 in 2010
16,7 in 2011
18,3 in 2012
16,3 in 2013

2.2.3.The Functions of Third Age Tourism

It is known that natural spring waters and muds of this water have been used for centuries. The effect of biologic and climatic environment, the usage of mud and thermal water both for therapy, the usage of psychotherapy, physiotherapy, diet and rehabilitation programs until today (Talor vd. 1992).

The most curious group that is interested in thermal springs is undoubted third age group. Its reason is their incurable disease's occupation. The elderly group accepts healing waters, thermal springs and hot springs as an alternative solution. People who live in developed countries partly want to live longer. While this group is getting older, their health problems are increasing, the amount money that is separated from their income (Sola, 1992). Accommodation and health cure expenses are high. Quotations are over the world average.

2.3.Customer Satisfaction

Customer satisfaction is a phenomenon that is connected with meeting the needs of customers at what rate. Customer satisfaction takes place on the top of the key concepts that should be dwelled on with regards to a sustainable profitability with the impact of the raising competition conditions.

Oliver (1997) expressed customer satisfaction is a delighting satisfaction consideration related to the consumption including the level of satisfaction and dissatisfaction of a good or a feature of service or itself. (Duman, 2003)

The main purpose of economic activities is a benefit and services these benefits to meet the anticipators' needs. The units that are qualified each economic unit. (Öztürk and Seyhan, 2005).

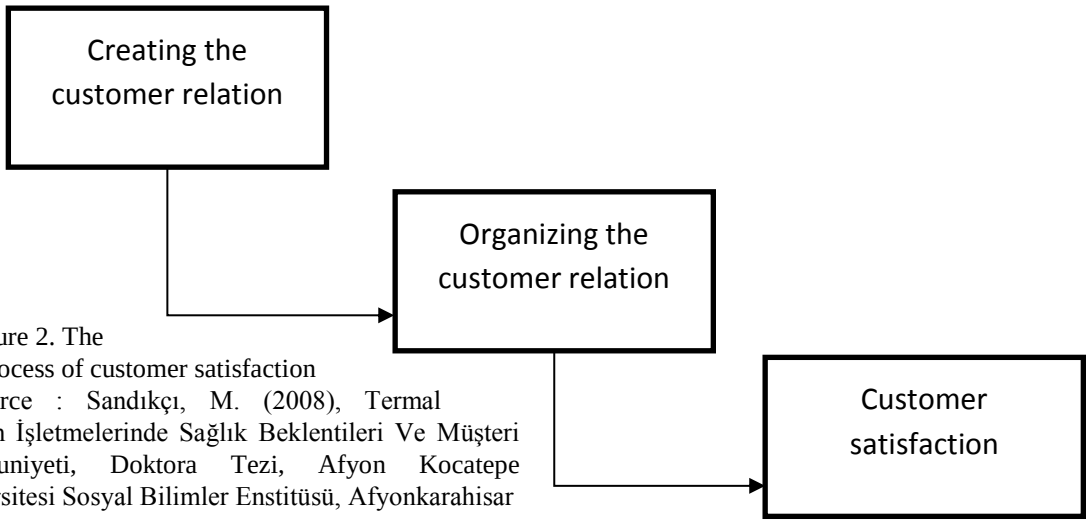

Figure 2. The process of customer satisfaction

Source : Sandıkçı, M. (2008), Termal Turizm İşletmelerinde Sağlık Beklentileri Ve Müşteri Memnuniyeti, Doktora Tezi, Afyon Kocatepe Üniversitesi Sosyal Bilimler Enstitüsü, Afyonkarahisar

2.3.1 The Importance of Customer Satisfaction

In globalizing world, the increasing level of awareness of customer and the attitudes to have steady customer accelerated the study rate of customer satisfaction. The customer awareness with the increasing educational level is one of the elements to give importance to customer satisfaction. The rapid effect of society on the subsystems, the increasing of international competition with liberalization and territorialization, the advances with the usage of relation marketing and quality motions are the factors that caused to give importance customer satisfaction.

Until today's condition, there has been many studies concerning the customer satisfaction about marketing, psychology, accounting, management and economy and it has become one of the premium elements which has been thought by marketing experts

The inclusion of touristic consumption either goods or service, the abstract services and the concrete goods affect the tourist attitudes. According to researches, it is seen that consumers use powers while evaluating under the competition conditions, being exposed to high risk because of the purchasing service before production, the more importance of individual information source and the acceptance of price as a standard (Kılıç and Pelit, 2004)

2.3.2 Consumer Satisfaction in Service Sector

In recent researches about the factors that assessed consumer satisfaction in service sector, the relations generally burst into prominence (Salah and Ryan, 1995). The researches in service sector shows that laboring satisfaction can affect the quality of the service, the customer satisfaction and loyalty, the business success and strength implicitly or explicitly. (Kuşluvan et al., 2005).

The realization of customer satisfaction in service sectors is possible firstly confirming the consumer request and expectation In this respect, empathizing with customers, planning service for customer expectations, the realization of continuous improvement in service sector and the institutionalizing the teamwork are needed (Bektaş, 2001)

2.3.3 Customer Satisfaction in Accommodation Sector

Accommodation sector is one of the sectors in a few sectors that contain tourism and travel industry. People's tendency to travel is increasing day by day because of the increasing of per capita income, globalization and technological advance, decreasing of man- hour. This case causes the business firms to become worthy firms in accommodation (Tarlan and Tütüncü, 2001). Conditions of competition are becoming difficult in developing tourism sector day by day. At the present time customer satisfaction has become compulsory in the sense of giving better performance of managers and tourism investors than their opponents (Öztürk and Seyhan, 2005).

The senior management in business firms explains that they should perform some studies that offer counseling services to them to do business activity considering the customer. These studies can be reflected in that way (Vranesevic, 2002):

Listening to customer
Describing customer carefully
Customer focused activity
Managing in the face of customer expectations
Providing customer relations and loyalty

2.3.4. Customer Satisfaction in Tourism Sector

The quality of service, which is extremely important in the continuity of tourism establishment, is increasing its importance day by day. The high level of tourist's expectations and the difficulties of competition conditions are increasing the importance of struggle which is about the quality of sector in tourism sector (Akbaba and Kılınç, 2001)

The case of satisfaction and dissatisfaction in tourism sector is for the customer's satisfaction and dissatisfaction in all facilities. But intended facility changes from one customer to another. For instance; if a hotel provides service to third age tourism, these services cannot be for the young. Therefore, the goal and plans of marketing should be presented clearly for the purpose of customer satisfaction (Kızılırmak, 1995).

2.4. Customer Satisfaction in Thermal Facilities

The maintenance of thermal facilities is related to the high quality and customer satisfaction. Thermal facilities that take place an important role in tourism sector is rapidly renewing in keeping with today's conditions and they are increasing the tourists' expectations continuously. Getting the demanded service of tourists and being pleased with these services are increasing their level of satisfactory (Öztürk and Seyhan, 2005).

The customers mentioned that they feel satisfactory with all services in thermal facilities. The goal and plans of marketing should be presented clearly for the purpose of customer satisfaction (Kızılırmak, 1995).

Development of Hypotheses

The main purpose of this study is the determination of customer satisfactory within third age tourism in thermal tourism.

The sub goals of this study are:

- *The determination of customer satisfactory depending on gender in thermal and third age accommodation facilities.*

- *The determination of customer satisfactory depending on age in thermal and third age accommodation facilities.*

- *The determination of customer satisfactory depending on educational background in thermal and third age accommodation facilities.*

- *The determination of customer satisfactory depending on monthly income in thermal and third age accommodation facilities*

Sample and Data Collection

. The target population of the study is the customers who came to Bolu Karacasu Thermal Facilities. Questionnaire form was conducted to the customers once a week in thermal facilities between 01.10.2013 and 30. 10. 2013. 150 people came to these facilities on these days. 130 people conducted the survey but 120 questionnaire forms were accepted because of the missing information. Data produced in this study were collected by survey. The survey consisted of three measures. In the first part questions about the demographic characteristics participants; in the other part questions designed to measure customer satisfaction were asked.

Analyses and Results

The questionnaire consists of 18 questions. The first four questions are composed of the demographic questions of participants; the residual 14 questions are composed of the thermal tourism expectations and satisfactions of participants.

The data analysis was made in SPSS 16 package program. While analyzing data, descriptive statistics, frequency, percentage, average, standard deviation were used. Also, the chi square test was used to determine the relation between the consumer satisfaction and the demographic variables.

Table 2 Indications related to gender

	Frequency	%
Female	56	46,7
Male	64	53,3
Total	120	100,0

When making a study of age profile of in house- guests, %68 of the male seen as people aged 46 and over. When making study of the educational background of them, it is seen that %30,8 of them were graduated from upper secondary school and %26, 7 of them were graduated from high school. When making study of the monthly income of them, it is sees that %44,2 of them earn 1501-3000 TL and %29,1 of them 3001-5000 TL.

When making a study of participants' reasons to choose thermal facility, %29,2 of them chose it at the recommendation of their friends; relatives and %8,3 of them chose it themselves.

When making a study of the goal of participants to come thermal facility, %43,3 of them came for the purpose of resting and % 36,7 of them came for the purpose of medical therapy. Participants chose it majorly for the purpose of resting and medical therapy. In point of tourist's ages, their choices for the purpose of medical therapy facility is very common.

The importance of front office for participants was surveyed. Participants gave over 4.5 points to the front office services in from 5 to 1 rating. This case showed that the participants attach more importance to the front office services. Nevertheless, the consumer satisfaction with facility is lower to the degree of the importance. Customers didn't satisfy with facility in relation to the degree of their importance.

The satisfaction of the elderly people and the people who want to be pleased is one of the most important reasons of customer loss. The satisfaction of customer's increases the customer demand and the level of reliability of facility.

Table 3. Demographic variables and customer satisfaction chi square test

	Chi square test	Importance level
Gender	2,541	0,453
Age	12,452	0,020
Educational Background	4,364	0,241
Monthly Income	10,754	0,034

The relation between the demographic variables and the consumer satisfaction was analyzed by chi square test. According to this, it was confirmed that there is a semantic relation between age, income and customer satisfaction ($p < 0,05$). The more the age of customers gets along, the more their satisfaction increases. In a similar manner, the more the monthly income of customers' increases, the more their satisfaction increases. When individuals who are well on life and have high monthly income, they choose more qualified thermal tourism accommodation facilities and so their satisfaction increases. Besides the people who stay in third age tourism have more customer satisfaction than others.

Conclusion

Accommodation sector is one of the sectors in a few sectors that contain tourism and travel industry. People's tendency to travel is increasing day by day because of the increasing of per capita income, globalization and technological advance, decreasing of man- hour. This case causes the business firms to become worthy firms in accommodation. Conditions of competition are becoming difficult in developing tourism sector day by day. At the present time customer satisfaction has become compulsory in the sense of giving better performance of managers and tourism investors than their opponents. The maintenance of thermal facilities is related to the high quality and customer satisfaction. Thermal facilities that take place an important role in tourism sector is rapidly renewing in keeping with today's conditions and they are increasing the tourists' expectations continuously. Getting the demanded service of tourists and being pleased with these services are increasing their level of satisfactory. The goal and plans of marketing should be presented clearly for the purpose of customer satisfaction.

According to the statistics the tourism potential of elderly people is seen as a significant opportunity by health tourism investors. Human life has been extended by means of medical developments especially in developed countries. For this reason, this mass has a high potential for the countries where people have expectations about third age tourism. The choice of this mass is generally hot countries and health tourism services. One of the effective elements of tourism demand is the population age structure. Third age tourism notion is known as having people aged 55 years and over (in different world countries, it is expressed as people aged 50 years and senior tourism.). It takes place as a ready market for the countries that are in tourism industry leading.

The rapid population ageing all around the world increases the rate of the population as a whole. The generation which is aged 55 years and over consists of well – educated people and their expectations and awareness's have been recently high. That's why; they demand preventive health care more than other people. Furthermore, this mass has all the chronic diseases at most. Therefore, this mass has the most expensive treatment cost in society. On the other hand, third age mass has a new tourism market that has a lot of opportunities because of their income level.

In this study, customer satisfaction level was tested that people who stayed in Bolu Karacasu Thermal Facility. The customer satisfaction level in thermal tourism and third age tourism was tried to be determined within this study. These results were obtained within this research:

The participants' satisfaction is fairly high related to accommodation facility.

When individuals who are well on life and have high monthly income, they choose more qualified thermal tourism accommodation facilities and so their satisfaction increases. Besides the people who stay in third age tourism have more customer satisfaction than others.

The general customer satisfaction is high although their importance level is low in thermal tourism and third age tourism. Also the level of customer satisfaction of customers who accommodate in third age tourism is high more than other customers.

The customers who preferred to have a vacation in Bolu Karacasu Thermal Facility gave importance to the accommodation services. The advanced level of customers increases the level of customer satisfaction.

The customers' own choice to have a vacation in accommodation increases the customer satisfaction level. The customer satisfaction level of Bolu Karacasu Thermal Facility is fairly high. There have been any complaints about this facility so far. This case shows that Bolu Karacasu Thermal Facility gives importance customer satisfaction.

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The Impact of Information Technology on Construction Project Management Success

Nassim Aryani[a] , Ramin Farmani[b] , farhad nejhad irani[c], a*

[a,c] *Mahabad Branch, Islamic Azad University, Mahabad, Iran*
[b] *Shoushtar Branch, Islamic Azad University, shoushtar, Iran*

Abstract

Uncertainty in Project Management Success has been the attention of researchers. Also Information Technology because of its unique potentials has been more attention in recent years. This research attempts to consider the Effect of Information Technology on Construction Project Management Success by SEM Method. An empirical study of 38 construction contract firms in West Azerbaijan province is analyzed by structural equation modeling to predict the Project Management Success with Information Technology. The results indicate that Information Technology has direct and positive on Project Management Success. Complex relationships are apparent between the different types of Information Technology. Further research is needed to understand how firm and situational variables interact in different service settings.

- *Keywords:* Information Technology, Project Management Success, Cost Management, Time management, Quality Management

Introduction

One of the most common problems in construction projects is Uncertainty. This problem has enormous costs and problems for construction companies and if the project belongs to a government Organization will lose national resources. So the cost of project is the most critical issue to discuss and other issues must do by attention with this. Total cost management includes resource planning, costs estimate, budgeting and cost control is most concerns For project planners and has a vital role in project management success. One of the most important reasons that projects don't be success while have planned budget and schedule is that they don't use systems and methods of project management, in time techniques and best instruments. Sometimes, because of competition between contractors and limited budget of shareholders and planners, doing the projects with stress. That this stress takes long in the project process until lead to job burnout (pinto et al., 2013). So construction project management success is so important to its clients. Most researches in the field of project management success, introduced the various criteria in this matter. Some of these criteria are expert project manager, Committed to finishing the project, careful planning of project operations, suitable information exchange (Mans & Bejormi, 1996), interaction with contactors and other partners (Anderson et al., 2009). In this regard, Information technology can help construction engineering and project management. Nowadays systems have been devised technology that simplifies the integration of a multitude of information, reducing the time to share knowledge and information(Pearsi & Gueniper, 2008), Achieve better control costs, increase productivity and efficiency(Negi et al., 2011), Rapid increase product innovation, flexibility and advanced management capabilities(Biskiley, 2007). Management Backup systems, computer mapping systems, software project planning and scheduling programs, remote control systems, simulation systems, construction and supply and logistics systems are applied tools in Project process(Golabchi & Alenabi, 2007). According to what was said, this paper wants to answer this question: how can information technology can influence the construction project management success and its criteria? Knowing this can help us to understand the role of IT in project scheduling,

* Corresponding author. Tel. + 90-262-605-1426 fax. +90-262-654-3224
E-mail address: m.ozsahin@gyte.edu.tr

costs controls and increasing efficiency and quality, Understanding the behavior and success of the project and ultimately due flexible project management.

Literature Review And Hypotheses

Project Management

A project is a temporary endeavor undertaken to create a unique product or services. Temporary means that every project has a definite beginning and a definite end. A product or service produced may be unique even if the category to which it belongs is large. According to PMBOKw (2004) project management is the application of knowledge, skills, tools, and techniques to project activities to meet project requirements. Project management is accomplished through: (1) Initiating. To authorize and define the scope of a new phase or project or that can result in the continuation of halted project work. (2) Planning. To define the mature the project scope, develop the project scope, develop the project management plan, and identify and schedule the project activities that occur within the project. (3) Executing and controlling. To complete the work defined in the project management plan to accomplish the project's objectives defined in the project Statement. (4) Closing or completing. To formally terminate all activities of a project or phase and transfer the completed product to others or close a cancelled project. The project team manages the work of the projects, and the work typically involves: completing demands for scope, time, costs, risks, and quality; stakeholders with differing needs and expectations; and identified requirements

Information Technology and Construction project management

There is a positive relationship between IT adoption and organizational performance in the construction industry. For example, Construction Industry Institute (CII) and the National Institute of Standards and Technology (NIST) empirically examined the impact of IT adoption and found that cost and schedule performance improve with increased IT use (Thomas 1999; Thomas et al. 2001). Similar to these studies, Kang et.al (2008) employed CII data from 139 projects from 74 companies examining the impact of IT adoption and project performance. Their findings also supported previous studies that level of IT adoption positively associated with improved performance. It is not sufficient to simply select the appropriate technology and implement it throughout an organization. According to Hussain and Wearne (2005), the construction and defence industries have adopted project management technologies to deal with the growth in scale, complexity and financial risks of capital projects, yet the number of defence projects that fail or blow out in terms of time and budget is well publicised. While Yang (2007) maintains that the use of technologies to enhance project performance has been widely supported, simply having innovative information technologies does not guarantee a project will be delivered on-time or within budget.

Guss (1998) also found that project management professionals are inclined to be at different phases of acceptance and willingness to change in relation to adopting, planning and communicating information technologies. Often existing project management materials are too technical for the novice project manager and team (Longman and Mullins, 2004). The benefits of project management tools such as information technologies do not appear to justify the investment of time and energy and in some cases project managers perceive these technologies to be unproven or ineffective (Longman and Mullins, 2004; Guss, 1998). It is critical that project managers in the construction industry continually seek innovative information technologies to overcome limitations and inefficiencies in managing projects. However better information technologies alone will not ensure more effective management of projects. It has been argued that user acceptance is a critical success factor for technology implementation and can be tested and predicted by several factors (Hu et al., 1999).

Information Technology and Dimensions of Project Management Success

Cost management, including planning, budget estimate and control project costs (Saadat, 2007) that is one of the main requirements in the implementation of a project development management. So main and sub contractors must provide accurate estimate of the costs to determine the financial needs of the project. It is effective in determining the success of a project that a tender must be conducted to determine the price and concession project before getting contract and the beginning of the project. Then to ensure that the actual cost of the materials does not exceed the rigorous and disciplined accounting should be applied in the project. A survey was conducted in 1999 by the Central Union Building, showed that 44% of main contractors, sub-contractors

and 65% of the component, and 68 percent of the metro for estimating costs of computer programs they use. Various Computer estimates are divided into two groups: 1) Spreadsheet programs provided on request and 2) Estimating software packages on the market. Time management processes required to ensure on time completion of projects approved. The main processes of Project Time Management are as follows: Defining activities: identifying the specific activities that can be done to get the results of project activities. Sequence of activities: identify, develop dependency relationships between the activities. Estimating Time of Activities: Estimate the number of periods is required to perform each activity. Preparation Scheduling: Dependency analysis activities and resources required for each of them to create the project schedule.
Scheduling control: activities control of changes in project schedules and perform corrective action. Given the importance of time, the project manager should be familiar to all causes and due to delays in the project (Istick et al., 2009) And systems and software for integrating, planning, scheduling and control is designed. These systems along with time management, work progress monitoring compliance with the schedule, enter the information about the start and end dates of the actual activities, control how program activities to the program and compare the actual activity with the baseline data, the processes are responsible for construction projects(Golabchi & Alenabi, 2007). Project planning and scheduling system processes led project control and more in order to achieve the least possible time.

Quality management is a process improvement and consumer-oriented approach to management (Ovax & Vestcut, 2001) and its processes, including planning, assurance and quality control (Buda et al., 2008). Construction companies improve work quality and client satisfaction or their customers are in the TQM approach. Rid and Sunders (2007) expressed:" Quality means meeting customers' demands and needs them more than anyone in the organization through an integrated effort". This integrated effort is called Total Quality Management. Also time, cost, and change are important factors of Total Quality Management that Information technology integrates and supports them to make strategic decisions(Jisejiliskey et al., 2013), accelerate response time to unexpected events and changes(Annjesel, 2009; Mondragen, 2004) and adaption with this changes to decrease the costs(Konoby, 2009).

Many studies have been done project management success and its influencing factors. Each of them considered different factors in project management success. Hushmandzade & Zabetian(2005) showed that changes are at work in progress, can lead to increased costs, reduced productivity, time delay and waste materials of duplication. Saadat(2009) noted that success of many projects depend on managing costs and control them. Walker and Vinks(2000) showed that Indicators of quality management, human resource management, risk management, cost management, supply chain management, claims management, schedule management, knowledge management and safety management and has direct relationship with Project Management success. Ologobd et al., (2007) indicated that introducing a new business using IT cause productivity and profitability of the organization. Kuray and Polody(2000) showed that Outsourcing of information technology as a tool and a commodity that may be obtained from the market and is a competency within the organization.

Development of Hypotheses

The hypotheses of this research are following:

H1: IT has a positive and significant impact on the successful management of construction projects.
H2: IT has a positive and significant impact on the costs management of construction projects management.
H3: IT has a positive and significant impact on the time management of construction projects management.
H4: IT has a positive and significant impact on the quality management of construction projects.

Methodology

Measures

The survey measures was a questionnaire that consisted of two parts: questions of information technology and project management success. To determine the values of survey questions, the Likert scale was used from strongly agree to strongly disagree. To assess the validity of the questionnaire, approval by experts and professors and so the questions of this research are valid. The reliability of the questionnaire, with Cronbach's alpha for IT and quality management is 0.75 and 0.90 respectively.

Sample and Data Collection

The population of this research is the employees of administrator and technical departments of contracting companies in the West Azarbaijan province. With random Sampling, 38 companies were selected for the study. To analyze collected data, descriptive and inferential statistical methods were used. Descriptive statistics were used to describe the parameters of the mean and standard deviation and in Inferential statistics, Structural equation modeling (SEM) by PLS method was used for estimating path coefficients (Beta) and testing the hypothesis. To calculate the significant of path coefficients and gain T statistic, self-test test and Q2 index of Stone-Geisser, fitting index of PLS, were used. For this, we used the SPSS, PLS SMART and VISUAL PLS software.

Analyses and Results

Descriptive indicators variables including mean, standard deviation, skewness and kurtosis have been reported in Table I. Kline (2011) suggested that in causal modeling, absolute value of skewness and stretching variables shouldn't be greater than 3 and 10 respect. As shown in Table 1, absolute value of skewness and stretching of all variables are less than 1 so the causal modeling is established.

Table 1.Descriptive indicators variables

Variable	Mean	Standard Deviation	Skewness	kurtosis
Information Technology	2.95	0.77	0.18	0.21
Project Management Success	3.45	0.68	0.24	0.16

For the validity of each item in the confirmatory factor analysis equal or more that 0.7 indicates that well-defined structures (Ferner & Laker, 1981). Since PLS Unlike ordinary regression uses factor scores of subjects for analysis, it is necessary to consider the factor loadings of each item in calculating credit index. However, the Cronbach's alpha coefficient gives equal weight for all items and show low credibility so we used ρc coefficient. Acceptable values of ρc are 0.7 or more than it (nonaly, 1987). Ferner & Laker (1981) suggest 0.5 and more for AVE and this means that the structure is about 50% or more of its attributes explain variance. Factor loadings of variables, AVE and ρc are shown in Table 2.

Table 2. Reliability of Variables

Independent Variable	Factor Loading	Depended Variable	Factor Loading
Information Technology	0.87	Project Management Success	0.69
		Cost Management	0.82
		Time Management	0.79
		Quality Management	0.78
Average Variance Extracted.	0.62		0.59
ρc	0.81		0.78

Forecasting Success Components of Project Management by IT

For Forecasting Success Components of Project Management, The proposed conceptual model through structural equation model and review the purposes of the study, partial least squares method was used to estimate the model. Structural model in PLS software testing research hypotheses by examining the path coefficients (Beta) and R2 values are possible (Vinzy et al., 2010; Vichin, 1998). Firstly, we designed a model to demonstrate a significant information technology can successfully predict the quality management then, another model to further investigate the effects of hidden variables also were directly exert influence.

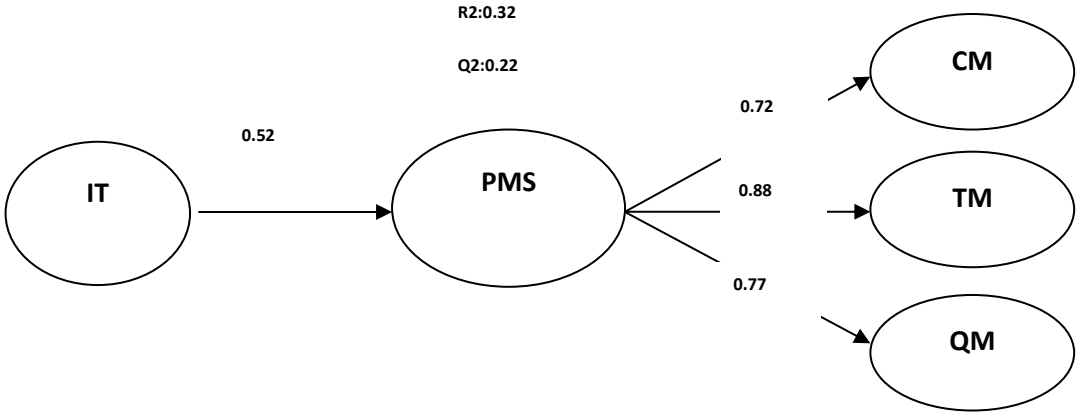

Fig 1.Tested Model

According to Figure 1, the direct effect of IT on project management success is 0.49.T-statistic corresponding to the coefficient Route 7.45 and in 0.001 is significant. IT explains 28% of project management success changes. Q2 Index of project management success is 0.19 that is positive. So we can say that IT significantly able to predict the success of project management.

Direct Effects

The model tested in this study is shown in Figure 2. According to this figure, all the direct routes in 0.001are significant.

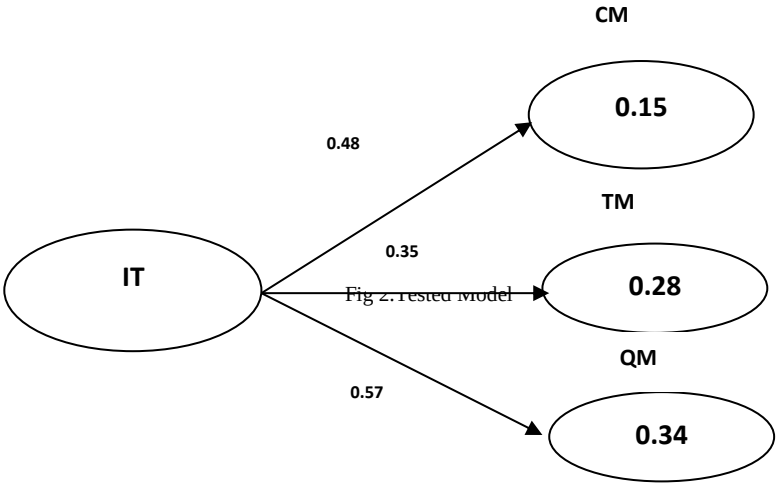

Fig 2.Tested Model

According to the above chart, all variable direct effects of information technology on cost management (0.48) at T-statistic is 10.20, planning (0.35) at T-statistic is 5.69 and focus on customer (0.57)at T-statistic is 8.32 are positive and in 0.001are significant. According to the figure, the numbers inside the circles as the dependent variable variance explained by the independent variables are the IT variable; this variable explains 15% of the variance in cost management, 28% of time management and 34% of quality management.

Evaluation of Fitting the tested model

Overall |Fitting Index in PLS method is GOF12 and can be used to evaluate the validity or quality of PLS in general. This index is similar to LISREL model fit indices and values are between zero and one and value close to one shows is a indicator of the quality of a model are appropriate quality of model(Vinzy et al., 2010). In this study the tested fitting index is 0.77 that shows appropriate quality of tested model.

Hypotheses tests

According to the study findings, we consider the hypotheses. According to Table 3, all hypotheses, with 0.999 reliability are confirmed. In all hypotheses T-statistic indicates the affect of independent variable on the depended and latent variables in $p<0.001$ and Impact of structures and variables relationship is obtained by coefficient of determination(R Squares) and Path coefficient(B).

Table3. Results of Research hypotheses

Path	B	T	R2
IT ⟶ PMS	0.52	5.32	0.32
IT ⟶ CM	0.48	10.02	0.28
IT ⟶ TM	0.35	5.69	0.15
IT ⟶ QM	0.57	8.32	0.34

Conclusion

In this paper, we investigate the relationship between IT and project management success. As the results of the analysis of the data show, IT has a positive impact on the success of development projects in West Azarbaijan Province. According to Table III, that shows the results of the technical and administrative staff comments of Construction Company, we can project management success factors from greatest impact to least impact of information technology on the following priorities: 1) Quality 2) Management fees 3) Time Management. As it can be seen that the greatest impact of technology on the quality of management and its impact on management time is minimal. so the company can be obtained simply by applying the tools of IT processes and practices that advance the purposes projects. Also according to similar studies conducted in this field, IT has been able to greatly improve the performance, Enhancing responsiveness and customer satisfaction, increased involvement of staff and managers participating in the process, increase the speed and reduce the time and cost will be effective.

Therefore, in this study can be stated emphatically supported them. Overall, the findings confirm the hypothesis of the present study indicate that the application of information technology tools in development projects lead to:

- Senior executives and employees of the Company participate in the design and drafting changes and resources to provide the necessary support to implement these changes.
- Objectives and programs determined in order to increase the quality and satisfaction of the Employer.
- The company to meet the needs and expectations of employers to act faster and more transparent.
- Accurate and timely information in a database available to executives and employees.
- Improved staff training levels and their potential to be realized in line with company objectives.
- Key aspects of project processes and procedures based on the needs of corporate users, service delivery, management and operations support functions are identified and implemented.

Therefore, according to issues and problems that exists in the success of development projects, Such disregard for the supply and maintenance of project owners and general managers the tools and machinery needed for the project, delays in completion of projects, high-risk project success and, finally, low quality and high cost of owning a construction company; That's because these companies make project management a highly motivated and creative work environment through leadership-based training, Encouragement, insight and integration of information systems updated and updated throughout the project control problems and the problems mentioned in the company. It follows also from the results of the use of these technologies reduces the time and cost of the

[12] Goodness Of Fit

project, increasing the speed of decision-making processes, particularly in managers Enhancing the quality and quantity of work to create innovation and creativity, and ultimately the success of the project will reduce uncertainty.

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The factors influencing given investment choices of individuals

Selim Aren[a], Sibel Dinç Aydemir[b], b*

[a,b] *Gebze Institute of Technology, Kocaeli, 41400, Turkey*

Abstract

This study aims to examine the effects of several factors such as demographics (i.e., gender, age, education and marital status), investment decision criteria (i.e., risk, repay, corporate data and society criteria), and financial literacy level (i.e., basic and advanced literacy) on more preferred investment alternatives in Turkey (e.g., foreign currency, bank deposit, bond, stock and mutual fund). Through survey method, the study sample consists of 112 participants working in finance sector or being able to make financial investments. Results indicate that age, marital status and society criterion (i.e., considerating socially beneficialness of an investment) make no difference in the choice of all investment alternatives. In explaining preferability of each investment alternatives, different factors play role at varying levels. This study provides notable insights towarding into understanding investment choice behavior of individuals.

Keywords: Investment instruments, investment decision criteria, financial literacy, demographics.

1.Introduction

From the viewpoints of financial researchers and market participants, for what reason and which investment alternatives individual savers preferred has been the phenomenon of interest. The identification of these factors, deemed as determinants of investment choice, could enable financial behavior to be fully understood. Within this scope, we intend to identify the effects of demographics (i.e., gender, age, education and marital status), investment decision criteria (i.e., risk, repay, corporate data and society criteria) and financial literacy (i.e., basic and advanced literacy) on preferability of certain investment alternatives (i.e., foreign currency, bank deposit, bond, stock, and mutual fund). For that purpose, the effects of relevant factors have been investigated on individually each investment alternatives and individuals' motives for those particular alternatives have been manifested.

While foreign currency has a negative relation to all other investment alternatives, those other alternatives have no association with each other. This points out that participants represent small savers without the idea of creating a portfolio. Also, participants moderately have the basic and advanced financial literacy level. Besides, participants generally work in finance sector and they are able to make financial transactions. These have been useful in terms of the study findings.

When age, marital status and society criterion excluded, each factor has impact on -at least- one investment alternative. The finding that different factors have impact on different alternatives at varying levels contributes greatly to manifestation of the divergency between investment alternatives in the study.

Amidst these factors, risk criterion for investment decision and financial literacy level of individuals have been relatively important factors on investment instrument choice. As an interesting finding, the results show that no

* Corresponding author. Tel. + 90-262-605-1431 fax. +90-262-654-3224
E-mail address: saydemir@gyte.edu.tr

factor has effect on mutual fund preference. When it is considered that this instrument has a relatively small size in Turkish markets, this finding indicates, in deed, small savers are not familiar to mutual fund as an investment instrument.

This paper proceeds in that manner. In the second section, we communicate the previous research explaining the financial behavior and describing the role of factors on investment decision. Third section provides the description of dataset and variables in this research and the presentation of analyses and results. In the last section, we summarize the results and their implications and conclude with limitations of the study and suggestions for future research.

2.Literature Review

2.1. Investment Decision Criteria

It is argued that individuals' financial knowledge (Usul and Bekci, 2001), age (Kucuksille, 2004), expectations (Sayilir et al., 2012), income level and psychological state (Usul et al., 2002) could influence their investment decisions. Usul and Bekci (2001) state that, compared to managers and bank employers, housewifes do not have the ability enough to appraise financial reports of the firms and hence to make wise financial decisions. Similar to knowledge, education level makes a difference in making investment decisions. Those postgraduate individuals have the enough information which could direct them to analyse financially. Kucuksille (2004) manifests that younger people have a tendency to invest in stock and long term assets and to take more risks. As for elder people, they do not make long term investment planning since they think that they have no more time for its payback. Sayilir et al. (2012) express that individual investors erroneously believe that firms with better corporate reputation would become good investment opportunity, produce higher investment returns. They also have a tendency to consider firms' social responsibility and environmental control level while making investment decisions. Usul et al. (2002) mention about that any investor with higher income relative to country average could invest in long term assets more. Because they have less expectation to become hard up for money due to their investments' relatively small size in their income. Additionally, individuals' needs, motives, personality traits, perceptions and learning capacities could make an influence on their investment preferences. While directing their savings to investment alternatives, they also act more compatible with their personality traits.

On the other hand, Pasewark and Riley (2010) determine individuals' criteria for their investment decisions. Accordingly, they assert that individuals consider the risk, repay, corporate data, society and health effects of an investment alternative while making investment decisions. Yet, in this study, we will employ only risk, repay, society and corporate data criteria.

2.2.Financial Literacy

From the viewpoints of both academicians and also policy makers, financial literacy has been phenomenon of interest. Nowadays, individuals are more responsible and active for their individual retirement plans. It is more difficult to allocate individuals' excess funds across possible investment instruments than before. This hardness might be arisen due to the fact that they are confused with these complex and multiplexed products (or services). This seems more valid especially for the inexperienced or the unsophisticated (Van Rooij, Lusardi and Alessie, 2011). It is reported that a vast quantity of households have not been acquainted with most primary economical notions and making plausible investment decision suffers from this serious illiteracy (Lusardi and Mitchell, 2007a/b). Financial literacy is suggested to be relevant to risk perceptions and investment decisions. It is proposed in a study (Lachanse and Tang, 2012) that trust promotes people's intentness of taking risk while investing and it is enhanced by some financial literacy. A study of Chen and Volpe (1998) provides evidence that highly financially illiterate participants have an inclination to make implausible decisions in terms of managing their personal finance.

There is a large and growing body of literature revealing that individuals have the deficiency of financial literacy which would assist them to make wise financial decisions (e.g., Guiso and Jappelli, 2008; Al-Tamimi and Bin Kalli, 2009; Shahrabani, 2012). In a study conducted by OECD in 14 countries, Atkinson and Messy (2012) conclude that financial illiteracy is prevalent in many countries (e.g., Albenia, Poland, Malaysia, UK, South Africa). It seems that people around the world suffer from the lack of financial knowledge no matter in which

country they live-developed or not. Besides, recent evidence displays that being unable to understand financial topics may be the underlying reason of portfolio underdiversification (Guiso and Jappelli, 2008), lower stock participation (Van Rooij, Lusardi and Alessi, 2011), unpreparedness for post-retirement times (Lusardi and Mitchell, 2007b), wealth unaccumulation (Van Rooij, Alessi and Lusardi, 2012), etc. On the other hand, limited studies examine the effects of several variables other than financial literacy such as risk aversion (Van Rooij et al., 2011), self-regulation, future orientation (Howlett, Kees and Kemp, 2008), risk tolerance (Van Rooij, Kool and Prast, 2007), negative emotions, past behaviors and attitudes (Shahrabani, 2012), role of self-perception (i.e., internal versus external locus of control) (Perry and Morris, 2005), trust (Lachance and Tang, 2012) on financial behavior.

There are lots of studies on the determinants of financial literacy. It is generally accepted that demographics relate to how much individuals financially know about. More specifically, Chen and Volpe (1998) show that low level of financial literacy is more seen amongst women, those with little work experience, those under age 30. Lusardi, Mitchell and Curto (2010) provide evidence that women are less financially literate than men and also that cognitive ability and education could improve the literacy level. Additionally, men working in banking and finance sector and those having both high income and educational level are more literate (Al-Tamimi and Bin Kalli, 2009). In contrast to these findings above, Ludlum et al. (2012) state that financial literacy does not vary according to gender while marital status makes a difference.

How can financial knowledge level of individuals makes an influence on their financial behaviors? Or, those who prefer particular products or services may vary according to their financially knowledge level. Prior studies give some evidence for these foremost questions. More specifically, financial literacy level makes influence on wealth accumulation (Lusardi and Mitchell, 2007a), saving and investment decision (Bayer, Bernheim and Scholz, 1996; Hilgert, Hogarth and Beverly, 2003; Lusardi and Mitchell, 2007b), stock (Van Rooij et al., 2011) or mutual fund participation (Müller and Weber, 2010), debt (Lusardi and Tufano, 2009), adjustable rate mortgage ownership (Smith, Finke, Huston, 2011), personal budget management (Shrahbani, 2012), credit management (Hilgert, Hogarth and Beverly, 2003) and credit card usage (Ludlum et al., 2012).

Thus, it is expected in this study that financial literacy would make a divergence between individuals' investment preferences. In measuring financial literacy level of individuals, the scale by Van Rooij, Lusardi and Alessi (2011) is employed. This scale divides financial literacy into two components (i.e., basic and advanced financial literacy) and consists of 16 questions having one correct answer. A financial literacy index is calculated through the correct anwers of participants.

2.2. Demographic Factors

Studies reveal that demographics such as gender, age, marital status and education level relate to investment decisions of people (e.g., Anbar and Eker, 2009; Bajtelsmit and Bernasek, 2001; Collard, 2009). Gender preponderantly takes place in these studies. It is agreed that women have lower financial risk tolerance when compared to men (Grable and Lytton, 1998). Bajtelsmit and Bernasek (2001) and Collard (2009) find that women tend more likely to avoid risks than men.

It is generally accepted that while getting older, people have gradually lower financial risk tolerance level. Ozer and Gulpinar (2005) reveal that financial risk taking shows a divergency between age groups. Bajtelsmit and Bernasek (2001) manifest that risk averseness of both women and also men increases with age. Similarly, Collard (2009) provides an evidence that retired people or those near to retirement period take less financial risks. As an explanation, it is suggested that elder people have less time to compensate any investment loss than younger people (Grable and Lytton, 1998).

Marital status and education level have an influence on investment decisions (e.g., Grable and Lytton, 1998). There exist two suggested reasons for the marital status effect. Firstly, single people have relatively lower responsibilities in their life and they take more risk in financial decisions. Married people consume their resources more cautiously by taking their future spendings regarding their children into consideration. Secondly, married people are more susceptible to social risk than single people. Besides, people with low education level do not take risks. Bajtelsmit and Bernasek (2001) show that risk averseness reduces with income level.

3.Methodology

3.1. Data

Study sample comprises of 112 participants of a survey in 2013. 60 out of 112 people consist of people working in insurance sector and getting training in insurance. All people attending training courses are asked to participate in survey and the survey is conducted through these 60 participants agreed to taking place in the study. Remaining 62 people are customers of a participation bank agreed on participating in the survey.

Since they are working in finance sector and/or also making financial transactions, it can be said that study participants have information about fundamental financial products such as foreign currency, bank deposit, bond, stock and mutual fund.

Study participants comprised of 59 (53%) male and 53 (47%) female individuals. 61 (37) participants are aged between 20-30 (31-40) and remaining 14 participants are aged 41 and above. Nearly all participants (108) have at least a bachelor degree. Married (single) people account for 46 (52) percent of study sample. Thus, our sample represents Turkish profile in terms of both gender and also age. According to marital status, study sample is balancedly scattered. Lastly, study participants have comprehension regarding questions and concepts since they are almost highly educated. In general, it is fair to say that study sample is appropriate for the examination of suggested relationships.

3.2. Variables

This study employs four major variables, all of which are demographics, financial literacy, investment decision criteria and investment instrument preference. In terms of demographics, age, gender, education and marital status of participants are measured. Other independent variables are financial literacy and investment decision criteria. Financial literacy scale (Von Rooij et al., 2011) is examined under two dimensions (i.e., basic and advanced literacy).5 (11) questions measure basic (advanced) financial literacy level of participants. One point is assigned to each correct answer. Thus, average basic financial literacy score of the sample is 2,92 (maximum 5 points in total) while advanced financial literacy score on average is 5,57 (maximum 11 points in total).

Investment decision criteria scale (Pasewark and Riley, 2010) divides investment decision into four components (i.e., risk, repay, corporate data, and society criteria) and comprises of total 14 questions. The scale is validated through our factor analysis results.

Investment products specified in this study represent our dependent variable measured in one question (How can you allocate for your investable money-TL 100.000- between those products below?). Foreign currency, bank deposit, bond, stock and mutual fund are presented as investment alternatives since Turkish people are familiar enough with them. Participants are allowed to make choices more than one.

3.3. Analyses and Results

Before testing research hypothesis, validity and reliability tests are implemented (Table 1).

Table 1 Factor and Realibility Analysis

% of Variance	32,349	12,705	12,133	11,903
	Corp Data	**Risk**	**Society**	**Repay**
S01		0,753		
S02				0,864
S03				0,801
S04	0,682			
S05		0,697		
S06		0,792		
S07	0,744			
S08	0,798			
S09	0,847			
S10	0,861			

S11	0,803			
S12	0,796			
S13			0,872	
S14			0,895	
Cronbach's Alpha	**0,907**	**0,636**	**0,746**	**0,668**

Factor analysis results show consistency with the results of Pasewark and Riley (2010). When first factor (corporate data) excluded, Cronbach's alpha values are somewhat low due to the few numbers of questions. Yet, the reliability values of Pasewark and Riley (2010) are similar to ours for corporate data, risk, society, repay factors respectively (0.779; 0.644; 0,787; 0,609).

Following validity and reliability tests, the relationships are examined through correlation analysis. When foreign currency excluded, it is found that there were no relationships between investment instruments. Yet, foreign currency inversely relates to all invesment products. Particularly in 1990s and early 2000s, foreign currency investments produced high returns. When this appeal of foreign currency product combined with the ease of buying and selling in limited amounts via exchange offices, foreign currency has become a good investment product especially for those people having no financial knowledge and time in order to find an appropriate investment. On Table 2 showing correlations, the finding that there is a negative relationship between foreign currency investment and financial literacy level (both basic and also advanced literacy) supports this view.

When examined, it is seen that women (men) tend to invest in bank deposit (stock). Besides, there is a positive relation between the increase of education level and the preference of bond product.

In order to identify factors directing to investment products, stepwise regression analysis is employed for each investment alternative. Hence, starting from the inclusion of variable with the highest correlation coefficient first, regression analyses are conducted.

Foreign Currency

In the first place, stepwise regression analysis is implemented for foreign currency (Table 3). Correlation analysis results reveal that there are three variables in significant relation to foreign currency alternative: risk criterion ($0{,}420^{**}$), advanced financial literacy ($-0{,}384^{**}$) and basic financial literacy ($-0{,}293^{*}$) (Table 2).

All three models regressing foreign currency preference on risk criterion, advanced financial literacy and basic financial literacy in return are significant at 0,000 level and explaining power of model (Adj. R^2) increases with each step. Yet, when basic financial literacy included into the last model, this variable becomes insignificant at 0,05 level. While basic financial literacy has a relation to foreign currency in Table 2, this relationship disappears on regression analysis. The relationship between basic and advanced literacy ($0{,}430^{**}$) may explain this case. These statistical results show similarity to the literature. Because those people with higher advanced financial literacy level are expected to have basic financial knowledge. Additionally, the owned financial knowledge forms an integrity. Thus, advanced financial literacy already encompasses the basic one and investment choice is made from this integrated financial knowledge level. Consequently, lower risk demand and advanced financial literacy level of individuals direct them to make foreign currency investment. In other words, those people avoiding risks and having less advanced financial literacy demand for foreign currency investment product.

Table 2 Correlation Analysis

	For. Cur.	Bank Depo.	Bond	Stock	Mutual Fund	Gender	Age	Edu.	Mar.Sta	C. Data	Risk	Repay	Society	Basic Fin.Lit	Adv. Fin.Lit
For. Cur.	1	-.54**	-.38**	-.42**	-.37**	.07	-.05	-.21	-.11	.13	.42**	-.16	.07	-.29*	-.38**
Bank Depo.		1	-.05	-.16	-.08	.25*	-.04	-.04	.07	-.27*	-.08	-.17	-.08	-.11	.03
Bond			1	-,17	.00	.21	.06	.30*	.04	.00	-.26*	-.00	.10	.13	-.03
Stock				1	-.03	-.46**	.06	.04	-.04	-.01	-.30*	.30*	-.10	.35**	.46**
Mutual Fund					1	-.14	.02	.13	.15	.14	-.08	.21	-.00	.19	.21
Gender						1	-.19*	-.09	.26**	-.09	-.19*	-.18	.07	-.26**	-.32**
Age							1	.22*	-.45**	.00	.23*	.07	.00	.14	.22*
Edu.								1	-.05	-.11	-.04	.14	.02	.11	.17
Marital Status									1	.08	-.14	.10	.15	-.23*	-.06
C Data										1	.17	.25**	.23*	.09	.15
Risk											1	.20*	,12	-.08	-.15
Repay												1	.01	.18	.17
Society													1	.01	-.16
Basic Fin. Lit.														1	.43**
Adv. Fin. Lit.															1

**Correlation is significant at the 0,01 level (2-tailed)
* Correlation is significant at the 0,05 level (2-tailed)

Table 3 Stepwise Regression Analysis for Foreign Currency Instrument

Model	Variables	Stand. Coefficients β	Sig.	Adj. R^2	Sig.
1	Risk Criterion	0,420	0,000	0,164	0,000
2	Risk Criterion	0,375	0,001	0,264	0,000
	Advanced. Fin. Lit.	-0,333	0,002		
3	Risk Criterion	0,361	0,001	0,276	0,000
	Advanced. Fin.Lit.	-0,285	0,011		
	Basic Fin. Lit.	-0,157	0,153		

Bank Deposit

Two variables have an association with bank deposit investment alternative (see Table 1): Corporate data criterion (─0,274*) and gender (0,246*). Corporate data criterion represents the individuals' tendency to attach importance to past performance of firms while making investment decision.

Table 4 Stepwise Regression Results for Bank Deposit Instrument

Model	Variables	Stand. Coefficients β	Sig.	Adj. R^2	Sig.
1	Corporate Data	-.274	.022	0,061	0,022
2	Corporate Data	-.254	.031	0,098	0,012
	Gender	.224	.056		

Both models are significant at 0,05 level. Gender is found to be a significant variable at 0,10 level. There is an inverse relationship between corporate data and bank deposit investment alternative. Practically, it is generally seen that large banks having strong financial structure offer lower interest rates while small banks offer higher interest rates. In Turkey, TL 100.000 (about USD 50.000) of saving deposits is under guarantee of Saving Deposit Insurance Fund. This enables small account owners to ask small banks for higher interest rates although they have weaker corporate data than large ones. Another finding in Turkey is that women rather than men prefer bank deposit investment alternative more. This can be explained by the financial literacy phenomenon. As seen on correlation table (Table 2), there exists a negative and significant relationship between gender and both basic (─0,264**) and also advanced (─0,321**) financial literacy. As it is understood, compared to men, women have lower financial literacy level and hence they largely prefer bank deposit instrument since it does not necessiate more information to grasp and it yields no unexpected return.

Bonds

There are two variables in relation to bond investment: Education (0,299*) and risk criterion (─0,259*) (see Table 2).

Table 5 Stepwise Regression Analysis for Bond Instrument

Model	Variables	Stand. Coefficients β	Sig.	Adj. R^2	Sig.
1	Education	.299	.012	0,076	0,012
2	Education	.261	.027	0,107	0,008
	Risk Criterion	-.213	.070		

Both models are found to be significant at 0,05 level. Explaining power of the second model increased somewhat. Education (risk criterion) is significant at 0,05 (0,10) level. While education level increases, the demand for bond instrument increases. Yet, the more important finding here is that the increase in risk demand have impact on the increase in bond investment preferences. However, in financial literature, bond is recognized as riskless investment product and hence it is preferred by the people who don't like risk. Possible explanations are that Turkish people may not know bond product enough and that their past experiences regarding bond instrument may have shaped their preferences. Because high inflation periods in the past caused fixed return of bond to be even negative. Thus, people experiencing this or learning it from their families can normally consider bonds as risky assets.

Stock

There exist five variables having association in stock preferences: gender (─0,464**), advanced financial literacy (0,462**), basic financial literacy (0,352**), repay criterion (0,304*) and risk criterion (─0,303*). As discussed in foreign currency product, there is high correlation (0,430**) between basic and advanced financial literacy and advanced financial literacy encompasses basic literacy any way. Hence, merely advanced financial literacy is included into stepwise regression model.

Table 6 Stepwise Regression Analysis for Stock Preferences

Model	Variables	Stand. Coefficients β	Sig.	Adj. R^2	Sig.
1	Gender	-.464	.000	0,203	0,000
2	Gender	-.347	.002	0,291	0,000
	Advanced Financial Literacy	.332	.003		
3	Gender	-.326	.003	0,310	0,000
	Advanced Financial Literacy	.298	.008		
	Repay Criterion	.176	.092		
4	Gender	-.339	.001	0,381	0,000
4	Advanced Financial Literacy	.250	.020		
4	Repay Criterion	.201	.045		
4	Risk Criterion	-.280	.005		

All models are found to be significant at 0,000 level and the explaining power of model in each step increases. All coefficients in final model are statistically significant at 0,05 level. It can be easily understood that gender has importance on stock preference of people as an investment alternative. Men more likely prefer stock instrument. Besides, individuals' preferences of stock instrument increase while their financial literacy level increase. Additionally, risk and repay criteria for making investment decisions are also found to have impact on stock investment preference.

Mutual Fund

No variable in relation to mutual fund is find in this study (See Table 2). Thus, no regression analysis is done. As an explanation, it could be suggested that Turkish people do not recognize mutual fund as an investment alternative. Indeed, market size of mutual fund in Turkey by year 2012 amounts to about $15 billion while equity market size is valued at $358 billion.

4. Conclusion

The aim of this study is to seek out the impact of several variables such as financial literacy, investment decision criteria (i.e., risk, repay,corporate data and socially beneficialness criteria) and demographics on individuals' investment choices. In this context, variables influencing each investment alternative are established. For this study, specified investment alternatives are foreign currency, bank deposit, bond, stock and mutual fund. While foreign currency preference has a negative relation to other investment preferences, there is no relation between other investment alternatives. This foreign currency finding may be common in Turkey. Many individual investors find it as an ideal investment alternative for their small savings such as $50, $100, etc. There is a general view among people that foreign currency provides yield every time and that it is easy to trade in foreign currency. That's why individuals tending to invest in this alternative (i.e., small savers) are not so interested in other investment alternatives.

As the reasons for individuals' foreign currency choices, lower risk demand and advanced financial literacy level are found in this study. The people who don't like taking risks and who have lower financial literacy level choose this investment instrument.

Corporate data criterion and gender play role on people's bank deposit investment preferences. Women rather than men tend more likely to invest in this product. In opposition to large banks having strong corporate data, people opt for small banks having relatively weaker corporate data. This choice may be related to both higher interest rates offered by these small banks and also savings deposit insurance guaranteed by the government.

Education predominantly has a role on people's bond preferences. While education level of individuals increases, the likelihood of choosing this product by individuals also increases. Additionally, higher risk demand (i.e., risk criterion) partly has an impact on this product choice. Due to the the case of bonds having negative real returns in the past inflationary periods in Turkey, individuals who perceive the investment risk as the likelihood of losing may consider this product as risky investment alternative. Besides, only high-educated people prefer this instrument more since the lay people are not so familiar with it and they don't find it easy to grasp.

As expected, the choice of stock product is found to have a relation in repay criterion, risk criterion, advanced financial literacy and gender. It is provided that stock instrument as an investment alternative is preferred by men more, when compared to women. When financial literacy increases, individuals' return expectations and risk demands increase and this causes the stock product preference to be more. Lastly, this study does not produce any remarkable results regarding variables influencing the choice of mutual fund which has a relatively small market size in Turkey. It can be considered that this product is not known enough by individuals. Unfortunately, socially beneficialness criterion as a variable considered in the investment decision literature does not become prominent by the participants in this study.

As with any study, this study has some limitations. It would be reasonable to consider the sample size while evaluating the study results. Definitely, a larger sample would enable to attain more generalizable results.

In conclusion, this study provides considerable findings regarding the determinants of given investment instruments (i.e., foreign currency, bank deposit, bond, stock and mutual fund). Besides, it can be suggested for future research to include some notable psychological factors such as personality traits and emotional intelligence into their research models.

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Improving Financial Management System for Multi-business Companies

Svetlana Savina[a], Irina Kuzmina-Merlino[b], b[****]

[a] *Riga International School of Economics and Business Administration, Meza street 3, Riga, Latvia*
[b] *Transport and Telecommunication Institute, Lomonosova street 1 Riga, LV-1019, Latvia*

Abstract

The new management paradigm and the necessity to implement company's strategy makes the management of the companies analyze characteristics and structure of the financial management system and applied investment and financing models using the elements of strategic and operative financial management. The analysis of methods and tools being applied, as well as the formation of conceptual basis for the financial management is the first step on the way to the enhancement of the financial management efficiency. Problems are often associated with the necessity to combine individual elements of financial management into a unified, well-adjusted system and to coordinate its functioning. Therefore, there is a growing need for the development of the financial management system that would be directly linked to the strategic goals of the company. Research objective: to develop recommendations for the formation of an effective financial management system based on process-oriented approach for Latvian multi-business companies that would be aimed at meeting the strategic goals of the company.

Keywords: financial structure, strategy, budgeting, process-oriented approach

Introduction

In economic and scientific literature researches do not provide a unified, generally accepted opinion on the nature and role of Financial Management (FM), which results in the existence of diverse definitions. FM is a part of management processes integrated in company management. (*Amoako, Marfo, Gyau, Asamoah,* 2013). FM is associated with the attraction of financial resources and their efficient utilization for the achievement of the company's objective. FM is an operation activity in business responsible for the acquisition of funds necessary for an effective performance and their efficient use. Brealey defines the FM as "the process of putting the available funds to the best advantage from the long term point of view of business objectives" (*Brealey*, 2008). B. Howard and M. Upton regard the FM as "an application of general managerial principles to the area of financial decision-making" (*Howard, Upton*, 1953). All the above definitions and other opinions (*Reinaldo, Dione* 2013; *Calandro, Flynn*, 2007; *Randøy, Oxelheim, Stonehill*, 2001; *Zdeněk*, 2013; *Higgins*, 2011; *Brigham, Houston*, 2014; *Van Horne, Wachowicz*, 2008)

[****] *Corresponding author. Tel.: +371-29-610-918; fax: +371-67-100-660*
E-mail address: Kuzmina.I@tsi.lv

have a common acknowledgement that financial resources represent the source of economic benefit of a company; however, neither of these definitions mentions business goals and strategies.

Research of scientific and economic literature also revealed other views of the essence and role of the FM in market and investment economy. The emerging role of the FM is associated with the formation of a special industry of financial services (*Lazonick*, 2010) and the necessity of management of company's value, as it is indicated by Stanchu (*Stanciu*, 2013). Fama points out that the market value of company's stock serves as a measure of its ability to generate future cash flow (*Fama*, 1970).

Within the framework of this research a multi-business company means a company involved in several types of business activities for which information on the efficiency of each type of activity is essential. Thus, the authors of the paper view *a strategically oriented financial management as a specific process of planning, implementation, control and management decision-making ensuring management, administration, and efficient utilization of funding sources, fixed and current assets at a strategic and operational level to ensure long-term sustainable development for maximization of welfare of owners (shareholders) and market value of the company.*

Two serious problems arise in practice in the course of development of a strategically oriented FMS:

- choosing a conceptual platform to be used for the designing the system;
- determination of the complex of methods and instruments to be applied.

To answer characteristic questions of entrepreneurs and business owners: "Why information on company objectives and strategies does not reach actual performers?" and „Can the FM facilitate the realization of company's strategy and achievement of its goals?" it is necessary to consider the following:

- Companies often lack the FM system comprising strategic and operative levels;
- There is no sufficient link between methods and tools at certain levels FM system levels;
- Therefore, there is no link between different FM system levels.

Literature Review

Financial Management System (FMS) is understood by the authors as an interrelated, scientifically grounded complex of methods and tools for planning, implementation, control, analysis, timely correction, and adjustment of strategic and operative financial goals, planning system and activities of a company.

Considering the structure of the FMS the following two levels can be marked out: strategic and operational. Considering the FMS as a balanced mechanism of management the authors specify the main elements: managing sub-system, managed sub-system, and influencing sub-system. Interaction of these three sub-systems takes place in the following way: the managing system with the help of tools and methods of FM (influencing sub-system) acts directly upon the managed sub-system to achieve the main goal of the FM of the company – increase in market value and stable development of the company. It is evident that the efficiency of the FM mechanism to a great extent depends on the efficiency of methods and tools being applied. These methods combined in a well-working system can ensure a synergy effect to raise efficiency of the FM with relatively low costs.

Considering a strategically oriented FM the most promising theoretical approach has been chosen and justified in the work, the possibility to apply the chosen approach in the FM has been investigated, organizational support of FM has been defined, and the notion of financial structure has been specified.

While investigating various improvement systems and improvement conceptions the authors came to a conclusion that, owing to appearance of a new concept of "business processes reengineering" in the theory of business (*Gaitanides*, 2012), business management started to focus more deeply to organization of processes also in practice (*Scheer*, 2012, *Ferstl*, *Sinz*, 2001). As early as in 1984 Scheer described business processes and their realization using a chain diagram of processes (*Event driven Process Chain*) (*Savina, 2011a*). Business processes management allow achievement of high efficiency of a company

focusing on customer demand (*Hammer*, *Champy*, 2003). Process-oriented approach aligns the requirements to all participants of a process, reduces the effect of human factor, and the company becomes a self-regulated system (*Savina, 2011b)*). In the 60's of the past century the methodology of structural analysis was developed and complex SADT (*Structured Analysis and Design Technique*) systems were projected (*Jbira, Lakhoua*, 2012). Process-oriented approach was included in Malcolm Baldrige National Quality Award (MBNQA) model (*DeJong*, 2009, ASQ official website) and the European Foundation for Quality Management (EFQM) Excellence Award model (EFQM official website). Introduction of most advanced company management system into a functionally oriented structure does not provide an expected effect and – quite the contrary – raises expenditures and usually reduces general efficiency (*Savina, 2011b*).

In the course of development of process-oriented approach there appeared such management technologies as business process reengineering and activity-based management. The first step in application of process-oriented approach is to register and describe business processes. The subsequent analysis and evaluation of the efficiency of functioning of business processed form the basis for reengineering of these processes (*Elzinga, Horak, Lee* un *Bruner*, 1995; *Hammer* un *Champy*, 2003).

Investigating the essence of process-oriented approach the authors came to a conclusion on the possibility of its effective use only under the conditions of organization of appropriate financial structure. Financial structure of the company is formed on the basis of economic and financial links between centres of responsibility; therefore, specific costs and income are grouped in the centres of responsibility. Financial structure determines the procedure of creation of financial results and distribution of responsibility for overall performance of the company.

In the course of the research it is supposed to test following *hypotheses*:

H1: Basing upon the methodology developed within the framework of the paper it is possible to create the financial management system, which would allow achievement of the set strategic objectives.
H2: Developed FMS would allow increasing an economic potential of a multi-business company in the conditions of a changeable economic environment.

Methodology

Research Goal

The goal of this research is, on the basis of the investigation, analysis and synthesis of contemporary publications on the topic of financial management to design methodological approach for the formation effective financial management system for the multi-business companies, as well as to prove its economic advantages.

Sample and Data Collection

To carry out the research, to explore the goal of the research, and to test the hypotheses an abstract-logical method (empirical and theoretical analysis), graphical method, qualitative method (monographic method), constructive method of calculation, and statistical methods have been used. The informational background of the paper is based upon Latvian and foreign scientific publications and fundamental researches, encyclopaedic sources, expert opinions, publications in periodicals, materials of international conferences, reference materials published in the internet, as well as analytical resources.

To prove the advantages of the developed FMS of the company primary data obtained in the course of expertise using sociological methods have been applied. The authors have also used the method of evaluation in analytic hierarchy process (hereinafter referred to as AHP) developed by the Thomas L.

Saaty. The assessment of the FMS has been made with the help of expertise. The following software has been used for data processing: *MS Excel 2010, MathCAD 15.0, and Matrix 1.0.*

In the course of the expert survey the method of structured in-depth interviews was used with a complex of questions identical for all respondents. The interviews were conducted individually during meetings in person, as the contents of questions and their extent caused the necessity for additional explanations.

More than 40 specialists (professors, doctors of economics, mathematics and engineering sciences, managers and owners of various companies, financial directors, and financial analytics, experts of the Ministry of Transport of the Republic of Latvia, Ernst & Young Baltic, and certified financial managers) took part in the survey. Qualifications of the involved specialists ensured obtaining of all necessary information on the problem and validity of the acquired data. To aggregate the experts' evaluations using analytical hierarchy process geometric average index was taken. Determination of average value of experts' judgements was carried out at the level of matrix elements; uniformity of the judgement matrixes drawn by the experts is sufficient. Hierarchy of criteria for the evaluation of FMS efficiency consists of four levels. Criteria are divided into four groups by management phases according to Deming (*Deming*, 1993). In order to determine relative importance of hierarchy elements a ratio scale was used (*Saaty*, 2008).

Analysis and Results

The methodology for the creation of strategically oriented FMS is based upon the results of the performed theoretical research and could consist of the following successive and interrelated stages:

(1) Defining the company's mission, strategic directions, and general objectives of activities of the company.
(2) Elaboration of the system of coherent indices.
(3) Identification and classification of business processes and activities.
(4) Design of the financial structure and corrections of the organizational structure.
(5) Development of the process-oriented budgeting system.
(6) Introduction of new tools of the FM and a more extensive use of the existing FM tools in the verification and analysis of company's performance: (a) utilization of all capabilities offered by ABC model including the analysis of customer and distribution channels profitability; (b) analysis of efficiency of business processes and centres of financial responsibility; (c) use of analysis of budget deviations; (d) use of financial and economic analysis in evaluation of financial position of the company; (e) use of risk management methods in managerial decision-making.
(7) Business process reengineering: (a) development of recommendations for the optimization of business processes; (b) introduction of the recommended changes in business processes.

Investigating the essence of process-oriented approach the authors came to a conclusion on the possibility of its effective use only under the conditions of organization of appropriate financial structure. The authors proposed the financial structure of the company which is conceptually based upon the process-oriented approach and becomes the tool of the company management both at operational and strategic level; such financial structure (Figure 1).

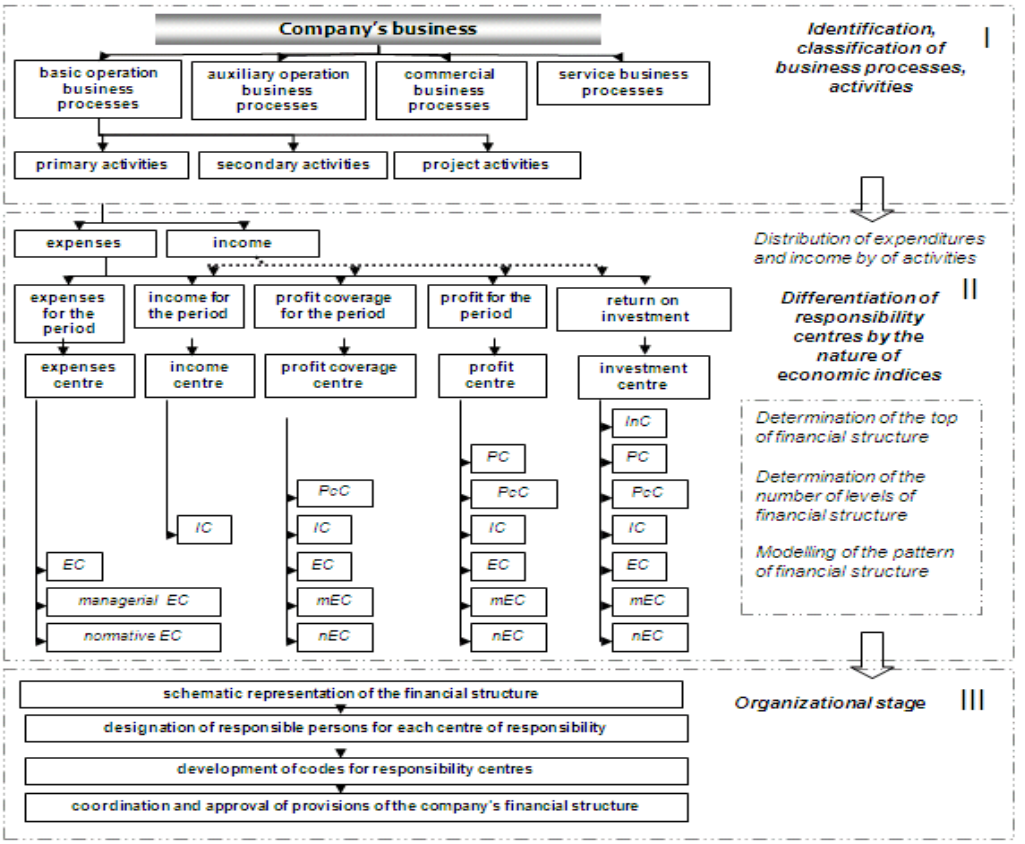

Fig. 1. Financial structure of the multi-business company
Designed by the authors

Considering the FM as one of the sub-systems of company's management system on the one hand, and as the system of continuous improvement on the other hand, the authors marks out several stages (phases) of the FM. The scheme proposed by the author is based upon the approach introduced by Walter Shewhart in 1939 and developed by Edward Deming in his works. This approach is called the Deming cycle (*Deming*, 1993). The latest version was named as "improvement models", when management is implemented in accordance with the following scheme: (1) planning, (2) implementation, (3) verification, (4) effect. Each stage has certain characteristic management tools and methods (*Savina*, 2011a): ABB, system of coherent financial indices, financial structure, ABM, business process reengineering, financial analysis, ABC, and the method of control of budget deviations (Fig. 2.).

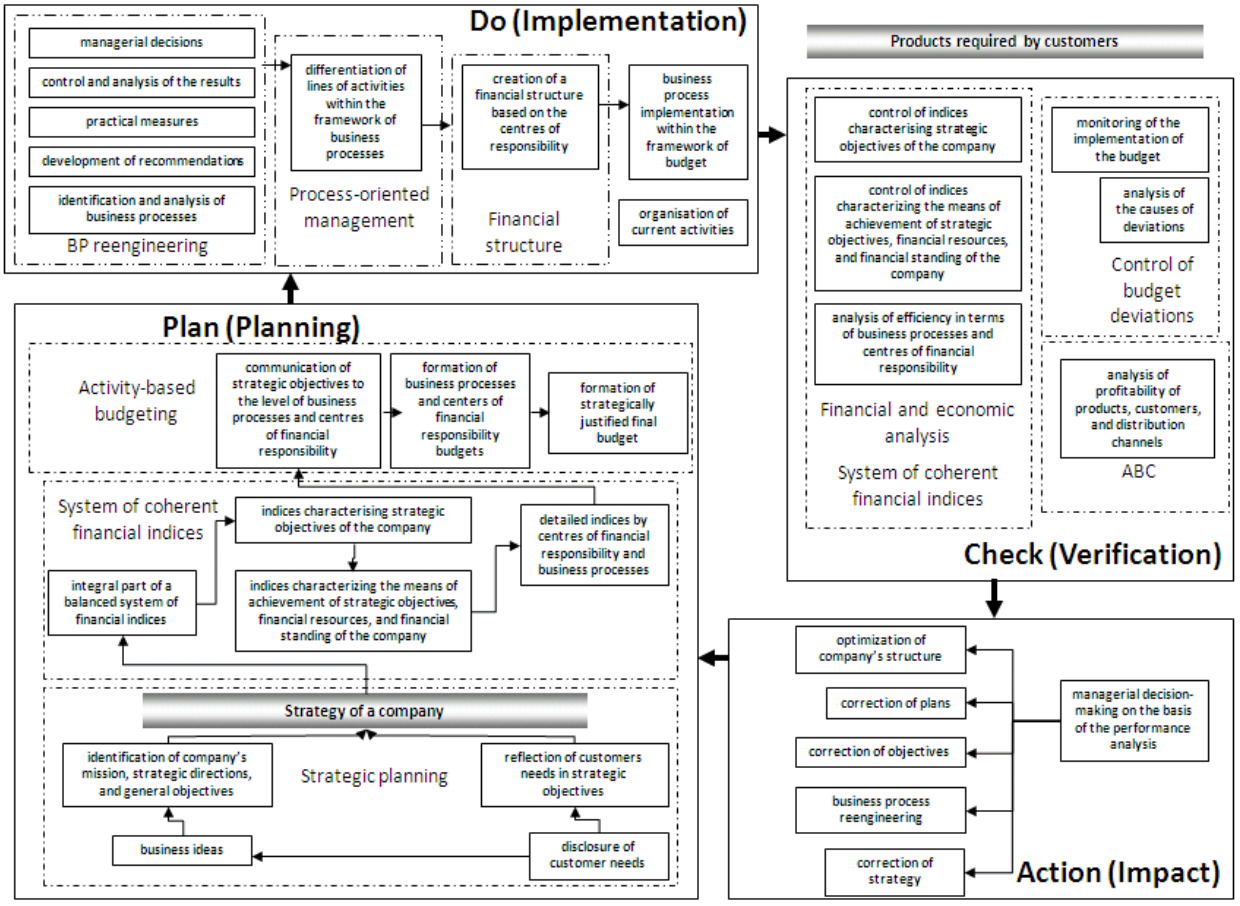

Fig. 2. Methods and tools of financial management (Savina, 2011b)

Strategically oriented FM based on a process-oriented approach and financial structure ensures:

- forms the basis for strategically justified managerial decision-making;
- helps to find the shortest ways to the achievement of strategic objectives;
- represents a tool for forecasting future opportunities;
- reduces financial risks.

Using the Deming model the FM can be turned into the process of continuous improvement during which a logical sequence and concordance of all its elements is ensured for the achievement of strategic objectives of the company. To ensure that the FMS functions both at operational and strategic level it is necessary to develop a coordinated two-level system of financial indices: strategic and operational (Fig.3).

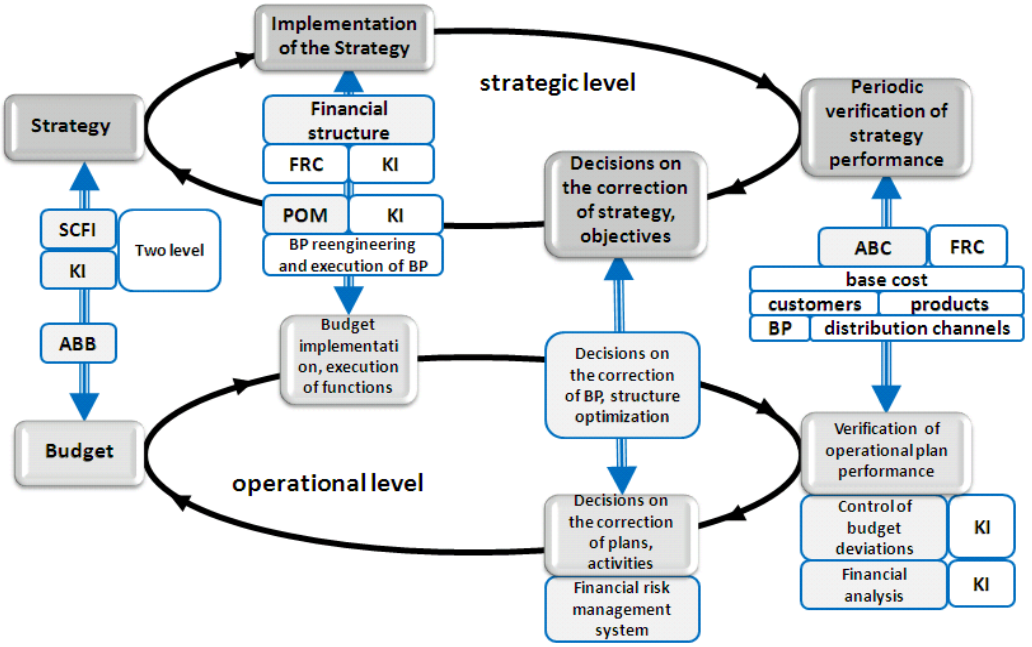

Fig. 3. The chart of formation of the financial management system (the result obtained in the paper)
Designed by the authors

Explanation: ABB - activity-based budgeting; ABC – activity-based costing; SCDI – system of coherent financial indices; KI – key indicators; FRC – financial responsibility centres; POM – process oriented management; BP – business process.

The system of coherent financial indices developed by the authors can form the basis for performance monitoring of the company, which will provide managers with useful information and simplify the process of decision-making. Methodological approaches developed by the author for the formation of a well-balanced financial management system allow creation of the system able to respond to the changes in business environment in a timely manner. It's mean that basing upon the methodology developed within the framework of the paper it is possible to create the financial management system, which would allow achievement of the set strategic objectives (*Hypothesis 1* is supported).

To evaluate applicability and effectiveness of the financial management system developed by the authors expertise has been conducted analytic hierarchy process (AHP) has been used as a method for assessment of advantages of the developed financial management system. To aggregate the experts' evaluations using analytical hierarchy process geometric average index was taken. Determination of average value of experts' judgements was carried out at the level of matrix elements; uniformity of the judgement matrixes drawn by the experts is sufficient. Hierarchy of criteria for the evaluation of FMS efficiency consists of four levels. Criteria are divided into four groups by management phases according to Deming (*Deming*, 1993). In order to determine relative importance of hierarchy elements a ratio scale was used (*Saaty*, 2008). Aggregate results of the pair-wise comparison of the phases of management cycles are expressed in the matrix:

Table 1: Matrix of pair-wise comparison of the second level criteria

	Phases	P	D	C	A
P	Plan (Planning)	1,00	2,01	0,79	0,54
D	Do (Implementation)	0,50	1,00	1,33	0,66
C	Check (Verification)	1,26	0,75	1,00	0,66
A	Action (Impact)	1,87	1,51	1,51	1,00

Relative value of each criterion can be found though matrix solution, thus acquiring the vector of priorities. Vectors of priorities of the third level criteria matrix are summarized in the Table 2. Concordance indices (CI) and concordance ratios (CR) of all matrices are indicative of the concordance; furthermore, deviations do not exceed acceptable limits (10%).

Table 2: Pair-wise comparison matrix for the third level, solution and concordance

	Planning phase criteria	P1	P2	P3	P4	P5	Vector of priorities	
P1	Link between budget and strategy	1,000	1,787	1,516	0,904	1,077		0,239
P2	Complexity	0,560	1,000	0,824	0,615	0,894		0,149
P3	Continuity	0,659	1,213	1,000	0,880	0,871		0,178
P4	Accuracy	1,106	1,626	1,137	1,000	1,464		0,245
P5	Flexibility	0,929	1,119	1,148	0,683	1,000		0,189
			SI	0,007	SA	0,006	λmax	5,027
	Implementation phase criteria	D1	D2	D3	D4	D5		
D1	Unity of objectives	1,000	1,746	1,394	1,206	1,951		0,271
D2	Degree of specification	0,573	1,000	0,762	0,725	2,015		0,175
D3	Risks	0,717	1,312	1,000	1,673	2,125		0,243
D4	Conformity	0,829	1,379	0,598	1,000	1,967		0,203
D5	Delegation of authorities	0,513	0,496	0,471	0,508	1,000		0,109
			SI	0,017	SA	0,016	λmax	5,070
	Verification phase criteria	C1	C2	C3	C4	C5		
C1	Responsiveness	1,000	1,242	1,188	1,631	1,708		0,254
C2	Use of management tools and methods	0,805	1,000	0,612	2,047	1,824		0,217
C3	Management technologies	0,842	1,633	1,000	1,790	1,884		0,261
C4	Degree of specification of reports	0,613	0,489	0,559	1,000	0,947		0,133
C5	Conformity with the accounting policy	0,585	0,548	0,531	1,056	1,000		0,136
			SI	0,014	SA	0,012	λmax	5,054
	Impact phase criteria	A1	A2	A3	A4	A5		
A1	Responsiveness	1,000	2,143	0,830	1,895	2,040		0,272
A2	Management technologies	0,467	1,000	0,649	2,353	1,983		0,198
A3	Strategic orientation	1,204	1,541	1,000	2,860	1,937		0,295
A4	Delegation of responsibility	0,528	0,425	0,350	1,000	0,766		0,105
A5	Systematicity	0,490	0,504	0,516	1,305	1,000		0,129
			SI	0,024	SA	0,021	λmax	5,095

Doing pair-wise comparison on the forth level hierarchy (Matrix of global priorities) the authors illustrates a comparative efficiency of the FMS in relation to the third level criteria. The resulting vector of alternative priorities has the following values:

SS FM

W= {0, 752996; 0, 247004}

For FM system before improvement: W vector is equal to 0, 247004.

For the process-oriented FMS: W vector is equal to 0, 752996.

Lower level priorities reflect a relative effect on the top of the hierarchy. The analysis of the value of the obtained vector shows that more efficient is the strategically oriented financial management system of the company. This, in turn, speaks of the trueness of the *Hypothesis (2).*

Conclusions

In general terms the main results of the authors' research are the following:

- a well-balanced complex of the financial management tools and methods applicable to Latvian multi-business companies has been created;
- this logical complex of financial tools and methods has been introduced in the FM of the company using E. *Deming's* model of continuous improvement.

The methodological approach to the formation of the FMS developed by the authors ensures viability of company by achieving an interaction of all levels of the FM. This means that the strategy and objectives of the company are communicated in practice to the performers with no barriers (Fig. 3). The developed FMS allows essential reduction of costs associated with preparation of managerial decisions, as well as improvement of their justification and promptness of decision-making.

Effectiveness of application of the methods of strategically oriented financial management system proposed by the authors is proved by the results of analytical hierarchy process (AHP). Lower level priorities reflect a relative effect on the top of the hierarchy. The analysis of the value of the obtained vector shows that more effective is the strategically oriented financial management system of the company developed by the authors.

Main results of the research can be used by Latvian multi-business companies in implementation and/or improvement of FMS. The following aspects are of practical importance:

- strategically oriented FMS connected with the company objectives allows defining the role of each business process in the achievement of these objectives;
- the system of consistent financial indices allows division of key performance indicators by the centres of financial responsibility, business processes, and types of activities;
- formation of a strategically oriented FMS and the algorithm of its implementation.

Recommendations proposed by the authors of the paper provide the answer to the question of creation of a well-balanced, strategically oriented financial management system for a multi-business company.

1. In the course of creation of a system of coherent financial indices two levels (strategic and operational) of financial indices should be formed;
2. Identification of business processes and types of activities and their classification;
3. In the course of formation of financial structure and correction of organizational structure it is necessary to perform direct modelling of the financial structure and separation of responsibility centres by the nature of economic indices;
4. In order to construct an activity-based budgeting system it is necessary to develop of budget structure and to coordinate accounting policy with budgeting system.

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Evaluating Efficiency of SEPAH Bank Branches in Mazandaran Province by Using Data Envelopment Analysis

Ali Sorayaei[a*] , Zahra Atf[b]

[a] *Department of management, Babol Branch, Islamic Azad university,Iran*
[b] *Master of Management, lecturer of Payam Noor University, Iran*

Abstract
The banking industry is of great importance from an economical point of view. By improving technology, the competency among banks and other financial institutions has intensified and only those organizations that have efficient performance can thrive. Although banks are trying to improve their efficiencies, they are not equipped with a comprehensive evaluation system for assessing the performance of their branches. Most banks to evaluate their efficiencies only consider profit criteria and to evaluate different aspects of operations they usually use multiple ratios. The fact is that analysis of financial ratios provides little information.Accordingly, in this study by applying data envelopment analysis technique, efficiency of different branches of Sepah Bank in Mazanadaran in the year of 2009 is investigated. The results show that among 50 evaluated branches, only 5 branches located in Amol, Sari, Haraz Amol, Pasdaran and Gharen have 100 percent total efficiency and also the average efficiency of all branches is about 80 percent. Additionally, dividing the efficiency scores into two categories, that is pure technical efficiency and management efficiency, shows that in only 14 cases the size of management inefficiency is higher than criterion inefficiency and in the rest of cases criterion inefficiency caused by non-optimality of the bank size is the main cause of being inefficient. Finally, by determining pattern units for inefficient branches, the way of reaching the frontier efficiency is introduced for each of these branches.

- *Keywords:* Efficiency evaluation, Sepah Bank, Data envelopment analysis, Pattern Finding.

Introduction

All the endeavors of human are focused on gaining the maximum output by spending the least of those equipments which he has in hand. This tendency could be called reaching the higher efficiency. Efficiency is one of the important criteria for assessing the optimality of economic units and the basic step in enhancing efficiency is measuring it (Folan, 2005). Banking transactions are recognized worldwide as one of the prominent economic operations in each economical system. For any operation that requires gaining capital and economic resources, certainly one bank or financial organization must be involved. Generally speaking, banks can be known as part of financial system of society economics whose duty are easing transactions and paying and also as the largest financial intermediary they execute money policies for attracting savings, supplying businesses and performing projects and so forth (Bala,et al., 2003).Banking system in Iran is very decisive because in addition to playing an intermediary role in money market, because of not developed capital market and also not developed organizations and tools, it plays an important role in bringing money to mid-term or long-term economic programs. At the same time that banks can be useful in economical promotion and development, their improper and inefficient operations can lead to financial crises. Long story short, a healthy banking system reflects the health of

* Corresponding author. Tel. + 9809112218480 fax. +9801143252139
E-mail address: a.sorayaei@gmail.com, atf.zahra@yahoo.com

society economy (Najafi ,et al,2005).Accordingly, the current study aims at measuring efficiency of each branches of Sepah Bank in Mazandaran province so as to identify efficient branches, reasons for inefficiency and finding a solution for improving inefficient branches. Doing so, data envelopment analysis technique, which is based on linear programming methods and has found wide application in bank efficiency evaluation, has been applied.

2. Prior work

Lin et al. (2009) have evaluated 117 bank branches in Taiwan. The obtained results demonstrated that in terms of total efficiency entire banks have apparent inefficiencies such that average total efficiency was 54.8 percent and average of pure technical efficiency was 67 percent. At the end, researchers concluded that this issue is due to low proportion of loans to deposits which causes the resources to be wasted (Lin,et al, 2009).In another study, Chen et al. (2005) have evaluated 16 banks in China. They have considered capital and asset as input and net income, ROA and ROE as outputs. Results showed that only 2 banks had scale efficiency, 2 banks had constant efficiency, 7 banks had increasing efficiency and 7 banks had decreasing return to scale (Chen, et al, 2005). Ahmadpour (2006) has investigated the efficiency of Saderat Bank branches across Mazandaran province. In his work, 141 branches of Saderat Bank were considered and their efficiencies were estimated using DEA techniques. In this study, the input variables included number of personnel, number of terminals and how much building of the branch costs and output variables were entire deposits, private sector facilities, and overdraft debts. The outcome of this research proves average efficiency is low (30 percent) in all the branches (AhmadPour ,2006). The efficiency of Tejarat Bank supervision was evaluated by Dadgar and Niknemat (2007) through DEA. In their research 38 supervisions of Tejarat Bank were taken into consideration and efficiencies of units were measured applying two models CCR and BCC. The results showed that supervisions of regions No. three, four and five of Tehran are more efficient and supervisions of Qom, Zanjan, West Azerbaijan and East Azerbaijan are inefficient (Dadgar, et al,2007).Abrishami et al. (2003) have focused on evaluation of banking system efficiency with case study of Melat Bank during years of 1991 untill 2003. Parametric Econometric technique and random frontier cost Translog function were utilized to estimate the amount of cost efficiency. After estimating cost function and appearing inefficiency part it was revealed that ten percent of error model variation is because of inefficiency part. Moreover, the computations associated with cost efficiency showed that proportion of done total cost to minimum bank total cost is 1.07 averagely. Hence, Melat Bank in the above-mentioned period has merely faced seven percent of cost inefficiency. (Abrishami, et al, 2004)

3. Methods

In this paper, we evaluate the efficiency of Sepah Bank located in Mazandaran Province in 2009 via using data envelopment analysis approach. To do so, by using basic models of data envelopment analysis (BCC and CCR) and non-increasing return to scale model three types of efficiency, technical, pure and scale are calculated. The required computations are done by DEA-Solver software. The units, evaluated in this paper, are homogenous from production process's perspective. Their inputs are personnel number, terminal number and operational costs and also their outputs include average facilities and average deposits.

3.1. Data envelopment analysis

Data envelopment analysis is a method based on mathematical programming which for measuring relative efficiency of each decision making unit (DMU), having several inputs and outputs, develops an efficient frontier .In this method the efficiency of DMU_i is introduced as the proportion of weight summation of inputs to weight summation of outputs. In this course, DEA looks for the most proper weight sets for each DMU_i. These weight sets maximize efficient ratio of DMUi providing that this ratio does not violate 1 for any of the units.

3.1.1. CRR model

Charnes et al. (1978) under Constant Return to Scale (CRS) assumption[††††] have proposed a model which tries to envelop data by generating an experimental frontier; thus, the technical efficiency of each unit was estimated based on this frontier (Figure 1) . Figure 1 depicts a system with one input and one output. Here, to calculate efficiency of unit E, first value of Y is assumed to be constant then efficiency in the shape of $\frac{OF}{OE}$ in the CCR model or $\frac{OA}{OE}$ in the BCC model is calculated.The main issue in DEA models is determining weights u_r and v_i such that the amount of DMU efficiency be maximized. Let there are n decision making units and DMU_j consumes an m-tuples vector $X_j = (x_{1j}, \dots, x_{mj})$ input and generates an s-tuples vector $y_j = (y_{1j}, \dots, y_{sj})$ output. Therefore, the efficiency of DMU_0 is calculated via model 1.

$$Max\, Z_0 = \frac{\sum_{r=1}^{s} u_r y_{r0}}{\sum_{i=1}^{m} v_i x_{i0}}$$

$$st:$$

$$\frac{\sum_{r=1}^{s} u_r y_{rj}}{\sum_{i=1}^{m} v_i x_{ij}} \le 1$$

$$u_r, v_i \ge \varepsilon$$

Model 1. Dual form of CCR model

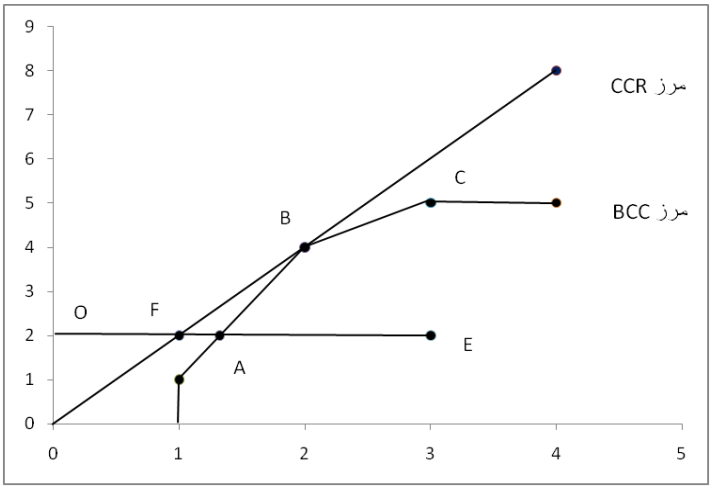

Figure 1. Efficiency frontier in BCC and CCR models

To calculate the efficiency of n decision making units, model 1 should be solved n times. Since the model is nonlinear, to deal with it methods such as fraction programming, fixing the denominator of objective function (input-oriented models) or fixing the numerator of objective function (output-oriented models) are proposed. Once the model was solved, a unit is efficient if the value of objective function is 1 and also all the u_r and v_i are positive. Therefore, the values of these variables in model (1) are

[††††] Constant return implies that a change in inputs causes the change at outputs at the same size.

considered to be equal or greater than a small number like (ε). A unit with the above conditions is called strong efficient unit. A unit is called weak when the value of objective function is 1 but value of at least one of u_r or v_i is zero. Since the condition of being positive for variables is imposed on model (1), this model is not capable of distinguishing weak efficient from inefficient units; therefore, these two groups are classified as inefficient units.

The models discussed in the data envelopment analysis are of linear programming models; hence, these models have another form named dual models (envelopment form) where for example the envelopment form of BCC model is presented (model 3). The CCR model is one of the Constant Return to Scale models. These models ignore the value of decision making unit when evaluating the performance despite the probable effect of institution size on producing services with more efficiency.

2.1.3. BCC model

Banker et al. in 1984, under assumption of variable return to scale, developed the initial studies done by Charnes et al. (1978) . By using assumptions of model (1), the input-oriented BCC model can be rewritten as model (2). As it can be seen, BCC and CCR models are analogous in all cases and the only difference between these two models is variable w which is subtracted from numerator of all fractions in model (2). The value of this variable can be positive, negative or zero which respectively means increasing, decreasing and constant return to scale. Model (3) shows the envelopment form of the model (2). Model (3) differs from envelopment form of model (1) only in the constraint $\sum_{j=1}^{n}\lambda_j = 1$ (convex constraint). Omitting this constraint results in increasing the feasible region in CCR model and therefore the number of efficient units and average efficiency scores in CCR model are diminished.

$$Max\, Z_o = \sum_{r=1}^{s} u_r y_{ro} - w$$

$$st:$$

$$\sum_{i=1}^{m} v_i x_{io} = 1$$

$$\sum_{r=1}^{s} u_r y_{rj} - \sum_{i=1}^{m} v_i x_{ij} - w \le 0$$

$$u_r, v_i \ge \varepsilon \qquad w \quad free$$

Model 2. The input-oriented BCC model

$$Min\, y_o = \theta - \varepsilon\left(\sum_{i=1}^{m} S_i^- + \sum_{r=1}^{s} S_r^+\right)$$

$$st:$$

$$\sum_{j=1}^{n} \lambda_j y_{rj} - S_r^+ = y_{ro} \qquad (r = 1,2,...,s)$$

$$\sum_{j=1}^{n} \lambda_j x_{ij} + S_i^- = \theta x_{io} \qquad (i = 1,2,...,m)$$

$$\sum_{j=1}^{n} \lambda_j = 1 \qquad (j = 1,2,...,n)$$

$$\lambda_j, S_i^-, S_r^+ \ge 0$$

Model 3. The envelopment form of input-oriented BCC m

Care should be taken that BCC scores can only interpret pure technical efficiency. The pure technical efficiency explains the ability of the organization in applying the physical resources for producing maximum possible output; thus the pure technical efficiency is referred as management efficiency. In order to comprehensive comparison among units, using CCR model is necessary. The CCR scores are a

combination of pure technical efficiency and scale efficiency. The ratio of total efficiency (CCR) to pure technical efficiency (BCC) explains the scale efficiency . The scale efficiency is a development which an organization can earn from advantages of return to scale by changing its size towards optimal scale. The drawback of scale efficiency value is its disability in stating whether return to scale for the evaluating unit is increasing or decreasing. To encounter this drawback a novel model is used that has non-increasing return to scale. Converting the convex constraint to $\sum_{j=1}^{n} \lambda_j \leq 1$ is the only difference between this model and BCC model. In order to determine the type of return to scale, one must first solve NIRS model for all the DMUs. Afterward, the results of BCC and CCR models are compared. If these two scores were equal, return to scale is constant; otherwise, results of BCC and NIRS are compared. If scores were equal, return to scale is decreasing otherwise increasing .

4. Measuring efficiency of Sepah bank branches

In this section, at first by using random sampling method, data of 50 branches were applied as sample. Then, efficiency scores of each branch in three dimensions, technical, pure technical (management efficiency) and scale efficiency, were computed by DEA-Solver software. It is worth noting that since performing required changes in input levels is easier for branches, the input-oriented models are used. In table (1), scores of CCR model (technical efficiency), BCC model (pure technical efficiency) and scale efficiency are presented and then to determine the type of return to scale for branches, scores of NIRS model are calculated.

As it can be observed in table (1), among 50 evaluating branches, only 5 branches, Amol, Sari, Haraz Amol, Pasdaran, and Gharen have 100 percent technical and scale efficiencies. However, the study of pure technical efficiency reflects that 11 branches, Amol, Sari, Haraz Amol, Marzan Abad, Keshavarzi Sari, Ferdosi Noshahr, Pasdaran, Gharen, Emam Reza Neka, Modares, and Rogan Nor have 100 percent efficiency in management segment. After that, the types of return to scale of branches were identified. The studies shows that 5 branches are operating under condition of constant return, 44 branches under condition of increasing return and 1 branch under condition of decreasing return. Two last columns of table (the reference set and target values for inputs) are about determining pattern units for inefficient branches which are discussed in the rest of the paper.

R	Branches	CCR scores	BCC scores	Scale efficiency	NIRS scores	RTS type
1	Amol	1	1	1	1	Constant
2	Sari	1	1	1	1	Constant
3	Babol	0.7499	0.7503	0.9995	0.7499	Increasing
4	Babolsar	0.92	0.9201	0.9999	0.9201	Decreasing
5	Chalos	0.8613	0.8641	0.9968	0.8613	Increasing
6	Tonkabon	0.8629	0.8734	0.988	0.8629	Increasing
7	Behshahr	0.9544	0.9643	0.9897	0.9544	Increasing
8	Reza Amol	0.8558	0.8996	0.9513	0.8558	Increasing
9	Khoram Abad	0.5766	0.7596	0.7591	0.5766	Increasing
10	Ramsar	0.7433	0.7661	0.9702	0.7433	Increasing
11	Joibar	0.6751	0.7152	0.9439	0.6751	Increasing
12	Velaiat Babol	0.7288	0.8163	0.8928	0.7288	Increasing
13	Amir Kala	0.5598	0.617	0.9073	0.5598	Increasing
14	Noshahr	0.8684	0.8756	0.9918	0.8684	Increasing
15	Bazar Sari	0.7699	0.8083	0.9525	0.7699	Increasing
16	Zirab	0.7827	0.906	0.8639	0.7827	Increasing
17	Mahmud Abad	0.7742	0.8443	0.917	0.7742	Increasing
18	Nor	0.741	0.771	0.9611	0.741	Increasing

19	Bazar Babol	0.7125	0.8218	0.867	0.7125	Increasing
20	Hazar Amol	1	1	1	1	Constant
21	J. Eslami Tonkabon	0.6014	0.7652	0.7859	0.6014	Increasing
22	Bazar Amol	0.7458	0.7643	0.9758	0.7458	Increasing
23	Marzan Abad	0.9826	1	0.9826	0.9826	Increasing
24	Galogah	0.8531	0.9688	0.8806	0.8531	Increasing
25	Keshavarz Sari	0.9888	1	0.9888	0.9888	Increasing
26	Ferdosi Noshahr	0.9703	1	0.9703	0.9703	Increasing
27	Abas Abad	0.8222	0.8959	0.9177	0.8222	Increasing
28	M. Emam Qaemshahr	0.9159	0.9225	0.9928	0.9159	Increasing
29	Bolvar Azadi	0.9051	0.9192	0.9847	0.9051	Increasing
30	Hamzeh Kala	0.6035	0.7171	0.8416	0.6035	Increasing
31	M. Janbazan	0.6818	0.8045	0.8475	0.6818	Increasing
32	Bazar Babolsar	0.553	0.7483	0.739	0.553	Increasing
33	Farhangshahr	0.7159	0.8279	0.8647	0.7159	Increasing
34	Pasdaran	1	1	1	1	Constant
35	M. Shahid Bazaz	0.5929	0.7573	0.7829	0.5929	Increasing
36	Emam Reza Sari	0.7791	0.8343	0.9338	0.7791	Increasing
37	Hafez Babol	0.5417	0.7313	0.7407	0.5417	Increasing
38	Khezr Sari	0.9178	0.9495	0.9666	0.9178	Increasing
39	J. Eslami Sari	0.7581	0.8539	0.8878	0.7581	Increasing
40	Salman shahr	0.7346	0.8339	0.8809	0.7346	Increasing
41	Fazlolah Amol	0.7525	0.8716	0.8634	0.7525	Increasing
42	Moziraj	0.6012	0.8574	0.7012	0.6012	Increasing
43	Shirgah	0.7658	0.8466	0.9046	0.7658	Increasing
44	Kalardasht	0.8814	0.9379	0.9398	0.8814	Increasing
45	M. Qaem Amol	0.863	0.9857	0.8755	0.863	Increasing
46	Gharen	1	1	1	1	Constant
47	Emam Reza Neka	0.8154	1	0.8154	0.8154	Increasing
48	Modares	0.8103	1	0.8103	0.8103	Increasing
49	Amir Mazandarani	0.7679	0.8924	0.8605	0.7679	Increasing
50	Royan Nor	0.9781	1	0.9781	0.9781	Increasing

4.1. Determining pattern unit for inefficient branches

One of the basic capabilities of DEA technique is making pattern units (virtual) for inefficient units. In this regard, reference set of each inefficient unit makes a virtual unit with 100 percent efficiency such that this unit generates outputs similar to inefficient units by consuming fewer resources (input-oriented models) or by using the same resources, generates more outputs (output-oriented models). Since the model in this study is input-oriented, improvement of input variables region is considered.

A procedure for making virtual units related to each of inefficient branches is to use shadow prices obtained from solving dual model of that branch. The reference units are those efficient units that after solving dual model the amount of slack variable associated with their constraint is zero, in the other words, the shadow prices of these constraints are against zero. Below the column of reference units in table (1), row number of reference unit and in parenthesis the shadow price related to reference unit are presented. In this study, this operation has been accomplished by DEA-Solver software. Results of sampling for the inefficient branches are demonstrated in "Target values of inputs" column. In this section, optimal levels for the amount of costs, number of terminals, and number of personnel that each inefficient branch must gain are introduced. For example Babol branch with technical efficiency of 74.9 percent in order to reach 100 percent efficiency should change the amount of three aforementioned variables to 8469, 16 and 21, respectively.

5. Conclusion and suggestions

In this study, the efficiency of 50 branches of Sepah Bank in Mazandaran province in 2009 was evaluated. The obtained results showed that only 5 branches, Amol, Sari, Haraz Amol, Pasdaran, and Gharen, have total efficiency of 100 percent. That is, their amount of pure technical efficiency (BCC) as

well as scale efficiency is 100 percent. In the other words, in these branches the application of resources in technical and scale dimensions have been fulfilled in the best way. At the same time, the weakest units were Bazar Babolsar, Hafez Babol, and Maidan Shahid Bazaz. Dividing the total efficiency scores (CCR) into two factors, pure technical efficiency (management efficiency) and scale efficiency, proved that among 45 inefficient units only 6 branches (Keshavarz Sari, Marzan Abad, Royan Nor, Ferdosi Noshahr, Emam Reza Neka and Modares) have %100 pure technical efficiency and their scale efficiencies were under 1. This means that, the inefficiency of these 6 units is basically from the factor of their size. The pure technical efficiencies of other 39 units were below 1. On the other hand, the pure technical efficiency of 14 units is greater than their scale efficiency and this means that the inefficiency of these units is fundamentally relevant to the size of them. Moreover, all these 14 units were operating in increasing return to scale condition thus as their size increases, the amount of total efficiency will improve. At the same time, only unit No. 14 (Babolsar) was operating in decreasing return to scale condition so the size of the organization should be decreased. Next, for each of the inefficient units, pattern units have been defined and the required amounts of changes in inputs of branches were determined. So by changing their inputs, the inefficient units move toward efficiency frontier. The results of finding patterns showed that the maximum required decrease in operational costs is related to unit 44 (Kalardasht branch) with the amount of 3456. Also, the maximum required modification in the number of terminal and personnel is related to unit No. 3 (Babol branch) with the amount of 6 and 7.

According to the result, it is recommended that inefficient units perform potential saving on their resources based on improvement procedure defined by pattern units. The amount of resources consumed by branches for generating the current outputs is presented in table (1). Since, branches primarily are operating under the condition of increasing return to scale a proper solution for them could be developing their activities through merging some of the branches. The results reflected that in 31 cases the management efficiency (BCC) is lower than scale efficiency. This difficulty is mainly resulted from wrong decisions made by management and shortcoming in executing operations. To improve, following methods can be applied: learning operations from the advanced units, enhancing the efficiency of organization and promoting the managerial skills, moving toward the planned goals and making sure that policies are exactly being executed.

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Crisis Marketing and Bank Runs

Piotr Masiukiewicz*, Artur Howzan

Warsaw School of Economics, Warsaw, 02-554, Poland

Abstract

The issue of crisis marketing is insufficiently explored and described in the literature, although in practice it has an important role in diffusing a crisis.
Depending on crisis size, customer structure, the level of clients trust in a bank and other factors – a banking panic may occur. This is the most severe symptom of a crisis and many banks could not survive a bank run. Publications on this topic are rare and researchers focus on liquidity models in bank run conditions, however, this implies knowledge of the deposit insurance system – which is not a realistic assumption – as well as estimating the probability of a panic. The research on bank run management models seems to be important. At the same time every panic has a different scale, character and susceptibility to various marketing instruments, hence the generalization of the conclusions of the study should be very cautious.
The purpose of this publication is to analyze the potential of marketing instruments for use in the context of crises in banks and enterprises and to investigate the reactions of customers in crisis conditions. The publication will include such aspects as:

- internal marketing functions in crisis conditions,
- the role of marketing in gaining financial leverage for the company for the repair process,
- potential customer reaction to the crisis of the bank – own research,
- changes in trust in banks,
- condition of customers economic education,
- crisis public relations,
- bank run and the special instruments of the marketing.

Used research methods included a survey among customers of cooperative banks; research survey was repeated from the years 2008, 2010 and 2013 in order to ensure comparability. Research literature and desk research were also used. 11. The results of the study in 2014 showed potential changes in customer behaviour in relation to the results in previous years in the context of the changes in the level of confidence and knowledge of deposit insurance systems.

- *Keywords:* Crisis, marketing, banking, bank run, PR, black PR.

Introduction

The issue of crisis marketing is poorly studied and described in the literature, although in practice it is a matter of instruments deactivation crisis. Using the marketing instruments in a bank crisis can provide significant help in faster deactivation of the crisis.

The thesis of the article is the effectiveness of the marketing instruments in a bank crisis depends on the structure of the portfolio of customers; including their susceptibility to the effects of the different instruments. Thus demoscopy research is needed in this area, giving rise to the composition of crisis

* *E-mail address:* piotr.masiukiewicz@wp.pl

marketing instruments. The article presents the application problems of marketing instruments for both the creation of the crisis in competitor and deactivation of the crisis in his company. Using the marketing to deepen the crisis in a competitor is highly unethical; however, is used in practice. The article describes also customer research in the area of preference for marketing activities in the bank crisis.

As a part of the research the authors put a question where customers derive information and what marketing activities are preferred (positive reception) by the customers of the bank which is in a crisis situation. Such knowledge is essential to implement an effective strategy for the deactivation of the crisis; and accurately chosen strategy in a crisis situation is a condition *sine qua non* to deal with the crisis.

Concept of marketing crisis

The approach to the crisis as an inevitable phase of the life cycle of the company formulated by P.F. Drucker. He believed that the crisis of the enterprise is a consequence of life cycle of sectors, particularly for specialized companies. Moreover, investing in research, which are intended to ensure that innovations, are not a guarantee to overcome the crisis and ensure the survival of the company (Drucker, 1992).

Crisis marketing can be defined as the formation of relationship with customers and stakeholders, and the use of marketing instruments to support the company to handle the crisis. This kind of marketing opens up new areas of research to develop instruments for refusing the crisis (Masiukiewicz, 2008). The most important areas of research are:

- internal marketing functions in crisis conditions,
- role of marketing in gaining financial leverage for company for repair process,
- maintenance of customers in a crisis and new value for them,
- condition of customers economic education,
- e-marketing and online sales risk,
- crisis public relations,
- bank run and special instruments of marketing.

The crisis usually comes as a shock to customers, causing the migration of client's capital; though it must be fought with shock instruments (Masiukiewicz, 2009).

Many behaviour depends on the level of clients' economic education; particularly important for banks.

The definition of a banking crisis in macroeconomic terms was formulated by A. Demirguc-Kunt and E. Detragiache. They believe that full banking crisis occurs when at least one of the following conditions is fulfilled (Demirguç-Kunt et al., 1997):

- The index of overdue loans in the banking system exceeds 10%,
- Costs of operations undertaken to rescue banks exceeds 2% of GDP,
- The problems of the banking sector result in decisions to nationalize banks,
- Appear in mass bank runs or government introduces emergency measures (eg. freezing or additional deposit guarantees, discontinuation the activities of banks).

A. Adamus-Matuszyńska's crisis concept refers to the activities of public relations, defining crisis as a deterioration in the current image of the company (positive, neutral or negative) in the opinion of local, regional or more large organizations, social movements and the media as a result of potential or actual events, assessed by them as negatively affecting the safety of people (Adamus-Matuszyńska, 1999).

The banks recovery actions, including marketing actions, designed to deactivate the crisis are associated with maintaining the confidence of depositors and avoiding the bank run (Masiukiewicz, 2013).

From the crisis' point of view, in each company (ie. both in the real and financial aspect) marketing instruments can be analyzed by purpose criterion for the application of the crisis, namely (Masiukiewicz, 2009):

- As instruments supporting the deactivation of crisis in companies

- As instruments causing a crisis in a competitor (black PR).

The second issue is underestimated in the literature; and banks need to defend against black marketing, thus we dedicate them more space below.

Bank run marketing factors

Public relations and bank run

Depending on the size of the crisis, customer structure, the level of trust that customers have for the bank and other factors - the bank may occur a customers' panic. It is the sharpest manifestation of the crisis and many banks were unable to survive a run on cash. Bank run is especially dangerous for small banks.

The management of panic in the bank involves several problems; both economic and sociological, namely:

- how to manage liquidity during a bank run,
- how to restore customer' confidence in bank,
- which changes should be implement in the marketing strategy of this phase of crisis,
- which marketing tools are effective during clients' panic,
- how to manage panic customers as a sociological phenomenon.

The work of American scholars on the phenomenon of panic and a run on cash are macroeconomic and were associated with deposit insurance systems as a tool for reducing these phenomena (Chari et al., 1988; Diamond et al., 1983; Gorton et al., 2002; Jacklin et al., 1988). However, as indicated other studies; level of customer knowledge about these systems is slight (Masiukiewicz, 2013). Studies on the bank run and its prediction led Kaufman G.G. (1988), Schwartz A. (1988), Schumaker, L., F. Allen and Gale D. (2007), that developed liquidity models in a crisis. Studies on the bank run also led X. Freixas and J. Ch. Rochet - they put the question, whether the systems that guarantee a certain amount of deposits are effective and if the incomplete reserves of banking system are adequate (Freixas, 1999).

Matthews and Thompson proposed a dichotomous prediction model of liquidity during the bank run (Matthews et al., 2005). The authors rightly point out that the runes on banks and bank panics are immanent features of banking, caused by a liquidity crisis in the particular bank. In most theoretical models, these problems are considered in aggregate terms (in the whole banking sector). Analysis and testing of liquidity shocks in banks include publications of Khwaja and Minar (2008).

Research on model of bank run management (including marketing crisis) seems to be important. At the same time summarizing the conclusions of the study must be very cautious.

Marketing factors causing the bank crisis and its apogee and bank run can be divided into external and internal (Khwaja et al., 2008). Among the external factors can be distinguished:

- black PR used by the competition,
- negative official publications in the media,
- negative word of mouth information disseminated by customers,
- negative information on customers' blogs, and more.

For internal marketing factors that may cause the bank crisis, include primarily the loss of liquidity and refusing to withdraw customers' deposits. Moreover constant misleading customers to the interest rate or other features of the product offer and internal marketing mistakes can cause migrations of customers and the bank run (Carlstrom, 1988).

Created by PR reputation of the company can be one of the most valuable resources, as the opinion of a company can directly translate into a rise or fall in its value; PR measures are also generally much cheaper than advertising and have a better impression on clients (Próchniak, 2003). For the bank high reputation is the *sine qua non* of its existence.

Particularly effective but dangerous is the black PR. Black PR is counter publicity, negative campaign, hostile marketing – it means a system of methods and instruments of information and propaganda, primarily for manipulation, leading to discredit an opponent (a competitor) in the public eye. These actions are unethical.

In the sight of the theory of compliance risk, there can be distinguished PR activities lawfully and illegal (black PR). In the sight of the marketing value theory, black PR is the way of arising migration of customers from the company repressed by black PR, and the acquisition of clients' capital by competitors. According to the strategic objective criterion it is possible to distinguish the following types of black PR:

- created accidentally, eg. incompetence of journalists, information noise in the environment, etc. (Bear Stearns bank in USA, Northern Rock in United Kingdom),
- organized to take over the customer segment (Bank Wschodni in Poland)
- planned strategy to destroy a competitor (Ypsylon Bank of Taipei),
- provoked a wrong strategy of PR by the company (mBank and Pekao S.A. in Poland).

J. Stiglitz (2010) points out that the rumours about collapsing of Lehman Brothers in USA accelerated the bankruptcy of the bank.

One of recent example of the international black PR operation was Facebook. The portal hired one of a top PR company – Burson-Marsteller in order to spread false information about Google's lack of respect for users privacy. The releases was popping up on blogs and even in the newspapers.

Black PR as bankruptcy factor

The use of black PR can be especially dangerous for banks, as institutions operating on the basis of public trust.

Can the black PR cause a bankruptcy? Despite the lack of a wider research in this area, the analysis of the cases of many banks allows for an affirmative answer. Black PR aims may be various, but are always destructive, for example:

- acquisition of customers from a competitor,
- bringing a competitor into bankruptcy,
- failure to selling a particular product or service,
- being forced to cooperate,
- hostile takeover of competitor,
- relocation of the distribution network by a competitor,
- acquisition of key personnel of the company.

In the Polish financial crisis conditions in the 90s and later in international banking black PR was used in order to deepen the crisis in the bankrupting banks and take over their customers. Although in some cases it is not clear whether it was accidental operation of journalists or conscious strategy of competitors. The following banks have fallen as a result of the negative press publications: Animex Bank, BSRz Poznań, Posnania Bank and Bank Staropolski. There were also banks that have been rescued, but were taken over by other powerful entities by decision of national banking supervision, eg. BSRz Warszawa and Bank Wschodni in Białystok – the last one has been repressed by the particularly strong black PR from the Italian bank.

The use of black PR causes changes in customers' behaviour and decisions that are divided into stages:
stage 1: decrease in the level of confidence in the bank,
stage 2: loss of customer loyalty to the bank,
stage 3: behavioural decisions – reduction of relations, dissemination of negative word of mouth, change of service providers (migration of customers),
stage 4: loss of the bank value; bank run, bankruptcy.

The situations where the bank was able to survive the bank run are very rare; it usually ends with bankruptcy. Therefore it is important for a bank to make a good marketing preparation for a liquidity crisis and the bank run.

Ypsylon Bank – show marketing. Case study

A typical example of the use of black PR in the form of show marketing to destroy a competitor was a case of Ypsylon Bank in Taipei in the seventies.[‡‡‡‡] Bank X has implemented a program for the development of financial services; therefore Ypsylon Bank felt threatened. Measures taken in order to destroy a competitor and their sequence proceeded as follows:

1) bribed journalists in several newspapers published up negative, based on the slanders articles about bank X. It was a press campaign focused and lasted a few days,
2) the next day Ypsylon Bank set artificial queue at the bank's branches X in the city center (main thoroughfares). The queues were consisted of paid unemployed people that stood in front of the bank (in the public sidewalk) from the early hours of the morning,
3) in the newspapers that morning appeared more articles about the bad financial standing of the bank X,
4) Ypsylon Bank in one of the interviews in the press declared high amount of liquidity loan for the bank X (even though Ypsylon Bank was not asked about it),
5) worried customers in crowds began (using a day off at work) and set up a real queues in order to withdraw the deposits, funds from current accounts etc. Bank run became a reality,
6) after three days, bank X declared bankruptcy.

This is an example of an organized marketing campaign, using instruments such as slander and rumours published in the media, show-marketing – artificial behavioural responses in the form of queues in front of the bank institutions and applying negative information on official announcements (declaration loan liquidity). The aim of the campaign for the destruction of a competitor was achieved surprisingly quickly.

Potential customer behaviours based on research results

In the period of 2008-2014, four surveys have been carried out on clients, on the sources of information and opinion about banks, potential behaviour in a panic, loss of trust and vulnerability to marketing instruments from the bank.

The study was exploratory, using mall intercept. Attempting non-random Internet users reached 651 people in 2008, 625 people in 2010, 277 SGH students in 2013 and 201 family members of bank employees, SGH alumni, University of Warsaw students and Internet users in 2014. Over 98% of respondents used the banks. The study group was characterized by an early age, about 70% of the respondents ranged 18-29. The study was conducted in the period I-IV in 2008-2013 and in the period IX-X in 2014. Questions were closed, however some of them had an opportunity to write own proposals (questions in the "other" entries).

As many as 83% of customers in 2008 and 86% in 2010 were using online banking. In 2014, the use of the online banking confirmed almost 83% of respondents. The first two surveys were carried out among Internet users, which could have resulted in higher percentage of online banking users. Web clients is certainly a segment that is growing rapidly, the vast majority of bank customers have an access to electronic banking. At the same time this segment of clients is the most vulnerable to a bank run as a result of immediate access to different information.

[‡‡‡‡] Note: names of banks have been changed.

According to the first two surveys, respondents as the main source of information and opinion about the bank which they assumed the account most frequently, exchanged opinions of friends and family (and therefore the source of word of mouth).

In the cited study, respondents were asked about their possible reactions in the situation of being informed about the troubles of the bank that provide them with services. When asked in 2010 what will you do if the media reveals one information about poor financial situation of your bank – most of the respondents answered that they will do nothing and will wait for the further information. About 18% of the respondents would like to check the information on the website of the bank (in 2008 – only 14%) and 14% of respondents in 2008 and 2010 will check information online forums (and the respondents are using the Internet, after all!). Approximately 16% of the respondents in 2008 and 2010 said they would have to withdraw all or part of the funds. When asked what will you do if there is a number of negative information about the bad condition of the bank, what decision will you make – about 1/5 of respondents would be able to a bank branch, 15-17% would do nothing while waiting for further information and 13-14% of those surveyed would check information on Internet forums.

Approximately 16% of the respondents in 2008 and 2010 said they would have to withdraw all or part of the funds. When asked what will you do if there is a number of negative information about the bad condition of the bank, what decision will you make – about 1/5 of respondents would be able to a bank branch, 15 - 17% would do nothing while waiting for further information and 13-14% of those surveyed would check information on Internet forums.

Respondents in the period of 2008-2014 were asked what source of information about the situation of the bank will be the most reliable in case of hypothetical financial difficulties and the bank crisis, about which have informed the media. Most indications in 2014 related to the statement of the president of the National Bank of Poland on the situation of the bank, receiving a personal letter from the bank with the information and statements of authorities in the field of finance on the television. Opinion of the local priest and the information from friends and family received the least indication (

Table 2). Customers – as it seems – in this case, appreciate the formal sources of information, hence probably a high number indicated the letter from the bank and low public indication of the bank's board members and information from dedicated phone line (except for 2013). Surprisingly about 9% of respondents typed other action, most of them as a source indicated Polish Financial Supervision Authority.

Table 1. From what sources of information about the situation of the bank will be the most reliable in case of hypothetical financial difficulties and the bank crisis, which the media reported? (Answers in %, possible to mark up to 3 answers).

No.	Source of information	2008	2010	2013	2014
1	A personal letter from the bank with information for you	33.4	19.4	42.6	38,4
2	Information on the bank's website	15.7	9.1	37.6	32,3
3	Information from the bank's dedicated telephone line	3.9	2.3	12.3	8,1
4	Speech of the president of the board of the bank on the television	14.6	8.5	29.2	23,7
5	Declaration of Members of the board of the bank in press	8.4	4.9	18.8	12,1
6	Statement by the president of the Polish National Bank on the situation in your bank	42.6	24.9	50.5	51,5
7	Personal visit and interview in a branch of your bank	15.4	8.9	21.7	30,5
8	Speeches of authorities in the field of finance on the television	30.4	17.6	4.4	31,3
9	Information from friends and family	5.3	3.1	9.0	11,1
10	Opinions and information from the local priest	0.9	0.5	3.6	1,5
11	Other	1.4	0.8	5.0	9,0
x	Total number of respondents	560	625	277	201

Source: Own studies.

In case of bank panic, the number of customers withdrawing all funds added to the number of people that want to withdraw part of the funds (not insured by the Bank Guarantee Fund) in 2008 received 22.9% (

Table 2). However, after 7 years more respondents intend to, as a result of negative information, withdraw cash from the bank – 35,3% (40,4% in 2013). This is significant percentage. Thus, about 1/3 of the respondents are determined that the withdrawal of funds from the bank in a panic. This ratio appears to be high, because the respondents had time to think, they did not act under pressure of time, circumstances and pressures of the crowd – as it happens in a panic.

Surprisingly almost 45% of respondents in 2014 (61,4% in 2008) before withdrawing cash would like to request additional information in the bank, from advisers or the NBP. About 9% of surveyed people in the same year intend to make money transfer using the Internet. Similar percentage will wait out the crisis, did not undertake any action.

Table 2. If you find out that in the bank in which you have invested funds is panic and customers withdraw deposits standing in the queue for several days, what action you will take? (One answer) Figures in % of responses.

No.	The potential customer decisions	2008	2010	2013	2014
1	I'll stand in line and withdraw my savings from the bank	14.5	16.3	17.7	22.7
2	I'll stand in line and withdraw the amount above the guaranteed savings for reimbursement by the Bank Guarantee Fund	8.4	9.3	22.7	12.6
3	Will wait out the crisis, will not undertake any action	10.4	10.1	9.4	9.1
4	Will request additional information in the bank, from advisers or the NBP, and then make a decision	61.4	60.6	45.1	46.0
5	Other action	5.3	3.7	5.1	9.6

Source: Own studies.

The object of the study was the possible reaction to the bank's marketing instruments in a panic (

Table 3). Respondents were asked whether they become the bank's customers in a crisis situation when the bank will propose a new advantageous offer.

Table 3. If the bank, which was in crisis, reported by the media, suggests a new offer, will you remain a customer of this bank? (One answer) Answers in %.

No.	The potential customer decisions	2008	2010	2013	2014
1	Under no circumstances will remain a customer of the bank	29.4	27.2	50.9	55.6
2	Remain a customer, if you get a higher interest rate on deposits than you could get in other banks	25.9	26.7	24.2	13.6
3	Remain a customer, if you get a lower interest rate on loans than you could get in other banks	11.3	11.4	11.6	11.6
4	Remain a customer if I get lower commissions and fees than you could pay in other banks	10.7	16.5	8.3	6.6
5	Remain a customer, if I get a new, medium-term deposits with prize draw, which will replace the current bank deposit rates, while maintaining current interest rates	1. 6	2.1	1.8	2.0
6	Remain a customer, if you get a free personal account management for 3 years	4.1	2.7	3.2	1.5
7	Remain a customer, if I get a free investment advice for 1 year to invest in securities and investment funds	6.6	4.2	2.2	0.0
8	Remain a customer, if I get a replacement deposits on 5-year bonds with interest rates slightly higher than the interest rate on government bonds	5.5	5.4	6.5	5.1
9	Other	5.1	3.8	1.8	4.0

Source: Own studies.

More than half of respondents in 2013 and 2014 (in 2008 and 2010 it was about 30%) answered that under no circumstances will remain a customer. About 1/6 of respondents would remain a customer if the clients will receive higher interest rates on deposits than they could get in other banks. Few respondents indicated that they will remain the bank client, if it offers a lower interest rate loan.

It can be concluded that a significant portion of customers is susceptible to marketing instruments in the area of products and prices. The results of the survey prove that customers over the years have become increasingly cautious and have a greater risk aversion. However, the greater risk aversion can increase the vulnerability to black PR. At the same time, almost 70% of respondents in 2014 knew about the Bank Guarantee Fund.

Outline of marketing management model in a crisis

The framework model for crisis management in the bank marketing can be described as three stages of management. Depending on the type of panic and its numerical range according to temporal criteria, the individual steps of action should be modified.

Stages of marketing activities may include the following:

1) Information activities
- financial supervision of public information on the bank's board of trustees and objectives.
- information management and investors about the lack of a future threat of bankruptcy and the concept of rehabilitation of the bank,
- information management correcting erroneous opinions and comments,
- Information direct to customers (call management, leaflets, special telephone lines, etc.),
- implementation of detailed monitoring of daily liquidity, provide sources of refinancing.

2) Stopping the crowd reaction
- appointment of the staff responsible for the various strings clients and organization lists of payments,
- estimate the number of customers served per day and posting messages on the likely timetable for withdrawals,
- the application of the rules of reciprocity in dealing with clients (advice, providing drinks, etc.),
- development of a "return offer" for people who already broke deposits containing beneficial financial incentives (eg. cancellation period from breaking deposits to pay the deposit, increasing interest rates, etc.),
- personal letters to the board with an offer to return customers and focused PR activities.

3) Fight against black PR
- identification of sources and channels of information,
- quick response to false information (correction in media),
- lawsuit on the basis of the act on combating unfair business practices.

4) Phase of a planned reduction of panic

a) the program of positive action and its popularization, including convincing the bank will operate and has the concept of a recovery plan that is strategic investor who recapitalize the bank and that the bank is solvent,

b) the implementation of an emergency action plan for maintaining liquidity and continuity of payments and other marketing activities crisis.

The key measures in the management of the race for cash include: information management, organization of payments by customers and maintain liquidity, and a new, favourable product range (Masiukiewicz, 2008).

Financial supervision imposed on the Polish banks to apply methods of identifying, monitoring and measuring the liquidity and contingency plans to ensure uninterrupted operation. Part of the ongoing strategy and crisis management procedures should be procedures of marketing crisis management.

Conclusion

Banks need to have marketing strategies in case of a crisis. During a crisis marketing instruments can deactivate the crisis, in particular public relations. The use of black PR by banking competition is particularly dangerous and creating a crisis; although in the recent years there were rather exceptional cases.

Diversification of the portfolio of clients in banks means the need for the demoscopy research on the behaviour in crisis conditions. The research should examine the vulnerability to the impact and the perception of the individual instruments of marketing by the customers in their microenvironment. The Polish study indicates considerable susceptibility to customers' panic.

In general, the issue of marketing crisis is poorly studied and the publications are negligible. The usefulness of marketing in crisis management cannot be overestimated; hence the need for further research of an application for economic practice.

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Learning and Quality Management

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Learning Organization and its Cultural Manifestations: Evidence from a Global White Goods Manufacturer

Zeynep Kabadayı Kuşcu[a] , Müjdelen Yener[b] , F. Gülruh Gürbüz[c], [a*]

[a]*zeynep.kuscu@bilgi.edu.tr, İstanbul Bilgi University, Istanbul, 34060, Turkey*
[b]*mujdelenyener@marmara.edu.tr, Marmara University, İstanbul, 34180, Turkey*
[c] *gulruh@marmara.edu.tr, Marmara University, İstanbul, 34180, Turkey*

Abstract
Being a leader company in the industry is critical and difficult to sustain in today's highly competitive business world. In this study, a leader company in white goods sector is examined to understand its core cultural competency. The critical characteristic of the company is found as its being a learning organization. Various cultural manifestations of the company are analyzed according to Senge's five disciplines of organizational learning. Exploratory case study technique is used in order to understand complex phenomena of being a learning organization.
Keywords: Learning organization, organizational culture, artifacts, espoused values, case study

Introduction

Businesses competing in dynamic and turbulent environments should pursue the processes of learning, behavior change, and performance improvement (Slater and Narver, 1995). According to findings in various researches, organizational learning provides competitive advantage for companies through fostering innovation (Jiménez-Jimenez, 2008). In the present study, culture of a leader global white goods manufacturer (hereafter ABC Company) is examined through exploratory case study method through in-depth interviews, observations and documentaries of the organization. Studying learning organizations can provide useful implications for strategists, since learning organizations can meet and shape the demands of their markets in today's highly dynamic and turbulent business environments.

Literature Review

Organizational Culture

Culture involves three basic human activities: what people think, what people do, and what people makes. Its common properties are: culture is shared, learned, transmitted cross generationally, symbolic, adaptive, and integrated (Tharp, 2009). Culture's levels of analysis include nation, society, industry, organization and organizational subculture. It is not easy to separate organizational culture from larger levels of culture associated within the organization's environment, however organizational theorists believe that is necessary to do (Hatch,1997).

Semiotic (symbolic or language based) notion of culture gained great popularity in the postmodern movement of the 1980's at the time "organizational culture" concept was began to be discussed (Tharp, 2009). This can be considered as a movement of organization theorists who wanted to strike out new

directions, since they were frustrated by modernist theories and methods (Hatch, 1997). Schein's study on organizational culture is one of the most influential one.

Schein (1992, p.18) defines organizational culture as "a pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems." Schein argues that culture is both a "here and now" dynamic phenomenon which is constantly reenacted and created by our interactions with others (1992, p.3). According to him, organizational culture can be analyzed at several different levels. The term 'level' means the degree to which the cultural phenomenon is visible to the observer. The author categorized the organizational culture into three levels: observable artifacts, espoused beliefs and values, and basic underlying assumptions.

Artifacts include all the phenomena can be seen, heard, and felt when a new group with an unfamiliar culture is encountered (Schein, 1992, p.23). Examples for the artifacts are the architecture and physical surroundings; its products; its technologies; its style (clothing, art, publications, etc.); its published values and mission statement; its language, gossip, jargon, and humor; its myths and stories; and its practices, rituals, ceremonies, and taboos (Schein, 1992, p.23; Tharp, 2009). According to Schein, climate of the organization is not the same thing with the culture of the organization but it is the product of some underlying assumptions (Schein 1992, p.24). Artifacts are easy to be observed but difficult to be deciphered unless the observer lives in the group long enough. Otherwise the observer should talk to the insiders to understand day to day operating principles that guide the behavior of the group (Schein, 1992, p.25). Dewey (1934) argues that culture is embodied in material artifacts (including identity claims as well as other identity artifacts such as logo, name, etc.) that can be used as symbols to express who or what the organization is (as cited in Hatch, 2002). Orlikowski(2007) states that materiality has been ignored in organizational theory : "It should be quickly evident that a considerable amount of materiality is entailed in every aspect of organizing, from the visible forms — such as bodies, clothes, rooms, desks, chairs, tables, buildings, vehicles, phones, computers, books, documents, pens, and utensils — to the less visible flows — such as data and voice networks, water and sewage infrastructures, electricity, and air systems." In the next level of organizational culture, there are espoused values and beliefs which refer ideals, goals, aspirations, rationalizations. Espoused values and beliefs may and may not be in parallel with behavior and other artifacts (Schein, 1992, p. 24). Espoused values are those championed by a company's leadership and management whereas enacted values refer employees' actual behavior. Values that gain long-term acceptance often become taken-for-granted that individuals are usually unaware of them. Thus in the third level, there are basic assumptions which refer underlying, often unconscious, determinants of an organization's attitudes, thought processes, and actions (Tharp, 2009). This process is related with social validation which means that 'certain beliefs and values are confirmed only by the shared social experience of a group' (Schein, 1992, p.26). According to Argyris and Schon(1996), if the beliefs and values are not congruent with effective performance, it is observed that in many organizations espoused values reflect the desired behavior but are not reflected in observed behavior. For example in U. S. organizations, it is common to espouse teamwork while individual competitiveness is consistently rewarded (Schein, 1992, p. 27).

Martin et al. (2006) discusses the differences between three main perspectives in organizational culture studies which are integration, differentiation and fragmentation. Integration perspective mostly associates with strong cultures with excellent performance. This approach can be labeled as 'value engineering' since most of this research deals with prescriptions and techniques for generating value consensus even manipulating the innermost personal values of employees (Martin et al., 2006). While integration perspective argues that there should be consensus among different manifestations of culture such as artifacts, espoused values and basic assumptions; differentiation perspective argues that interpretations of manifestations are inconsistent and consensus can be observed only within sub cultural boundaries.

Learning Organization

Senge(1990, p.3) defines learning organizations as "organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together". Garvin (1993)'s definition of a learning organization is ''an organization skilled at creating, acquiring and transferring knowledge, and modifying its behavior to reflect new knowledge and insights''.

In his famous book "The Fifth Discipline", Senge (1990) states that "if a learning organization were an engineering innovation, such as the airplane or the personal computer, the components would be called 'technologies'. For an innovation in human behavior, the components need to be seen as disciplines". According to Senge (1990), to practice a discipline needs to be a lifelong learner, thus it cannot be said that "we are a learning organization" just as it can be said "I am an enlightened person" (p. 10, 11). Senge formulates five disciplines of a learning organization as systems thinking, personal mastery, mental models, building shared vision, and team learning.

According to Senge, systems thinking integrates other four disciplines and turning them into a coherent body of theory and practice. Building a shared vision brings a long term commitment; mental models helps to discover shortcomings in the present ways of looking at the world; team learning offers a broader perspective than individual ones for seeing the larger picture; personal mastery motivates members to continually learn from his/her own actions (1999, p.12). The author summarizes the learning organization as "a place where people are continually discovering how they create their reality. And how they can change it" (1999, p.13).

Senge's work is considered as inspirational by Bui and Baruch (2011). As a result of their study on higher education, authors founds that systems thinking has a positive impact on the process of knowledge sharing, while personal mastery and mental models appear to improve the process of strategic planning of organizations and the pursuance of work-life balance. What is more, team learning and shared vision can promote organizational knowledge sharing, as well as an individual's self-efficacy and a better work-life balance. Last, shared vision also advances organizational strategic planning, while team learning can help academics to teach better.

Methodology

Research Goal

Our research goal is to explore the culture of a leader company operating in white manufacturer sector in order to understand and analyze its core cultural competency, which is found as being a learning organization. Further research is conducted to analyze our case according to Senge's learning organization framework.

Sample

The company is a leader global white goods manufacturer which has been operating more than a half century, with almost 20000 employees working in more than 100 countries. It is controlled by a holding which is the largest industrial and service group in the home country. It can be argued that holding has a strong culture, which influences the family companies.

Data Collection

In this research, exploratory case study method is used through in-depth interviews, analyses of existing organizational documentations and observations. Survey(positivist) research is a useful method to address some research problems however not adequate for complex phenomena (Näslund, 2002). Since organizational learning can be considered as complex phenomena, qualitative research method is preferred in the present study. In-depth interviews are conducted at strategic planning, public relations and human resources departments. The common aspect of these departments is they are all directly linked to CEO and they provide bridging and facilitating functions for the organization. Observations of the physical layout, people and behaviors, as well as the documentaries provided by the organization are used for our analysis.

Analyses and Results

In this part findings are analyzed and categorized according to Senge's five disciplines of a learning organization, which are personal mastery, building a shared vision, mental models, team learning and systems thinking.

Personal Mastery in ABC Company

According to Senge (1990, p.140), organizations only learn through people. Therefore, the author argues that motivation of the employees for growth, productivity and technological development matters. Senge defines "learning" as the ability to produce the results that one truly wants in life. Thus, learning organizations are possible only if they have employees at every level that practice learning (Senge, 1990, p.142). Marsick and Watkins (2003), argue that when individuals increase their learning capacity, they can enhance the overall capacity of the organization to learn as long as the company is receptive and able to place appropriate mechanisms to enable, support, and reward the use of what is learned. According to them, people with high level of personal mastery tend to learn continuously, thus it is a process and lifelong discipline. These people know what they want and where they are. They are aware of their in competencies and at the same time they have self-confidences.

During the meeting with the strategic planning department, it is stated that if they fail from a project they spend a huge effort on correcting their mistakes at the cost of losing time. Most of the members of the strategic planning department are present during the meeting. The meeting lasted two hours and team members do not lose their attention. All of the team members seemed curious and eager to share and acquire information. During the meeting with the public relations department, the members of the department stated that both successes and failures are owned by the company. However, they have also stated that taking an action might last long since they tend to behave precautious. Similar, statement was made by strategic planning department. It is said that uncertainty avoidance is quite high thus only calculated risk can be tolerated. This tendency can be a barrier for learning and should be explored further. In the meeting with Human Resources Department, it is stated that they do not compromise from training budget. During a crisis time, in one meeting, finance manager stood up and said to other managers the company should not cut any training budget no whether what and he was applauded on foot by others. Kim and Callahan (2013) states that training inputs are very important elements as predictors for learning transfer from the perspective of a learning transfer model.

Building a Shared Vision in ABC Company

According to Senge (1990, p.206), shared vision is crucial for a learning organization since it brings focus and energy for learning. The author argues that when people share a vision by heart, they are

connected together by a common aspiration. He states that "vision" is a familiar concept in corporate leadership however it is usually one person's or group's vision. These individuals' visions are shared among people at all levels of their companies and create a common identity among enormously diverse people (Senge, 1990, p.207).

ABC Company's vision was becoming one of the ten biggest white goods manufacturers in Europe. When present CEO took over the position in 2008, he saw that this vision was already reached. He revised the vision so that the focus is being a respected and accountable brand with innovative products. In their web site vision of the ABC Company is stated as ensuring long term sustainable growth, increasing the market share globally, developing innovative product and applications, having a corporate responsibility, ensuring the integration and optimization as a global group and being a respected global company. When we talked to strategic planning department, we saw that vision is internalized and shared by the team. One member stated that they never compete on price; their aim is to produce premium products with innovative aspects. However, this does not mean that the cost is not important. Not only the ABC Company but the culture of the holding has low cost and high quality target. A senior retired manager who has worked at the strategic planning department stated that every employee in the company feels herself/himself as an important part of the vision since they are part of a big family from bottom to top.

Mental Models in ABC Company

Senge (1990) argues that our mental models determine not only how we make sense of the world but also how we take the action. The author states that usually the best ideas never get put into practice, because they conflict with deeply held internal images of how the world works. Thus, the discipline of managing mental models (surfacing, testing and improving) is crucial for building learning organizations (Senge, 1990, p.174, 175). According to Senge, many mental models can exist at the same time and all of them need to be considered and tested against particular situation (1990, p.191). Senge argues that when operating in full advocacy, the goal is to win the argument; however when advocacy and inquiry are combined, the goal is to find the best argument. Senge calls this "reciprocal inquiry" that everyone states his or her thinking explicit and subject to examination (1990, p.191). Accordingly, if managers believe their world views are facts rather than assumptions, they will not try challenge or improve those views (1990, p.203).

In ABC Company, management philosophy had started to change after transmission to professional management in 1965. Before it had a more paternalistic management, general manager was used to act like a one man show and the decisions of him were not questioned by the subordinates. New general manager renewed the organizational structure with the help of the consultants. In 1970s, sales function became more important beside production. In 1980s, the challenge was catching the quality standards and becoming international. ABC Company applied quality circles which aimed active participation of workers in quality management and by this way motivation of the employees was expected to be higher. In 1990s, innovation and R&D became the new challenges. Also, in those years there were important organizational changes as well. Organization was more hierarchical and functional before 1990s. In order to prepare for competition which was about to increase due to customs union, the ABC company was started to be leaned. Hierarchical layers was lessened, managers was selected to their ability to be a team leader instead of commanding and structure. Harrison et al. (2009) argues that organizations turn to normative control systems replacing hierarchy with ideology as a means of inducing participation. By this way, flattery organization structure instead of a hierarchical one can facilitate innovation and adaptation much better especially in turbulent environments and intense competition.

During our interview with the strategic planning department, director of the department states that the company works systematically, at the same time they are flexible enough to compete with domestic and international brands. When present CEO was assigned his position, he changed the vision and increased the integration within the company. He works analytically and he pays attention to all details. The

member of the strategic planning department states that the CEO always takes feedback from vice presidents of each department, if the information or answers are not satisfactory; he asks the bottom lines of the hierarchy. Present director of strategic planning department who was assigned in 2009, increased the participation spirit in the department as well. A retired manager states that in the company the power distance is not very high and there is a good communication within and among the departments. During our interview with public relations department, it is stated that in spite of a conservative culture, there is always a move towards good and new. In the interview with the HR department, it is stated that underlying values of the company are equality and justice, empathy, holistic perspective, honesty, openness and empowerment. Also we are told that there are two main career paths in the company: being a manager or specialist. Regardless of the position it is said that every employee is given a great importance. If one employee is very promising, HR can move that person to a better position. Thus, it can be said that talents are protected by HR function. In house trainings are provided for the employees in order to ensure their professional development.

When we look at the ABC Company's brief history and also the present interviews with the key departments, we can see that the company has successful attempts to catch the day. With TQM practices and six sigma projects the company reflects its intention toward development and change. Today, ABC company has several patents. According to Beck (1992), patents are the indicators of the situation that information actually brings capital. Based on these facts, it can be argued that present mental models are questioned and improved within the ABC Company. However, we believe that there is still a room for more participative management. During the interviews, we perceived that spite of empowerment efforts; still managers have considerable control over decisions. Another thing is that since the company has the biggest market share in their home market, they used to neglect their main competitor, thus this may become a backlash in the future. Strategic planning department is aware of this danger.

Team Learning in ABC Company

According to Senge (1990, p.234, 235), an unaligned team is wasted of energy. In contrast, aligned team has a synergy, commonality of purpose, a shared vision and understanding of how to complement one another's efforts. Senge argues that in an aligned team individuals do not sacrifice their personal interest to the larger team vision but the shared vision is internalized as an extension of their personal vision. Author states that empowering an individual creates chaos unless there is an alignment among the team members. Thus, Senge defines team learning as "the process of aligning and developing the capacity of a team to create the results its members truly desire" (1990, p.236). Author argues that individual learning is not enough for organizational learning; however if team learning is achieved, this can be translated into organizational learning. There are three critical dimensions in team learning: thinking insightfully about complex issues, innovative and coordinated action, and impact of team members on other teams. The discipline of team learning involves dialogue and discussion, while former is related with deep listening, latter is related with searching for the best view (Senge, 1990, p.237). These dynamics distinguish group intelligence from groupthink (Senge, 1990, p.238). Another crucial point is that team learning needs practice; there should be a continuum movement between practice and movement (Senge, 1990, p.238).

According to the interviews conducted with strategic planning department and public relations department, it was stated that the company is like a big family. This was a characteristic that separates the ABC firm from its competitors. In such a climate, team learning can be more effectively achieved. Present CEO also spent effort on increase the integration among various departments. During the interviews it was also mentioned that there can be some disputes between some departments that such as sales and production. Still people from different departments come together to solve the problems. A retired manager states that tenure and age is very important in the ABC Company. Same statement was made during the interview with public relations department. It was said that 10000 hour of work experience is very valuable, even more important than the title. A person becomes a specialist after 3

years, even he/she does not hold a managerial title, he/she can take strategic decisions. Since there is procedural justice in the company, employees do not compete with each other too much. People can express their ideas and suggestions within or among the departments, thus an effective solution can be achieved without losing the big picture. We also learned that turnover rate is very low in the company, life-time employment is common and these factors also increase cohesiveness among employees. Therefore, we can suggest that the climate is appropriate for team learning.

System Thinking in ABC Company

Senge defines the fifth discipline as systems thinking. According to him, this discipline integrates other four disciplines(shared vision, mental models, team learning, personal mastery) and in return systems thinking needs those disciplines to realize its potential (1990, p.12). According to Senge, most of the problems are related with our ability to grasp and manage the increasingly complex systems of the world (1990, p.14). Systems perspective tells that we should look beyond personalities and events, but look into the underlying structure which can shape behavior and produce similar results (Senge, 1990, p.43). According to Senge, systematic structure is related with the key interrelationships that influence behavior over time. These interrelations are among key variables such as population, natural resources in a developing country or engineers' product ideas and technical and managerial know how in a high-tech company. But this does not mean people are separated from the structure; people are part of the structure and they have a power to change it; they are not helpless actors but active participants in shaping their reality (Senge 1990, p.44, 69). System thinking tells us in order to understand the most challenging managerial issues, thus we need to see the whole system that generates the issues (Senge, 1990, p.66). There is no outside, organizations and its issues are part of a single system and the cure lies in the relationship with the "enemy" not blaming someone or something else (Senge, 1990, p.67). Thus, system thinking is a discipline for seeing wholes; interrelations rather than linear cause-effect chains, processes rather than snapshots (Senge, 1990, p.68).

After 1990s, the ABC Company started to become a more process oriented company for increased customer satisfaction and profitability. Present CEO has also spent effort on the integration of the departments. Shared vision and sense of belonging to the company is very high and this also strengthens integration. Public Relation Department states that if one employee is in trouble personally, the company always supports its employee. Likewise, the ABC Company always supports its suppliers, even suppliers feel themselves as a part of a big family. This stakeholder orientation of the firm can be considered as it has the ability of systems thinking. The departments which we have conducted in-depth interviews are strategic planning, human resources and public relations departments. The common points of these departments are they are directly linked to head of the company. Therefore, these departments especially the strategic planning department and human resources function as a bridging facility between departments. Therefore, system thinking is supported through not only the initiatives of leaders but through mechanisms of the company. Caldwell (2012) criticizes Senge's notion of system thinking by not considering the issues of practice and issues of power but depending only the notion of 'distributed leadership'. We can argue that ABC company have mechanisms to balance the power struggles of the leaders, which can limit the self-interest practices and foster organizational learning. Huang and Shih (2011) suggest that most of the organizations adopt formal lectures or knowledge management methods to act as a learning organization, and human resource departments take the leading role for the changing activities. In our case, strategic planning department has a crucial role as well. As researchers, we adopt differentiation perspective that Martin et al.(2006) discuss in their comparative study. According to this perspective, interpretations of manifestations are inconsistent and consensus can be observed only within sub-cultural boundaries such as different departments in an organization. Therefore, bridging mechanisms are important for the consensus of different units.

Categorization of the Findings

In this section, we categorized our findings according their visibility in the ABC Company's culture (see Table 1). According to Schein, artifacts are the most visible parts of the organizational culture. Espoused beliefs and values are the statements made by the organizational members.

Table 1. Cultural Manifestations

	ARTIFACTS	ESPOUSED BELIEFS AND VALUES
Personal Mastery	high training budget (+) employees' openness to an academic research (+)	experience is more important than title(+) new comers should be patient in climbing career ladders(-) avoiding mistakes(-)
Shared Vision	strong slogan for vision statement (+) founder's portraits in every managers' room (+) stylish and sophisticated new product models (+)	high quality and reputational brand target (+) employees feel as they are part of a big family(+)
Mental Models	quality circles(+) 6sigma projects (+) patents (+) innovative products (+)	openness, flexibility (+) revised vision(+) underestimating the local competitors(-)
Team Learning	friendly climate (+) meeting with full department (+) personal performance targets (-) managers have separated rooms(-)	integration among departments (+) solidarity (+) procedural justice (+) sense of belonging (+)
System Thinking	Key departments have bridging functions(+)	holistic approach to problems (+) process orientation (+) stakeholder orientation (+)

Note: (+) means positive indicator and (-) means negative indicator of the category

Discussion and Conclusion

We have conducted an exploratory case study on ABC Company in order to understand its core competency in being a leader in the sector. Based on in-depth interviews, observations and documentation; core competency of this company is perceived as its being a learning organization. Findings are analyzed according to Senge's fifth discipline model and categorized according to Schein's organizational cultural levels of artifacts and espoused values. Our results show that the company confronts many characteristics of the learning organization. However, there are some inconsistencies as well.

During the interviews it is stated that the company hesitates to make mistakes, so that decision are taken very slowly and cautiously. However, avoiding mistakes can be an obstacle for learning. Mistakes even can facilitate innovation. Smith et al. (2014) argues that members of a learning organization are

encouraged to question norms, to explore new avenues of thinking, and to risk making mistakes, in order to improve the products and services they offer and to improve the production methods. Another issue is related with the new comers. They are expected to work 10000 hours so that their experience is considered as an asset. However, during this period, a new comer can be assimilated, especially in a strong culture like in the ABC Company. According to us, sometimes new comers' unbounded ideas or feedbacks can be more valuable than an experienced member. Another point is that due to their being market leader, the company can underestimate the potential of their main competitor in the local market. So this can be the liability of being number one in the sector and can lead to competency trap. During the interview with HR and strategic planning department, we learned that the performance targets are set as individual targets. However, this can foster individualism and competition among the employees. Last contradictory point is that all managers have separated rooms. However, many other companies adopted open offices layout for ensuring equality and communication among employees. So, this may tell us that power distance is not very low and communication is not as strong as it can be for a learning organization.

Beside some inconsistencies, ABC Company is a successful and unique example of a learning organization. This company has a relatively traditional structure however flexible and innovative at the same time. The decisions are analyzed and tested in detail before they are put into practice, but still they are the market leader. They are like a big family with low turnover rates. The company sees its employees as assets. Experience and knowledge are considered even more valuable than title. As a cost of losing time, they spend effort on correcting their mistakes. As Hofstede et al. (1990) states "what is good or bad depends in each case on where one wants the organization to go, and a cultural feature that is an asset for one purpose is unavoidably a liability for another".

Present study has some contributions to the literature. First, Senge's model is analyzed according to different cultural levels of Schein. Second, exploratory case study as a research method can provide deeper understanding of complex subjects as organizational learning. Our analyses can be beneficial for the decision makers in designing the companies as a learning organization.

Our study has some limitations as well. Basic assumptions level of learning organization culture for ABC Company should be explored as well; since there can be inconsistencies with the stated values and enacted ones. According to the study of Weldy and Gillis (2010), perceptions of managers, supervisors and employees differ from each other about the dimensions of learning organization. Quantitative and qualitative research methods can be used together to reach to satisfactory numbers of employees from various departments and hierarchical levels, since our study is limited to core people at the key departments.

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The mediating role of organizational learning capability on the relationship between innovation and firm's performance: a conceptual framework

Gülhan Kalmuk[a] , A.Zafer Acar[b], a*

[a] *Yeni Yüzyıl Üniversity, İstanbul, 34000, Turkey*
[b]*Okan University, Istanbul, 34722, Turkey*

Abstract

Today, in the rapidly emerging globalization process, increasing the competitiveness of enterprises depends on increasing of their business performance. Although there are many methods and techniques affecting business performance, innovation has become one of the most widely used method. Although it is known that innovation increases company's performance; in recent years, it has been started to perform different studies in order to further increase the efficiency. The opinion which claims that organizational learning is one of the most important of them has been developing.

This study emphasizes the importance of mediating role of organizational learning capability on the relationship between innovation and company's performance with a strategic approach. It's tried to prove the contribution of more than one type of innovations to company's performance through organizational learning capability.

The aim of our study is to express whether organizational learning capability is effective as intermediate variable to the effects of innovation at company's performance

Keywords: Innovation, Organizational learning capability, Firm performance.

Introduction

In the global world where the change become the main determinant, the survival of organizations and their ability to show high performance depends on their ability to comprehend the environmental changes and to create appropriate innovations for these environmental changes. When we take into consideration that change and development are continuous processes, we see that; organizational learning capability plays a vital role for enterprises in the internalization process of changes and developments while innovation plays a vital role for enterprises in the adaptation process to changes and developments. When we look at this point of view, we can say that organizational learning capability and innovation are the

* Corresponding author. Tel. + 90-212-44450 01 fax. +90- 212 481 40 58
E-mail address: gulhan.kalmuk@yeniyuzyil.edu.tr

concepts which should be dealt together at the point of continuing company's existence and improving the performance (Özdevecioğlu and Biçkes, 2012). In literature, the innovation has been conceptualized in many ways both as output and as process.

The XXI Century has been witnessing the rise of innovation and innovative concepts as the main carriers of industrial competitiveness. Innovation is as important as the contribution of wealth and growth for maintaining the competitive advantage of an organization. In other words, innovation is a strong competitive strategy for developing world-class standards of production and service performance as well as sustaining and persistence in global markets.

In the context of knowledge management, it is claimed that; a company's capability to learn is the main carrier for developing innovations (Gunsel et al.).

Innovation is vital not only because of affecting to viability of institutions; but also because of affecting the social and economic changes, sustaining competitive advantages, surviving to organizations and improving their performances.

Literature studies show that; learning from internal and external sources provides support for companies which want to innovate. On the other hand, giving too much importance to past experiences decreases to learning performance. In recent years, although the studies on innovation and learning have increased; the role of learning capability, which is focused on the absorptive and transformative role of learning capability, remained limited with the competitive strategies of innovation (Weeraward valve, J., 2003).

According to Porter (1990), companies should develop their learning capabilities in order to add superior value to them, to continue their activities in organizational environment and in order to gain competitive advantages. Because (a) the processes of innovation and competitive advantages are linked with each other, and (b) organizational innovation is an important strategic option for gaining competitive advantages. Companies can learn the ways of improving their performances only by means of good learning.

Literature Review And Hypotheses

Innovation and Firm Performance

Innovation in particular are frequently regarded as important means of achieving superior performance in such competitive environments (Lyon D, Ferrier W., 2002). Innovation has a considerable impact on corporate performance by producing an improved market position that conveys competitive advantage and superior performance. Cronbach for the underlying factors range from 0.93 through 0.71 again indicating reliability of factors. On their empirical study, carried out on 184 manufacturing company in Turkey, the studied effects of types of innovations on firm performance. Results showed positive effect of innovation on firm performance (Günday et al, 20011). Innovation is as strategic asset, helps to improve competition advantage and firm performance. The innovation is conceptualized in literature in many ways as both output and process. Most of the definitions of innovation are expressed by new idea or behavior. In the literature, there are different types of innovation. Adaptation of types of innovation may facilitate the organizations' adaptation process in time and effect the organizational performance (Damanpour and Gopalakrishn, 1998, Damanpour et al., 1989, Rogers, 1995). However, according to Damanpour (1991), the most widely accepted types of innovation are technological innovation and administrative innovation. But, technological innovation refers to new processes, new products or services while administrative innovation refers to new procedures, policies and administrative structures (DewarandDutton, 1986; Hage, 1980; Normann, 1971). Innovation helps company to cope with company's complex external environment as one of the basic elements of long-term success for developing in dynamic markets and for developing the business (Baker and Sinkula, 2002, DarrochandMcNaugton, 2002; Lyon andFerrier, 2002; Scherer, 1992). In the organizations which have Schumpeterian opinions, in order to survive, it is

needed to cope with rapid changes and increasing complexity. Thus, innovative companies can develop new products faster than non-innovative companies and they can be pioneers for taking advantage of market opportunities and accordingly resulting with increased organizational performance (Brown and Eisenhard1995).

As a result of the development of competitive environment, innovation is the major determinant of company performance (Bueno and Ordoñez, 2004). Innovation can provide higher production efficiency with increased market share, higher productivity growth and rising income. (Shefer & Frenkel, 2005). According to Zahra, Ireland and Hitt (2000), innovation can increase financial performance as a result of creating a large variety of differentiated products. In the majority of empirical studies, it has proven the positive relationship between innovation and performance (Brown and Eisenhard, 1995; Damanpour, 1991; Damanpour et al, 1989; Hansen et al, 1999.; Roberts 1999; Thornhill, 2006; Weerawardena et al..2006).

However, as Simpson et al. (2006) pointed out, although innovation has positive impact on company performance, it is expensive and risky and it may create some conflicting results such as increasing costs, employee dissatisfaction or the emergence of unintended consequences.

Organizational Learning Capability and Firm Performance

Organizational learning capability is defined as organizational and administrative characteristics of the elements which provide an organization for learning or for encouraging to learning processes; and it is an important variable for developing organizational performance in order to gain sustainable competitive advantages (Jiménez, Sanz-Valle 2011). Organizational learning is a process where the employees of organization have potential to effect company's development capabilities and behaviors by using their common experiences as well as using the understanding of new information development. (Fiol and lyles 1985, Senge, 1990; SlaterandNarver, 1995).

This process consists of four sub-processes. The first of them is obtaining information. The company obtains information in this process. The second process is the distribution of information; in this process, the employees share information within the company. The third process is interpretation of information, where the information is interpreted by individuals and it is converted into a new common knowledge. The information which is collected to generate organizational memory and documents is stored for being used in future (Baker andSinkula, 1999; SlaterandNarver, 1995).

Organizational learning is an important variable for gaining a sustainable competitive advantage and developing to organizational performance. A common belief in literature of strategic management is; increasing lifespan and performance of organizations is based on ability of learning and adaptation (Fiol and lyles, 1985; Dibella et al., 1996; Stata, 1989) Learning organizations generally react faster and more flexible than their competitors in order to solve their problems for sustaining their long-term competitive advantages (Day, 1994; SlaterandNarver, 1995). Companies can be more advantageous for perceiving market developments and trends by using their organizational capabilities,. (Sinkula, 1994; TippinsandSohi,2003).

Some studies have proven that there is a positive relationship between organizational learning and company performance. For Example; According to Baker and Sinkula (1999), learning orientation has a direct effect on company performance. Theriou ve ark. (2011), tarafından yapılan ampirik çalışmada öğrenme yeteneğinin firma performansının alt boyutu olan finansal performansın özkaynak karlılığı ve non finansal boyutu olan iş memnuniyetini pozitif olarak etkilediğini kanıtlamıştır. Learning capability is positively related to job satisfaction (rp=0.734), a non-financial measure of the firm's performance, and this relationship is statistically significant ($p=0.003<0.01$) at the 0.01 level (2-tailed), learning capability is positively related to ROE (r=0.3466), the second financial measure, and this relationship is statistically significant ($p=0.016<0.05$) at the 0.05 level (2-tailed).

According to Akgün at al., (2013) OLC incorporates a systems perspective, recognising the importance of bridging organisational members to collectively promote a common language, shared knowledge, joint action, and perceptions and beliefs. This results in the realisation of and increased effort in achieving organisational objectives to improve financial performance. They added the mediating variables (OLC) to the relationship between financial performance. Based on the SEM analyses, they found that OLC are positively related to financial performance ($\beta = .34$, $p < .01$).

Tippins and Sohi (2003) studies organizational learning process in five stages (obtaining information, sharing information, interpreting shared information, creating memory and procedural memory); they have positive effects on company's performance. Generally, all the processes of organizational learning are for generating the best performance. Finally, according to Zheng et al. (2010) knowledge management plays a variable role in the relationship between organizational culture, structure, strategy and organizational effectiveness.

In summary, all the empirical findings and evidences show that; there is a positive relationship between organizational learning and company performance (Jiménez, Sanz-Valle, 2011).

Innovation and Organizational Learning Capability

According to studies made, organizational learning ability is one of the basic elements of innovation, since it constitutes a foundation for generation of new ideas and supports creativity when innovation is supported by organizational learning ability (Liao et all.,2008). According to Argyris and Schon (1978); organizational learning improves the innovation capacity of the organization. According to Stat (1989); in knowledge intensive industries, innovation is a result of individual and organizational learning, and sole source of permanent competitive advantage. According to Foster (1986); production with unchanging technology decreases total income, since it does not have desired productivity, however, contrary to this, assuring continuous technological innovation prevents decrease in income, and provides increased income and profit.

On literature, lots of authors proposes different models to explain innovation. Innovation requires acquiring knowledge and sharing it within the organization. Acquiring knowledge is related to obtaining outer information and document as well as the organization's own background information. (Chang and Cho, 2008). Absorbing new ideas, is related to capacity of understanding and assimilating outer information and obtaining commercial income. (Cohen and Levinthal, 1990). Innovation includes the process of acquiring, sharing and implementing of new information. To ensure sustainability of this process, it is advocated that, there must be a strong relationship between ability of organizational learning and innovation. Innovation requires gathering and transforming the information at the same time. Sharing of information and developing new and common understanding within the organization by employees, results in improved organizational innovation. Briefly, developing organizational innovation is depending on transformation and development of ability of organizational learning and providing formation of new sources of information (Koçoğlu et all., 2010).

Some qualitative studies, suggests that, organizational learning should be used as an intervening variable to increase organizational performance of innovation. For instance; Forrester (2000) found positive relation between innovation and organizational learning, in innovations made by two auto manufacturing firms to decrease costs.

In some quantitative studies, relation between organizational innovation and learning was analyzed, and a cultural approach was adopted (Hult et al., 2004; Hurley and Hult, 1998; Keskin, 2006). For example, in previous studies, tendency of innovation was focused, and developing firm's culture was fostered and the degree of support for innovation was measured.

Finally, some studies are focusing on a phase of organizational learning process or one type of innovation. For example; on a study, it was found that there is a positive relationship between knowledge

acquisition and product innovation, Weerawardena et al. (2006) state that, there are three types of learning effecting innovation intensity, finally, Chang and Cho (2008), you can find use the official procedures for keeping information, use of outer information and sharing of background information for improving innovation.

Proposed conceptional framework

In Table 1, it is shown the positive effect mediating role of organizational learning capability in the innovation model that we propose as well as showing its positive effect on company performance.

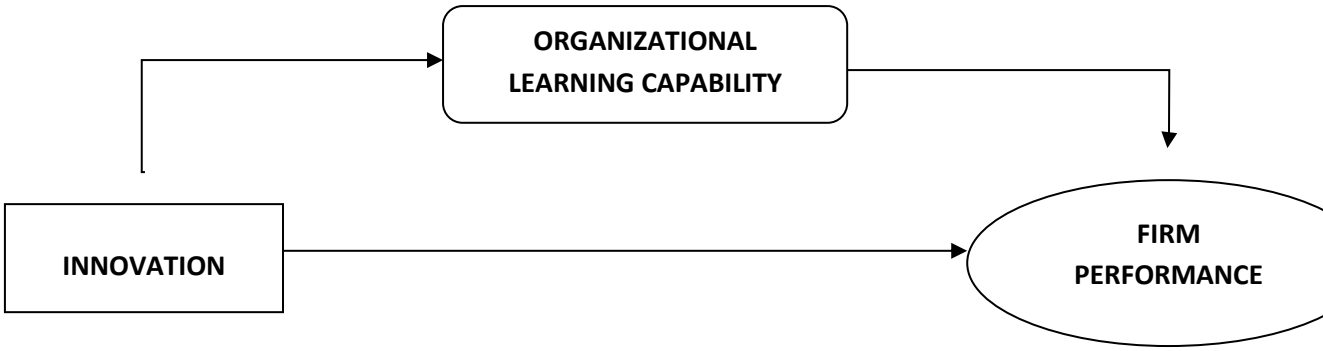

Table 1 The Model Proposed For 'The Mediating Role of Organizational Learning Capability on The Relationship Between Innovation and Firm's Performance'

4. Conclusions

The studies show that; organizational learning capability positively affects to innovation and company performance. In addition, according to many empirical studies and the literature; innovation has a positive impact on company performance (Hult et al., Damanpour, et al, 1989). Therefore, it has been concluded that; innovation's positive impact on company's performance can be increased more as a result of mediating role of the organization's learning capability to implement supportive and facilitating structures and procedures of learning with appropriate administrative activities. Organizational learning capability is closely related with new product development process as it facilitates to obtain, to share and to store information (Jiménez, Sanz-Valle, 2011). Model has not been proved yet by collecting data. In order to prove the model, it is needed to perform some empirical studies.

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Factors Influence e-Learning Utilization in Jordanian Universities - Academic Staff Perspectives

Mohammad Khasawneh

The World Islamic Science & Education University, Jordan, mohammad.khasawneh@wise.edu.jo

Abstract

The new and rapid growth of technologies has changed the face of the world. It is being considered the umbrella for the communication and networking devices and software with applications. In fact, the development of ICT strategy is vital for the growth of the knowledge economy in developing countries. Information and Communication Technology (ICT) is considered in a beginning stage in the developing countries such as Arab world especially in the field of teaching and learning process. This study therefore, is focused with the development of e-learning process through the adoption of ICT among the academic staffs in the Jordanian universities. The main purpose of this study is to examine the potential prominent factors related to the usage of ICT in the public universities among the academic staff. The main challenge of the study is to fully understanding the factor affecting on the ICT usage by applying the Decomposed Theory of Planned Behavior (DTPB). The findings show that self-efficacy (SE), and facilitating condition (FC) have positively affected the Behavioral Intention (BI) to use ICT in the higher educational system among academic staff. There is also a significant relationship between academic staff's perception of technology characteristics and their Perceived Behavioral Control (PBC) towards using the technology in the educational system.

Keywords: Information and Communication Technology (ICT), Decomposed Theory of Planned Behavior (PBC), e-learning, Jordan.

Introduction

The ICT becomes a major factor in the world that drives social, economic and human development. The rapidly growing use of ICT and the Internet by the government, non-government, and individuals in the Arab world has changed many things from the traditional to the digital world. Hence, the development of an ICT strategy is vital for the growth of the knowledge economy in developing countries. In the past three decades, the ICT industry has grown to be a driving force behind the world economy and gaining the attention of the national leaders (Reach, 2004; Intaj, 2007). In relation, Jordan as one of the developing countries tries to become a leader in the Arab world by using ICT in all sectors, particularly in education and higher education sectors, in which, Jordan is considered to have one of the best systems in the Arab world (Al-Zaidiyeen, Mei, and Fook, 2010).

However, the diffusion of the Internet in developing economies is naturally depending not only on the telecommunication infrastructure, but also on the educational development (Deichmann, Eshghi, Haughton, Masnghetti, Sayek, and Topi, 2006). However, the educational-based digital divide is doubly problematic, since the cost for technology-supported educational systems, and the training are considered as the critical challenges for them to be competitive in the global society (Fei Yang, 2006). Moreover, the adoption of educational technology in the developing nations does not always result in directly proportional increases in student learning outcomes, so it is important to understand the critical success

factors in order to optimize outcomes (Fei Yang, 2006; Müller, Sancho Gil, Herna'ndez, Giro', and Bosco, 2007). Hence, the ICT in educational programs must be developed to boost the national economic productivity in order to generate the economic well-being necessity to support technology diffusion in the wider population.

Effective ICT utilization is hindered by the digital divide between the advanced nations and the less advantaged, which points to the needs for more ICT related research dealing with less developed countries to bridge the gap (Ali, 2004). ICT diffusion patterns in the developing world tend to reinforce the digital divide rather than immediately ameliorating it, suggesting that simply implementing technology in a developing nation is not the entire solution (Müller et al., 2007).

Learners in developing areas struggle both with tight budgets for technology and with the cultural context to convert the ICT use into something useful for them (Aduwa-Ogiegbaen and Iyamu, 2005). Even though ICT deployment provides stimulus for economic growth, this outcome is depending on the role of the educational sector in producing educated and technologically-trained workforces (Mistry, 2005).

However, the developing countries face many difficulties to adopt and accept the new technologies in the educational system. In Malaysian universities, Wee and Abu Bakar (2006) found that the rapid growth of technologies without spending sufficient time and effort being spent to understand the technologies is considered as one of the obstacles of the new technologies. They also found that the lack of network connectivity and lack of management support and encouragement for the academic staff to use the technologies in their teaching and learning process hinder the adoption and integration of technologies in the educational system. On the other hand, new generations are more enthusiastic about adopting and accepting of the new technologies. The early introduction of the Internet and new education systems in the Arab Gulf region made it easier for organizations in the region to adapt and change as expected in the technological culture. There is also a shift to an electronic government in many countries in the Arab world region, for example the UAE, Qatar, Jordan and Tunisia, in which most of the services are done on-line.

Problem Statement

Many ICT adoption studies have been widely done in the industrialized world, yet there is insufficient knowledge regarding ICT adoption in the less developed countries and in the Arab regions particularly. The adoption of technologies in the Arab regions in comparison to other countries in North America, Europe, and other developing countries is still at its very early stages (Ali, 2004; Azab, 2005; Rasmy, Tharwat, and Ashraf, 2005; Khasawneh and Stafford, 2008). Adoption and usage of ICT in the Arab regions at this stage has not been fully researched by practitioners or academia in the region. Many countries in these regions are still lagging far behind the developed countries in terms of the acceptance of technologies, and many organizations in these regions are not yet ready to accept the ICT. The lack of basic infrastructure, senior management support, sufficient funds, enthusiasm about ICT adoption, level of education and skills, expertise in the field, and the resistance to anything which is new, unclear, and uncertain all impede the adoption of the new technologies (Twati and Gammack, 2006).

With regards to discussions in the previous studies, the literature reviews of information system (IS) field have shown several factors which influence the adoption and acceptance of information technologies. Among the factors that are widely being studied is perceived behavioral control (PBC) (Park, Lee, and Cheong, 2008; Dixon and Siragusa, 2009; Park, 2009; Karaali, Gumussoy, and Calisir, 2010; Macharia and Nyakwende, 2010; Qudais, Al-Adhaileh, and Al-Omari, 2010). In relation to this factor, behavioral intention (BI) is the ultimate destinations that bring to the adoption of one technology. The study, therefore, applies Decomposed Theory of Planned Behavior (DTPB) (Taylor and Todd, 1995) to develop a research model.

PBC is considered as an important factor in the adoption of ICT in the educational system among academic staff. It refers to "person's perception of the ease or difficulty of performing ICT, as well as the beliefs about having the necessary resources and opportunities to adopt educational technologies" (Ajzen, 1991; Pavlou, 2002). Hsieh, Rai, and Keil (2008) found a significant relationship between individual's PBC such as the facilitation that supports the use technologies and their BI to use these technologies.

On the other hand, Dixon and Siragusa (2009) and Bidin, Shamsudin, Sharif, and Hashim (2010) found the importance of PBC on behavioral interaction to accept and use ICT in the educational system. However, the Jordanian higher education institutions consider the PBC as a very important factor to increase the adoption rate of using ICT in the educational system. In fact, the Ministry of Higher Education and scientific Research (MoHESR) presents the facilitating conditions such as technological, resources, and governmental support to the universities to increase the ICT usage in the educational system (MoHESR, 2013). So, the study focuses on PBC factor to measure the Jordanian academicians' BI to adopt and use of ICT in teaching and learning process.

Hence, this research is conducted to study the adoption and utilization of ICT technologies with a focus on discovering the factors that affect the adoption of ICT among teaching staff (academicians) in Jordanian public universities. However, adoption of ICT technologies will be influence to improve the educational system. Also, the study attempts to build an appropriate research model that will be help the leaderships of higher education institutions to support and encourage the usage of ICT among academic staff in the educational system.

From the above paragraph and reviewing the literatures in the adoption of technologies in the information system field, educational technologies in particular, the study determine the problem statement as the limitation of ICT adoption and usage in the Jordanian higher education institutions among academic staff in their teaching and learning process. In order to solve the problem, the study measures the academic staffs' perception of the educational technologies from several perspective such as technological and management perspectives by studying their perception of PBC that affect on academicians' BI to adopt or reject the educational technologies.

Issues of ICT Adoption in Teaching and Learning Process

ICT plays major roles in every aspect of our life and it's required in every sector and industry, including the educational sector. This sector has been going through some evolution and changes with the influence and supports of ICT to improve the quality and the efficiency of the teaching and learning process (Westera, 2004). These include the innovation of e-learning or online learning, emails, multimedia-based teaching materials, and also application systems, and databases. The adoption and diffusion of educational technologies that leverage ICT and the Internet have provided an unprecedented opportunity for improving higher education around the world (Davis and Wong, 2007). Therefore, the educational technologies must become more popular among developing nations which seek economic improvement (Khasawneh, Khasawneh, Bsoul, Idwan, and Turan, 2013). In fact, the educational technology is becoming more universal at an increasing rate as most firms recognize the needs to prepare the IT professionals for the global environment (Margavio, Hignite, Moses, and Margavio, 2005).

In an effort to transform and realign universities into 'Information Age', a major restructuring of computer centers and IT division and establishing division of e-learning activities has been initiated to maintain and increase the use of ICT in the universities teaching and learning practice. One of the main goals of these divisions is to upgrade the teaching skills and practice amongst the teaching staff. The introduction of such centers has assisted and helped university management, staff, and students in maximizing the value of information technology and further delivering the leading-edge information technology products, services, supports, trainings and education for staff and students.

Apart from this, the globalization of the learning process is paralleled with the dramatic increase in the utilization of the Internet as an educational support tool (Van Raaij and Schepers, 2008). Meanwhile, the developing nations are always one step behind the Western world in terms of the adoption of important information technology innovations (Hall, 1999), and it seems equally unquestioned that the West can provide important guidance and supports to the educational technology initiatives of the developing world, as part of the assistance in the implementation of technology-based economic development models (Watson, 1994). In general, ICT is seemed as critical to the development process upon which economic prosperity depends, but it is also an integral part of the education systems, fundamentally changing the nature of the educational process (Kenny, 2001).

The ICT is essential for economic development in the broad endeavor of global business (Torre and Moxon, 2001) as well as in the underdeveloped nations (Stafford, Turan, and Khasawneh, 2006). Very few researches have been done to examine the innovativeness and ICT diffusion process in the developing nations, particularly in the Middle East (Ali, 2004; Khasawneh and Stafford, 2008). This is imbalanced, since half of the world lives in developing economies (Sahay and Avgerou, 2002), and the developing economies in the Middle East are worthy of special consideration (Loch, Straub, and Kamel, 2003).

ICT is widely deployed in the higher education institutions that changed the fundamental structure and scope of education in universities (Turan and Khasawneh, 2008). The explosive growth of ICT has made it a popular platform for providing electronic services to business and education (Chiu, Hsu, Sun, Lin, and Sun, 2005). It is widely accepted that advances in technology and new developments in educational system provides opportunities to create well-designed, student-centered, and facilitated e-learning environments (Khan, 2005). While many institutions and educators have integrated or utilized ICT technologies into their educational environments, the effectiveness and efficiency of those new technologies in the education system as well as their ability to deliver instruction, are still questionable (Qudais et al., 2010).

Literature Review

Decomposed TPB Model (DTPB)

The DTPB model was introduced by Taylor and Todd (1995a, 1995b). They present a new design of the Theory of Planned Behavior (TPB), which is considered as helpful to the perception of the relationships between the belief structure and the BI. According to Taylor and Todd (1995b), DTPB model presents three sets of belief structure which are attitudinal beliefs, normative beliefs, and control beliefs.

The formal PBC is constructed into the DTPB in which Taylor and Todd (1995) categorize into SE and FC, where FC consists into Technology Facilitating Condition (TFC), Resources Facilitating Condition (RFC), and Government Facilitating Condition (GFC), as seen in Figure 1. Also, the DTPB provides a complete understanding of a behavior practice and more effective assistance to IS managers and researchers who are interested in the field of study.

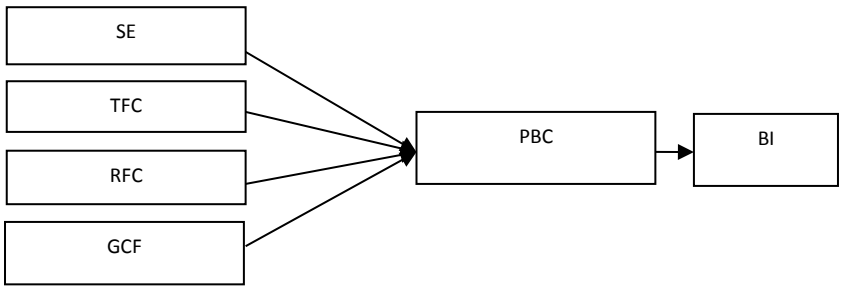

Fig 1. Perceived Behavioral Control Antecedents (Taylor and Todd, 1995)

Perceived Behavioral Control (PBC)

PBC is the third antecedent variable of the BI in the TPB (Ajzen, 1991). According to Venkatesh (2000), the PBC will help understanding the human behavioral and establish an important interest from psychological perspective than the actual control. In particular, control relates to an individual's awareness of the availability of the resources and knowledge and necessary performing a certain behavior. In fact, the PBC and the BI can be considered as the expectation of the actual use of the behavior (Ajzen, 1991). Further, Venkatesh (2000) argues that PBC has the main influence as the dependent factor, which significantly affects the BI. The significance of PBC was established from the role that acquisition of control and facilitates information since the individual has the resources to administer the behavioral activities (Pavlou, 2002).

Researchers have positively considered the PBC as one of the antecedent factors of the BI. In relation, Ajzen (1991) refers it as the awareness of the individuals on the ease or difficulty of performing a certain behavior. Similarly, Mathieson (1991) defines it as “the individual's perception of his or her control over performance of the behavior”, which was extended by Doll and Ajzen (1992) who define PBC as “the

perceived ease or difficulty of performing the behavior and assumed to reflect past experience as well as anticipated impediments and obstacles".

Previous studies have widely utilized the PBC as the influencing determinant of the BI. For instance, Mathieson (1991) found that the PBC affects the BI to use the IS, which is similar with the significant relationship found between the PBC and BI in the computer resources center (Taylor and Todd, 1995a). Also, Pavlou (2002) investigation over the e-commerce behavior found that a positive relationship between the PBC and BI, which is agreed by Battacherjee (2000) and Taylor and Todd (1995). In general, there is a strong relationship between the PBC and BI in the theoretical and empirical studies.

One step ahead, Ajzen (1991) specifies three conditions for a precise prediction of the PBC and BI. The first condition requires that the measurement of the intention and PBC must be compatible with the behavior which is wanted to perform. The second condition requires that the intentions and PBC must be stable in all time between their prediction and observation of a certain behavior. The final condition insists that the important of the accuracy of the PBC to assure the perceptions of behavioral control realistically mirror the actual control.

In a nutshell, the proposed factors of the PBC to examine the adoption of ICT in the higher educational system will be adapted from the DTPB. The determinants of the PBC in the DTPB are (i) SE and (ii) FC which include (a) TFC, (b) RFC, and (c) GFC.

Self-Efficacy (SE)

SE is a determinant factor derived from the social cognitive theory by Bandura (1986). According to Gist and Mitchell (1992), the SE is defined as "a more complex and generative process involving the construction and orchestration of adaptive performance to fit changing circumstances". There are three components of SE (i) a comprehensive summary of the perceived ability to perform a certain behavior, (ii) dynamic determinant, and (iii) involve mobilization part.

Compeau and Higgins (1995) define SE from IS perspective as the individual ability to use computer. In the context of utilization of ICT in the educational system among lecturer, SE describes the capabilities to use ICT and Internet in the teaching and learning process by academicians in the higher educational institutions. Also, Compeau and Higgins (1995) view that SE play an important role in the measurement of computer usage. Hartzel (2003) also found that SE in using computer is important. In contrast, Igbaria and Livari (1995) found that the SE has an insignificant influence on the PU.

Facilitation Conditions (FC)

The FC has appeared as an external factor related to the environment (Triandis, 1979; Taylor and Todd, 1995a), in which an understanding of the expected effect from FC is considered as a critical issue. In general, the FC explain that the performed behavior cannot occur if the surrounding conditions prevent it (Triandis, 1979), or if the FC in the environment makes the behavior difficult (Thompson, Higgins, and Howell, 1994). Initially, it has two categories: facilitating resource factors such as time and money, and facilitating technology factors such as compatibility and security (Taylor and Todd, 1995a).

Investigation on the influence of FC on the individual's BI towards ICT adoption in the educational system cannot be neglected. Although, Triandis (1979) found that FC influences only on the actual behavior, Chang and Cheung (2001) suggest that the FC influences the intention to use. As agreed by Venkatesh, Morris, Davis, and Davis (2003) who found that the FC determinant is similar to PBC, which influence the BI and also the actual usage.

In response to figuring that the FC has been utilized in the measurement of adoption of new technology, Hung, Ku, and Chang (2003) have utilized it and argue that the FC influences the adoption of wireless application protocol (WAP). Also, Venkatesh (2000) highlights that the FC influences the individual's behavior to use and accept the new technologies. Then, Venkatesh et al. (2003) report that the FC influence the user's acceptance of new technologies. Consequently, the researchers considered that the success in adoption and diffusion of technologies means that the more conditions have been facilitated. Therefore, the FC in the field of adoption and utilization of new technologies can be

considered as a motivator that speeds the adoption or inhibitor that delays it. Hence, this study proposes three issues of conditions to be measured: (a) TFC, (b) RFC, and (c) GFC. The following describes each condition of PBC.

Technology Facilitating Conditions (TFC

The first factor of FC is the technology which requires the availability of infrastructure, training, and system compatibility. Previous researchers discussed TFC from IS perspective. For instance, Venkaesh et al. (2003) demonstrates that the degree of an individual beliefs and attitudes to use new technologies are influenced by the organizational and technical infrastructure which support the adoption and utilization of the technology. In addition, Ratnasingam, Gefen, and Pavlou (2005) exploit the concepts of technology connectivity by presenting three dimensions, which are compatibility, telecommunication infrastructure, and internal integration.

With respect to the IS researches, the availability of infrastructure and training are considered as a significant form of the TFC, in which it is measured in many of the technology adoption and acceptance studies. Technological support is considered the main issue in motivation towards using technologies such as providing training (Bonk, 2001), instructional design and development support (Dooley and Murphrey, 2000; Bonk, 2001).

Resource Facilitating Conditions (RFC)

The second factor in FC is the resources, which is required to use specific technologies in the social system. Time and money are considered the important examples of the RFC. Lu, Yu, Liu, and Yao (2003) suggest that regulation, policies, and the legal environment are also considered significant elements in the FC. Cheung, Chang, and Lai (2000) propose that individuals require not only the important resources but also they need to encourage them to adopt the technologies. Consequently, Lee (2001) points out that when academic staff feels that there is an institutional support, their levels of motivation and dedication to use the technologies will be improved.

Facilitating Government Support

The third factor in the FC is government support. Government can play important roles in the diffusion of innovation (Gurbaxani, Kraemer, King, Jarman, Dedrick, Raman, and Yap, 1990). In Jordan, the government encourages the utilization of ICT in the different fields, especially the educational system. They support in facilitating the adoption and diffusion of technology in several forms. For example, they set clear regulations and rules that reduce security risks and playing more specific actions to encourage a higher educational sector to use ICT in the educational system as suggested by Partridge and Ho (2003).

As a result, Hsien et al. (2008) argued that there is a significant relationship between individual's PBC such as the FC to support the use of technologies and their BI to use these technologies. In addition, the FC support encourages them to use technologies in their teaching and learning process. The availability of technologies and their ability to do the functions at best with the availability of resources and government support to use the technology such as hardware, Internet connection, training courses, and motivations support and also considered important to adopt and use the technologies in the teaching system.

Theoretical Framework

The study intends to explore the factors that affect the BI of academic staff in Jordanian public universities to adopt and use of ICT in their teaching and learning process. To achieve the main objectives, this study has applied adoption theory to build a model relevant to the study's environment.

Consequently, building the model has driven the study to indicate several factors that represent an aspect of the study; management aspect that contains factors from DTPB such as (SE), and (FC) including technology, resources and government support.

Eventually, the proposed research model will be the authority for all universities to encourage the adoption and utilization of ICT in the education and learning process in Jordan and the Arab countries because this study is considered as a novel study in the Arab region. The proposed model could assist the decision and policy makers determining the most influential factors that affect the academicians' BI to use ICT in the educational system and try to support it.

Based on the results of the reviews on literatures regarding adoption theories and the literature, the study builds the model, which includes the critical factors to be considered while describing the adoption and utilization of ICT in educational sector in Jordan. Consequently, there are some difficulties encountered in expressing the meaning of the associations among the factors such as the differences of the culture, language, and human skills between developed and developing countries.

Research Model

The literatures reveal that the usage of ICT in teaching and learning process provides the inference that an individual, such as teacher or lecturer adopts ICT in teaching and learning process through two perspectives: (i) technology characteristics, and (ii) external factors. Generally, these perspectives have been utilized in several studies in IS field. For example, some adoption studies focus on technology characteristics, best exemplified by the study which was accomplished by Agarwal and Prasad (1999) which found that the technology characteristics were influencing on the adoption and the approval of new innovations. Agarwal and Prasad (1997) also found the role of technology characteristics in the adoption and acceptance of technologies. Although there are many studies in the IS field include these perspectives, but studies that include sets of antecedent factors to each perspective are rare. For example, the external factor perspective in this research stands for the FC which are definitely the element of the DTPB by Taylor and Todd (1995).

From the theoretical view, the factors that are described in the research model of this study were chosen from the DTPB. The model is proposed as an innovation in the adoption and acceptance of technology in general, and in the Jordanian higher education system in specific. Figure.2 presents the research model in a hypothetical view of the study. This part of the study tries to explain the relationship between factors in the form of the alternative hypotheses.

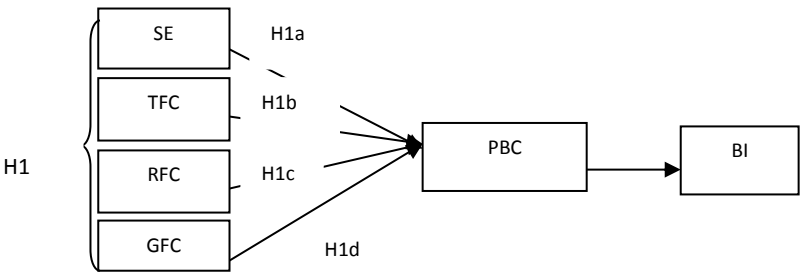

Fig 2. Research Model (Hypothetical's View)

Hypotheses Formulation

PBC deals with a consumer's perception of whether a particular behavior is within their control which is affected by their beliefs regarding access to resources and opportunities and to self-confidence (Ajzen,

1991). As PBC is included as a component of the research model, this factor carries out the control beliefs through four factors identified as the: (i) SE, (ii) TFC, (iii) RFC, and (iv) GFC.

Hypothesis H1: There is a relationship between Jordanian academic staffs' perceived behavioral control and its antecedent factor, control beliefs, comprising beliefs about facilitating factors and the use of ICT in the teaching and learning process.

The research hypothesis H5 can be answered by testing the four sub hypotheses H1a to H1d as follows;

Hypothesis H1a: There is a positive relationship between the self-efficacy and the academic staffs' perceived behavioral control in using ICT in the teaching and learning system.

Hypothesis H1b: There is a positive relationship between the technology facilitating condition and the academic staffs' perceived behavioral control in using ICT in the teaching and learning system.

Hypothesis H1c: There is a positive relationship between the resource facilitating condition and the academic staffs' perceived behavioral control in using ICT in the teaching and learning system.

Hypothesis H1d: There is a positive relationship between the government facilitating condition and the academic staffs' perceived behavioral control in using ICT in the teaching and learning system.

The dependent variable in this study is the BI to use technology. The literature shows that IS studies deliberated the intention variable as the main construct of the individual actual behavioral as supported from the theoretical foundations. Therefore, a significant relationship between BI and actual use of ICT in higher education institution among academic staff is expected. Particularly, the use of ICT in higher education institutions is still introductory, so, it is difficult to measure the actual use directly because the numbers of the potential adopters are still little.

Findings and Results

This part discusses the findings and the results of the study. It presents the results of the hypotheses testing using multiple regression techniques.

Result of Hypothesis: Hypothesis (H1)

Ajzen (1991) addresses that "the more resources and opportunities individuals believe they possess, and the fewer obstacles or impediments they anticipate, the greater should be their perceived control over the behavior". With regards to the perception on control, Table 1 displays the relationships between the individual's control beliefs of ICT (as measured by FC and SE) investigated in this study using Pearson's correlation. Preliminary analyses were conducted to ensure no violation of the assumptions of linearity, normality, and homoscedasticity.

Table 1. Mean, SD, Alpha Reliability and Zero-order Correlation (Control Belief Vs PBC and BI)

Variables	*M*	SD	BI	PBC	SE	TFC	RFC	GFC
DV1-BI	4.96	1.47	(0.83)					
DV2- PBC	5.174	1.498	.745**	(0.91)				
IV1- SE	5.720	1.168	.625**	.700**	(0.90)			
IV2-TFC	4.947	1.930	.805**	.679**	.599**	(0.95)		
IV3- RFC	4.914	1.758	.746**	.687**	.631**	.850**	(0.94)	
IV4-GFC	5.730	0.857	.675**	.545**	.543**	.552**	.550**	(0.67)

Note. ** P<.01

As seen in the Table 1, there is a strong, positive correlation between the academic staffs' SE with respect to ICT-use and their BI and their PBC (r= 0.745 (BI), r= 0.700 (PBC), at p< 0.01). Concerning the three variables of FC, it is revealed that there is a strong, positive relationship between BI and PBC with all FC as follows, TFC (r= 0.805 (BI), r= 0.679 (PBC), p< 0.01); RFC (r= 0.746 (BI), r= 0.687 (PBC), p< 0.01); and GFC (r= 0.675 (BI), r= 0.545 (PBC), p<0.01). On the other hand, Table 2 shows the control belief result obtained by conducting multiple regression analysis.

Table 2. Results of multiple Regression: Control Belief Vs PBC

Predictor Variable	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**
	B	Std.Error	Beta	
IV1-SE	0.496	0.054	0.386	9.256*
IV2-TFC	0.175	0.046	0.226	3.786*
IV3-RFC	0.165	0.052	0.193	3.165*
IV4-GFC	0.182	0.068	0.104	2.671*

R:	0.783
R^2	0.614
Adjusted R^2:	0.610

	DF	**Analysis of Variance**		**F**	**Sig of F**
		Sum of Squares	Mean Square		
Regression	4	570.398	142.600	162.812	0.000
Residual	410	359.101	0.876	1	

Note. **P<.001, *P<.05

The standardized coefficients (β) values for SE, TFC, RFC, and GFC are positive and all of them are significant. Therefore, there are significant relationship between PBC and the academic staffs' perception on SE and TFC, RFC, and GFC, to use ICT in the educational system. Thus, the results support all hypotheses on SE and FC (H1a, H1b, H1c, and H1d).

Conclusion

The study concerns on the adoption of ICT in the teaching and learning process among academic staff in the Jordanian higher education institutions. Therefore, the study proposes a suitable model to guide solving the research problem and specifying the critical success factors of the study. As a summary, the findings of this study contribute to theoretical modelling by modifying the IS adoption theories in relation to a new application area that may be give new insights into the theory. It is also proposed that this study improves a successful adoption of the particular services (ICT) that are supported by new technologies by deepening the knowledge about factors inhibiting or facilitating their adoption for developing nation in general, and for the Arab countries in particular, as these countries share a similar culture, religion, and speak the same language.

In relation to, the findings of the control belief factors that derived from PBC by Taylor and Todd (1995) also reveal having a significant relationship with the intention to use educational technologies. The results are consistent with the previous studies in that they argued that there are four factors indicated for the PBC (SE, TFC, RFC, and GFC). The findings in Table 6.18 showed that the SE and controllability factors, which are represented by three factors TFC, RFC, and GFC, contribute significantly to the variation of intention. The study's findings on SE and the FC factors are positively related to the BI.

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4th International Conference on Leadership, Technology, Innovation and Business Management

Selected Components affecting Quality of Performance Management Systems

Lucie Jelinkova[a*], Michaela Striteska[b]

[a,b] *University of Pardubice, Faculty of Economics and Administration, Institute of Business Economy and Management, Studentska 95, 532 10 Pardubice*

Abstract

The paper addresses two basic components of succesful performance measurement and management, namely the identification of an appropriate set of performance measures and factors that created quality of the performance management system. Based on the literature review, the results of previous research studies and case study analysis, the importance of financial and non-financial measures for decision-making is identified. Furthermore, the current trends in financial performance measurement and the specific areas of performance measurement using non-financial indicators are examined. The essence of sucessful performance management is seen in identification of key factors that affecting the quality of the performance management system. Therefore, the attention is paid to this issue.

Keywords: Performance measurement, Performance management system, Factors, Financial measures, Non-financial measures

Introduction

The development of the economic environment and the related development of diverse approaches to corporate performance management are further reflected in the development of all components of performance measurement systems, primarily in defining performance measures and in determining methods of their measurement (Wagner, 2011). This development is mainly affected by: the technical-economic type of economy, globalization trends, development of modern technologies, the influence of intellectual assets, the degree of knowledge of economic systems, etc. (Dluhosova, 2007)

In the last decade, the pressure on the use of both financial and non-financial measures for corporate performance monitoring has increased continuously. The primary reason is that traditional financial measures are no longer sufficient for understanding performance in a dynamic business environment because they promote short-termism leading to a lack of strategic focus and failure to provide data on quality (Kagioglou et al., 2001, Robinson et al., 2005, Wagner, 2011).

In response to this fact a wide variety of performance measurement systems have been developed and implemented – e.g. Performance Measurement Matrix (PMM) (Keegan et al., 1989), the results and determinants framework (Fitzgerald et al., 1991), Balanced Scorecard (Kaplan and Norton, 1992), the SMART pyramid (Lynch and Cross, 1995, Tangen, 2007), Brown's (1996) macro process model of the organisation, Performance Prism (Neely et al., 1995, 2001), Kanji Business Excellence Performance Management Systems (Kanji, 2002). All of the mentioned PMSs are designed to help an organisation – in their specific way - to identify a set of performance measures which appropriately reflect its strategic

* Corresponding author. Tel. + 420-466-036-664 fax. +420-466-036-010
E-mail address: lucie.jelinkova@student.upce.cz

objectives. The knowledge of Czech enterprises about PMSs is growing. The enterprises are realizing the important role of performance measurement and management. (Horcicka, Jelinkova, 2014)

Performance measurement systems become effective instruments of corporate performance management only if they are integrated suitably integrated within a company's environment, if they facilitate the implementation of the company's strategy, are flexible – i.e. capable of responding to changes in the dynamic, quickly transforming business environment – and thus provide precise and up-to-date information. The management of the performance measurement systems aimed at keeping the dynamics and relevance of those systems is possible when these two key questions are understood and addressed (Kenerley and Neely, 2003):

1. What factors affect (facilitate and hinder) the ability of the performance measurement systems to transform in the course of time?
2. How can companies manage their performance measurement systems in order to continue to fulfill their purpose?

It was in this same context that the main goal of this submission was defined; i.e. to identify the key factors affecting the quality of the management of the performance and relevance of individual performance measures for decision-making and management. First, attention was paid to financial measures, namely to the use of the modern indicators of financial analysis in selected companies. With non-financial measures areas and methods of their measurement were observed, because as stated by Stivers et al. (1998), among others, despite a large number of academic studies regarding non-financial measures, only little is still known about the actual current practice.

Performance management system: performance measures and factors affecting the quality

The success of performance measurement and management depends, above all, on the choice of correct performance measures and of an instrument to measure the degree of their fulfillment and on possible use in corporate management. (Dluhosova, 2007) Corporate performance can be assessed by means of several various indicators. However, the question remains which of these indicators are optimal for measuring long-term corporate performance? Most executives agree that there is no magic formula or one right measure for evaluating business performance. (Stivers et al., 1998)

In the recent years so-called traditional indicators of financial performance measurement have been abandoned. The current trend in financial management results from orientation on the management of corporate values and on transition from accounting, through economic to market measures. Of major importance is transition to value-based management (EVA, MVA), to the increasing information efficiency of capital markets and to the preference of corporate market value. The new concept is based modified financial indicators that enable better identification of processes that can improve the value for shareholders and overall corporate value over the long-term. This concept known as Shareholder Value is viewed as a measure of performance and simultaneously the highest corporate goal. (Dluhosova, 2007)

Resulting from the criticism of performance management only in terms of financial indicators, companies began to employ non-financial measures as well. The reason for the use of non-financial measures is that these measures are better indicators of future financial performance then traditional financial measures and that they are valuable in evaluating and motivating managerial performance (Kaplan, Norton, 1992, Hemmer, 1996). This statement is confirmed also by other scholars, e.g. Ittner et al. (1997, 1998) found that customer satisfaction measures are indicators of accounting metrics and measures such as market share data are frequently used to evaluate managerial performance. Banker et al. (2000) investigated that customer attitudes are good predictors of future financial performance.

With the increasing use of non-financial measures it is important to recognize that they are not free of limitations. Fisher (1992) presents an example: If a company monitors the percentage of shipments delivered on time, there may be an incentive to sacrifice one late but important shipment to ensure the on-

time delivery of many smaller shipments. Moreover, according to Chow and Van der Stede (2006) at least some non-financial performance measures may be difficult to measure accurately, efficiently, or in a timely fashion. They also stated that in a study of business executives by Wm. Schiemann &Associates, the executives widely acknowledged the limitation of traditional financial measures. Nevertheless, they still favoured them over non-financial measures because they saw them as being generally less ambiguous.

The survey of Stivers et al. (1998) conducted in U.S. Fortune 500 companies and in Canadian Post 300 companies examined the degree to which executives identify particular non-financial performance measures as important and whether the companies are measuring them. They revealed three drawbacks which can still be seen as a challenge for performance measurement. First, the measures of innovation and employee involvement were not perceived to be as important as customer service and market standing. Second, although the top managers believe that certain non-financial factors are highly important, a large number of companies are not capturing data on these measures. Third, a large number of companies are collecting data that are not being used by managers in the planning process.

The Gap between what are wanted to be measured and what can be measured is the main reason for performance measurement being still so challenging (Meyer, 2002). However, the identification of an appropriate set of measures against which to evaluate and manage performance is only one dimension of the performance management system. This is an important aspect of the PMS, but in essence the system should be seen as an alignment, improvement and learning tool. (Atkinson, 2012). Therefore it is necessary to focus on key factors that created quality of the performance management system.

These factors that facilitate yet may simultaneously hinder the development of corporate performance measurement systems are addressed in a study conducted by Kenerley and Neely (2003). The study involved seven case studies from companies with at least one year's experience with using performance measurement systems. Interviews led with executives resulted in the identification of main factors that are essential for the development of performance measurement systems in time:

- Process – the existence of a process, its settings, review, and introduction of actions
- People – availability of required knowledge and skills, their use, ability to respond to corporate and employees' requirements, fulfillment of requirements, and introduction of actions
- Systems - availability of flexible systems that will enable collection, analysis and reporting of required data
- Culture – the existence of a culture that will prevent negative perception of performance measurements.

The same four key success factors for the development and implementation of the performance management system (PMS): culture, systems, people and process are also identified by Atkinson (2012). Each group contains suggestions to develop or enhance the performance management system. To summarize, the key points are the top management that proactively promote the deployment of PMF, a culture focused on performance, improvement and learning and PMF that is regularly reviewed and updated in order to remain dynamic, flexible and credible.

Kozena and Jelinkova (2014) identified three the same factors: process, people, systems and complete the factors for manufacturing company: customers, communication, technology and innovation.

Methodology

To achieve the goal set, the method of case study analysis based on semi-structure interviews was chosen. The notion 'case study' can be expressed as the study of a single or several cases. With this method it is possible to capture complexity, details, relationships and processes taking place in a given micro-environment. Detailed examination of one case is assumed to contribute to the better understanding

of other similar studies. This method investigates the characteristics of a case in concern or of a group of cases being compared. Unlike statistical examinations that collect a relatively limited amount of data from many individuals or cases, this method tries to secure a large amount of data from one or a limited number of individuals. Its aim is to capture the complex nature of a case under examination and to describe relationships. Individual case studies can differ, whereas the major differences are perceived in the chosen subject of investigation, in a plan, in selected methods and tools. Case studies may concentrate on the investigation of individual persons, small groups, social groups, organizations, institutions or relationships. (Kabinet of Information and Library Studies, 2014)

Interviews were conducted in twenty middle and large-size companies because such enterprises are expected to apply PMS due to their size. Another criterion of no less relevance was previous experience with performance measurement and management. Simultaneously, researchers studied relevant in-company materials dealing with performance management issues. The interviews covered the following five areas:

1. Which indicators are more important for your decisions: financial or non-financial ones? Why?
2. In which specific areas and in what way do you measure corporate performance by means of non-financial (qualitative) indicators?
3. Which standard indicators of financial analysis are relevant for you?
4. Do you use any indicators of modern financial analysis?
5. Which are the most important factors affecting the quality of performance management in your company?

The analyzed cohort comprised twenty production companies. Six of them are active in the metal working industry and five in the processing industry (three of them specialize in plastics processing and two in the manufacturing of packaging). Three companies are active in the food processing industry. The six remaining companies are active in the technological industry, electrical engineering, the energy industry, the petrochemical industry, the tobacco industry and the textile industry, respectively.

Depending on the number of employee's criterion, companies can be divided into eleven middle-size companies (50 to 250 employees) and nine large ones (more than 250 employees). By analogy, according to their turnovers the companies under investigation can be divided into two groups of five companies with a turnover of CZK 30 to 100 million and into fifteen companies whose turnovers exceed CZK 100 million.

The analyzed cohort of twenty companies comprises fourteen parent companies and six daughters. The daughter companies are members of holdings of which three are based in the Czech Republic; one company is a member of a holding that was created by the merger of a German and an Austrian companies, one company is a member of a Swedish holding and one belongs to a group based in the USA.

Content analysis was used to process the data obtained.

Findings and discussion

Performance measures are fundamental components of all performance measurement systems. Therefore, the investigation focused on them from the very beginning. It is still a common practice in the Czech companies that managers base their decisions only on traditional financial measures. As it was said in the introduction of this article, such traditional measures are no longer sufficient for the understanding of performance in a dynamic economic environment. The researchers therefore investigated whether the managers of the selected companies still prefer financial indicators for decision making and for performance management. Eleven managers - i.e. more than a half – considered financial indicators to be more relevant. They justified this opinion by claiming that financial indicators help them achieve

financial stability and that figures are the best means of presenting employees with the impact of their actions. Seven managers did not mention non-financial indicators at all, one manager stated that the 'company lacks the measurability of soft skills' and plans to introduce such indicators.

Seven managers consider financial and non-financial indicators to be of the same significance. These managers stated that financial results are determined by non-financial measures and that financial indicators only reflect figures yet cannot indicate the areas in which a company makes mistakes and what it should improve. It can be argued that these managers understand the meaning of on-financial measures in the modern system of performance management as it is described in the theoretical premises. In two cases managers even considered non-financial indicators more relevant. This was mainly due to focus on quality and also to the fact that the target value of financial measures is set by a holding and cannot be influenced – unlike non-financial measures – by a specific branch. Since these managers supported their opinions with concrete examples of non-financial measures they used for their decision making, it can be assumed that non-financial measures are fully integrated in the performance measurement systems applied in their respective companies.

The application of non-financial measures is closely connected even with the categories in which they are used by companies to monitor performance. One of the most frequently reported categories is quality in the context of customers' perspective (six respondents), specifically the measures that regard customer satisfaction, number of complaints, failure to supply goods to a customer and average times of delay expressed in days or in the number of contracts in progress. Three respondents reported the quality in production categories; e.g. the internal and external amount of spoilage, the influence of technologies used on production volumes or on machine use indicators. The companies with an integrated BSC model responded, in accord, that they monitor departures from evaluation standard. They responses were not given in greater detail. Only three respondents mentioned the employee's category, namely the indicators of productivity, fluctuation, sickness rate in % and satisfaction. Four respondents did not provide any response. The results of the Stivers et al. (1998) research indicate that customer service factors are perceived to be the most important measures. On the other hand, factors in the innovation and employee involvement categories were perceived to be less important in goal setting. This study came to the similar conclusions on the basis of the deeper analysis of provided non-financial measures.

These conclusions can be interconnected with the category that concerns the significance of the financial and non-financial measures presented above for decision making. As a result, it can be stated that the respondents who consider financial and non-financial measures to be of the same importance are also able to identify the areas in which they apply the non-financial measures to measure performance. On the other hand, the respondents who see the financial indicators as more relevant for decision making did not provide any answer to this question or gave answers that were very brief. Therefore, the results of both partial analyses correspond with each other.

If we concentrate on the financial indicators in detail, we can see that it is the ratio indicators that are perceived by companies to be the most significant of all traditional financial analysis indicators. This fact was reported by fourteen managers who most often base their analyses on profitability, liquidity and indebtedness indicators. Six managers also mentioned absolute indicator. Three respondents assigned the highest importance to differential indicators, primarily net working capital. The Altman Z-score is used only by one company. Two managers did not provide any answers to this question. The responses given imply, save for one exception, that the respective companies do not use summary performance indicators; i.e. bankruptcy prediction models, including e.g. Tamari model, creditworthiness index, Beermanov discriminatory function, Tafler bankruptcy model or overall corporate performance index. Their main advantage is the fast provision of a survey of the financial health or distress of an enterprise, and how stresses eg. Kubenka (2013), solves the problem of conflicting evidence which exhibit different ratios indicators in the company. They can be considered as early warning systems.

The value indicators that are most frequently applied in practice are economic value added (EVA), market value added (MVA) and the CFROI indicator (cash flow return on investment). Only free of the investigated companies run financial analysis with the creation of value for the customer, using EVA. Fourteen respondents answered that they do not use any of the above stated indicators. A third of them do not even consider their introduction since the traditional financial indicators are sufficient for their decision making. One respondent reported the use of both dynamic and static models for the evaluation of the efficiency of and return on investments. The remaining two managers answered the same question in broad terms, reporting that Balanced Scorecard and Benchmarking methods are introduced in the companies they work for.

It is interesting to use this standpoint and to study the factors that affect the quality of the performance management in the companies under examination. Thirteen companies see people; i.e. their employees and management, as the most significant factor influencing the performance management system. Some companies specify this factor in greater detail, most often referring to the quality of employees' work which is perceived as a key indicator by four companies. Two companies in each category mentioned the professional competence of employees, their dedication and interest. In their answers the companies further indicated the will of the management, sufficient number of employees and communication between them. In this context the following relevant factor was indicated by the remaining companies: personnel changes and employee turnovers which only add to other corporate issues. The second most frequently stated factor given by six companies is the costs of the performance management system. In particular, companies mentioned the cost of employees and raw materials; i.e. a company's inputs. The days when company management relied on experience and intuition are gone. Today, management cannot work without information. Of crucial importance is a suitable information system that provides information required. Therefore, it is only logical that the third most relevant factor, as reported by seven companies, is the monitoring of processes, their measurement and securing an information flow across the company by means of information technologies. Data relevance and quality represent another factor that affects performance management processes. This factor was mentioned by three companies. The above-referenced factors are closely connected with control, its quality and frequency which were indicated by two companies. This factor affects mainly the outputs of the performance management system. Individual companies also reported the following factors: error correction, quality of processes, quality of systems and tools, and relevant indicators.

Compared to the conclusion presented in the studies by Kenerly and Neely (2003) and by Atkinson (2012), the respondents stated, in accord, that the people, processes and systems factors are considered to be significant and to have a substantial impact on the quality of their performance measurement systems. Unlike the studies referred to in the previous sentence, our respondents do not assign any relevance to the creation and securing of corporate culture that would support the measurement and management of corporate performance. However, the respondents listed other factors which, in their opinion, influence the quality of their performance measurement systems such as cost, data relevance and quality, securing of error correction and of relevant tools and indicators.

Conclusion

The results of our investigation refer to the fact that financial measures still carry greater significance for companies, yet the huge differences of the past no longer exist in this area. The results of the Fibirova (2007) research still shows, that non-financial performance measures used only 35% of the surveyed companies. In contrast, absolute financial measures used 89% of companies surveyed and ratios financial measures of 60.2% of surveyed companies. A more recent study (Marr, 2004, Stříteská, 2012) show that non-financial indicators are becoming increasingly integrated into the performance measurement systems. The reason is that at present the sustainable value for shareholders is made up of non-financial factors

such as customer loyalty, employee satisfaction, internal processes or innovations (Cumby and Conrod, 2001). However, the conducted analysis suggests that so far only 50% of managers appreciate the significance of non-financial indicator for decision making and performance management. These managers were able to give specific examples of non-financial measures and it can thus be assumed that the same non-financial indicators are fully integrated in the performance measurement systems used in the companies they work for.

Ratio indicators are viewed as the most relevant financial measures within measurement of financial performance. Summary indicators and value indicators remain practically unused in the course of performance management. The question which specific financial indicators are most appropriate for the evaluation of long-term corporate performance was addressed by Siska and Lizalova (2011). Their research tested selected indicators on three-year sets of accounting data published by more than 4 000 local companies that employ more than 20 people each. Using a cluster analysis, Siska and Lizalova identified the most suitable indicators of profitability and growth, specifically return on assets (ROA), asset growth and return on sales (ROS) (adjusted for the risk of year-to-year fluctuation) and sales growth.

The authors see the major problem in the specific areas in which non-financial measures are applied. The examined companies are oriented mainly on quality within the context of customer and production. However, they relate quality only to goods and services, not to the quality of processes and company management which may be the main reason for low-quality products or services. Performance measurement regarding employees or internal processes was rare in the investigated cohort. There was no mention of any measures related to innovations. Performance measures should provide "a balanced picture of the activities of a company and should be multi-dimensional" (Otley, 1999). Nevertheless, if performance measures are not available in certain categories, e.g. in the customers, employees or innovations categories, which was the case with the companies under examination, it cannot be claimed that performance measurement systems provide a comprehensive picture.

The most significant factor that affects the quality of performance management is the people; i.e. employees skills necessary to consistently review and modify PMS as well as senior management commitment. The other factors of relevance reported by the companies included monitoring of processes, their measurement and transmission of information by modern information technologies and costs.

To conclude, the respondents mentioned three factors (people, processes and systems) from four key factors that stated Kennerly and Neely (2003), Atkinson (2012). Unfortunately they absolutely omitted to mention the importance of corporate culture for performance management. Culture conducive to performance measurement, consistent communication, honest use of measures and learning from mistakes, are key assumptions for effective performance management.

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Economic Growth

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Modernization of the Russian economy in terms of innovative development

Azat Faskhutdinov§§§§

Post-graduate student. Kazan Federal University, Address: 18, Kremlevskaya St., Kazan, 420008, Tatarstan, Russia

Abstract

The article dwells on problems of further development of the Russian economy, discloses the factors hampering its progress and defines the conditions facilitating its modernization. The author places emphasis on the formation of innovative clusters and specific relations of partnership between the state, the private business and research and development institutions, that all in complex could ensure further economic growth and the sustainable development of the state economy.

Keywords: **Regional economy; modernization, innovation, innovative clusters, public-private partnership**

The Russian industry keeps on developing as a resource-based economy. Since 2002 the quota of the manufacturing industry in GDP reduced from 17% to 15%, while the extractive industry increased its share from 7% to 11%. Consequently, the resource-dependence of the state economy has been growing for the latest 10 years (according to the data published by Russian Federal State Statistics Service, www.gks.ru).

The structure of the Russian economy is characterized by following indicators: rural economy – 4-6%, material production (except rural economy) – 30-35%, services – 63-68%. At the same time, in the developed countries the share of the rural economy amounts to 2-4%, of the material production – 30-33%, services – 64-67%. Thus, the structure of the Russian economy does not greatly differ from the structures of the developed countries', but nevertheless there is a differentiation in the structures of export (the high proportion of the raw goods) and import (the high proportion of the advanced technology products).

The dynamics of the GDP growth evidences the slowdown of the economic growth of Russia (see Fig.1 “Dynamics of the GDP growth in 2000-2012”, where the green line features GDP in dynamics and the black line figures the linear trend of GDP). According to the opinion of the majority of the Russian economists, in future the growth at the expense of the extractive industry sector is impossible. Moreover, the resources for stimulating the consumer demand are exhausted as evidenced by the statistics data on retails, on the customers’ credit-dependence. The real income of the population grows slowly, even despite of the increments of the payments in the military and the public sector (Starodubsky, 2013). Thus, the existing economic model does not facilitate the rapid economic growth. The Russian economy needs modernization.

* Corresponding author. Tel.: +78432330722; fax: +78432330722.
E-mail address: tmacadem@mail.ru.

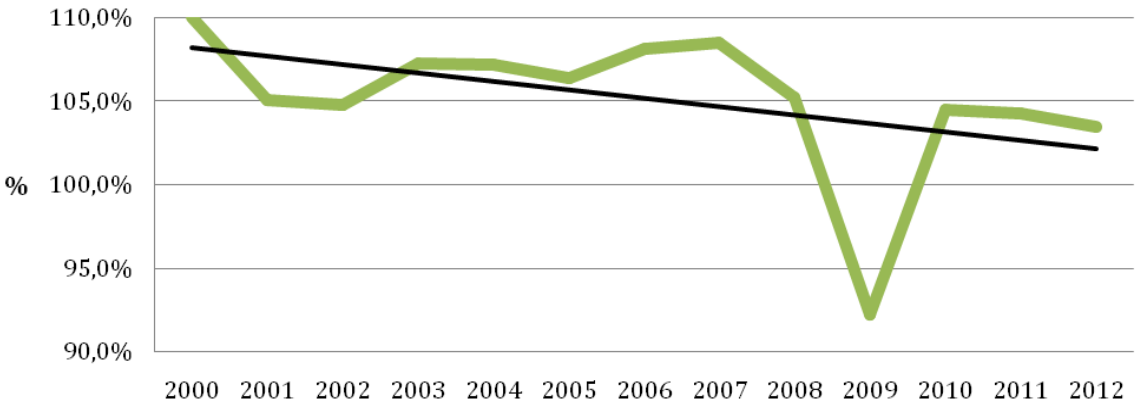

Fig.1 "Dynamics of the GDP growth in 2000-2012"

Modernization may concern not only the sphere of economy. For example, D.Sokolov singles out three aspects of modernization: sociocultural, economical and political. According to Sokolov's view, modernization is the transition from the prevalent model of the social, political and economical relations to an alter one, more differentiated and efficient. As applied to the modern society modernization is considered to be a process of advancement to the social and economic structure that comprises (Sokolov, 2011):

- overt political system based on the social and political liberties;
- dynamic market economy;
- advanced science and research complex in condition to acquire innovations and train the highly-skilled professionals in the field of science and technology.

Modernization means the transition to a new step of civilizational development that requires a cardinal renovation of all the constituents of the economic growth (Ivanova, 2010). The recognition of necessity of modernization signifies the acknowledgement of the retardation in development and necessity of the changes for transition to a new stage of development. In case of Russia, as it was shown above, the retardation lies in conservation of the resource-oriented economy, and the need for changes is designated by the fall-off of the economic growth in its rate and quality.

Modernization in the present-day Russia is the transition from the resource-oriented model of economic development to innovative one. It does not imply only the advanced technology sectors, but also includes the development of the extractive and conventional industrial sectors (Ivanova, 2010).

The transition to the innovative model of economy is to be the terminal point of the modernization in Russia. The way of transformation of the institutions and of the economic policy from the actual state of economy to the final point is the strategy of modernization.

There are two strategies of modernization: "institutional modernization" and "designed modernization"(Polterovich, 2008).

The adherents of the "institutional modernization" consider necessary to undertake the institutional reforms focused on refinement of the public administration and the juridical system, suppression of corruption, elimination of administrative barriers, betterment of the human capital etc. If all these problems are solved at least partially, the market will grow of its own.

The adherents of the "designed modernization" suppose that it is necessary to intensify the investment into the most promising sectors of economy. Both strategies of modernization imply the active role of the

state. Nevertheless, modernization presupposes the partnership of the state, the private business and the society.

Despite the fact that the economic growth directly depends on the level of development of the institutions, we have to agree with the opinion of V.Polterovich on inefficiency of the institutional modernization strategy in case of so called "catch-up countries". The institutions in such countries should develop even in the course of the economic growth process (Polterovich, 2008). V.Polterovich leans on the modernization based on the western technologies. The same opinion is held by B.Titov, V.Inozemtsev and other economists.

However, many economists find possible to modernize the Russian economy by force of innovations. In particular, the research undertaken by K.Gonchar led to the conclusion that the technological development of the Russian economy is heterogeneous, "none of the braches can be called technically outdated or advanced" (Gonchar, 2009). According to the statistics and the data of the surveys carried out among the top managers of the manufacturing industry enterprises, it becomes evident there are groups of companies with relatively high level of production that are able to put out principally new products.

In our opinion, within the modernization of economy the individual innovative potential should be used with simultaneous adoption of the western technologies. The modernization based only on adoption of the technologies would lead to the economic growth, but not to the technological superiority. It is necessary to be competitive not only in the working efficiency, but also in innovations for the rise of the competitive industrial sectors. Clusters may serve the main platform for the formation and spread of innovations. The geographical bunching is the main characteristic of clusters, and it conditions the knowledge transfer, formation of the special-purpose work force, establishment of the durable subordinate and coordinate relations between the organizations. Availability of the specific work force makes for the knowledge storage and forthcoming of innovations, the close location of the organizations facilitates the spread of innovations within the network. All these result in upsurge of the innovative activity of all the enterprises – the cluster composites. Besides, "the growing cluster starts attracting the direct foreign investment in the form of production facility or service rendering, and delivery (Porter, 2010), i.e. clusters work on attracting foreign investment entailed by new foreign technologies. It's noteworthy to mention that the development of clusters brings out the improvement of infrastructure and legislature, adjusts the staff training that causes the development of institutions. Consequently, the development of the territorial clusters prompts the modernization of the economy in whole.

It is necessary to pay attention to all kinds of clusters both on the regional and federal levels. Even in the rural economy clusters are capable of contributing to the labour productivity of the region they are located and of other regions through the cluster network.

The disputable conservative approach of M.Porter should be used in development of the existing and incipient clusters, but not in the process of new clusters formation. New branches and new clusters, according to his opinion, better appear from the already existing ones. It is important to select the specialization so as not to compete directly with adjacent producers. The backing measures may consist in the indirect support of the regional competitive advantage determinants (competitive ratio, factor conditions, demand parameters, backing from the supporting organizations) (Porter, 2010).

Ch.Ketels considers the policy of the "cluster administration" (Ketels, 2003), to be the best support policy. The cluster administration presupposes that the role of the state is to be reduced to elimination of the barriers hampering the clusters' evolution and to arrangement of conditions by means of improvement of business environment and infrastructure in order to enable the cluster's further independent development.

The difficulty with application of the cluster policy lies in impossibility of replication of the positive experience in cluster formation in other regions. In cluster formation account must be taken of local geographical, infrastructural and sociocultural factors.

Cluster policy is more efficient when it is applied in the regional level. Minor countries successfully use the cluster approach as a basis of the state policy. Greater countries, especially federal in structure, use the cluster approach as a part of the extensive industrial policy. At that there is a distinct tendency: the "closer" the area of responsibility of the particular authorities to the regional or local cluster is, the more intensive cluster policy is carried by them.

I.V.Pilipenko suggests the following classification of the cluster policies (Pilipenko, 2011). He subdivides the cluster policy into the policy of the first generation that comprises the set of measures on cluster identification, profile specification of the companies forming the cluster and realization of the general cluster support policy, and the policy of the second generation that is based on the clear idea of the clusters existing in the region and all through the country and implies the individual approach to the problems of development of every cluster in particular.

Depending on the cluster policy initiator the two types of policies are singled out: "top-down" and "bottom-up". The "top-down policy" initiators are mainly the federal or regional authorities. Such kind of policy was carried out in Finland, Netherlands, and Denmark. In case of the "bottom-up policy" the initiators are local business associations. Programs of that type were called "cluster innovation".

The starting point for the innovative cluster formation can be a regional or federal program gathering manufacturing and service companies, scientific institutes. In this case the growth of the innovative potential is achieved owing to that in the market of the high-tech innovations there will be competing research-and-production complexes (not the separate enterprises) that by means of cooperation between their members ensure the intra- and intersectorial transaction cost reduction.

M.Wickham points out 5 factors of the efficient role of the state: 1) the state responds to the needs of the cluster with regard to entrepreneur, geographic and historic contexts; 2) the state may the influence of the main factors, even the role of chance (which in Porter's model is exogenous and unpredictable, similar to the state's role) here can be effectively used on condition of concentration of the state's recourses and forces; 3) the role of the state is to vary according to the stage of the cluster's life cycle, i.e. the state methods of regulation cannot be focused only on one single approach; 4) the state should provide the required infrastructure for the cluster development, moreover, trying to foreseen the needs of the business structures, not just to pursue their current demands; 5) the support of the state is to be focused on the leading company, the core of cluster.

According to the role of the state M. Enright singles out:

- *Catalytic*, when the state brings the interest parties together, e.g. the private companies or science and research organizations, and so that it stands for the "catalyst" of interaction and provides the limited funding of the projects.
- *Supportive*, when the authorities in addition to the catalytic cluster policy assign means for the development of the regional infrastructure, education and training and take action about stimulation the cluster development.
- *Directive*, when the government forms and implements the programs aimed at changing the specialization of the region by means of cluster development.
- *Interventionist*, when the government alongside with directive measures takes responsibilities for making decisions on directions of further cluster development determining its specialization by means of giving grants and transfers, setting legislative restrictions and by force of active control over the companies in the cluster.

Legislative regulation is the direct method of the governmental regulation, when the state by force of the authorities influences the social relations allowing the participants the legal action, conferring rights and charging with duties, and gives them chance to choose a certain behavior within the limits set by legal regulations (Kozbanenko, 2002). Legal regulation, in our opinion, is one of the basic methods of governmental regulation in the field of cluster development. It is used alongside with other methods of direst governmental regulation (persuasion, enforcement, public administration, state control etc.) and the

methods of indirect regulation (education, democratization of regulation, governmental contractual work, taxation, custom values estimation etc.).

Normative and legal regulation is a corpus of norms, standards and procedures of the social activity in the sphere of exercise of the state power and the state regulation by means of ensuring of the law compliance by the authorized subjects of the administrative relations and legitimized by the trust and recognition from society (Kozbanenko, 2002).

Thus, normative and legal regulation of the clusters' activity means creation of the system of norms, standards, procedures through which the government influences on the social relations in the sphere of regulation of territorial-production clusters. This regulation is to result in development of the existing clusters and formation of the new ones, which in its turn is to lead to strong innovative growth of economy.

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Design and Economic Growth: Panel Cointegration and Causality Analysis

Melike Bidirici*****, Eda Bohur

[a]*Yıldız Technical University, Social Science Institute, Istanbul, 34349,Turkey.*

Abstract

Orthodox economic theory does not investigate the connection between design and economic growth in details but design affects the economy. Design is very important for realizing the radical invention for economic growth and it has important roles in industry lifecycle and at different stages of business cycle. In this paper, it was investigated the relationship between sales from production, exports, gross value added (US,İhr,BKD) and about was investigated from 1982 to 2012 for 1.000 largest firms in Turkey. The data was withdrawn from 1.000 largest firms represented by the Istanbul Chamber of Industry (ICI) in order to determine impacts of design on firms, The firms that undertake design activities and that continuously take place among the top 1000 between 1982 and 2012 and which comply with similar performance criteria and the sector differences for group 4 were neglected. The panel cointegration test and Granger Causality methods were employed to examine the relationship. Granger causality result determined there is evidence of bidirectional causality between the variables (sales from production- labor, sales from production – gross value added and labor) in all groups.

Keywords: Design, Economic Growth, Productivity, Panel Unit Root, Panel Cointegration Test

1. Introduction

Orthodox economic theory does not investigate the connection between innovation, design and economic growth in details but innovations on every level of life, changing products, processes and organizations, have created the effects on economic growth. Technological innovations accept as an exogenous variable. On the other hand, Hayek (1948) determined that economic problems arise as consequence of change but Neo-Classical school avoided its consequences. Heskett(2009) showed Hayek's emphasis on economics being innately concerned with the consequences of change and design

Thorsten Veblen(1870) as founder of institutional theory is developed the concept of conspicuous consumption as an index of wealth and status. Then Duesenbery (1948, 1949) emphasized conspicuous effect and conspicuous production. The concept of conspicuous consumption and production is included the effect of design. Heskett(2009) determined in the contemporary world, conspicuous consumption has moved down-market. In China, for example, where Western brands have become an index of status.

Schumpeter (1942) criticized the incapacity of orthodox theory to deal with dynamic changes and he emphasized the role of innovation as the main stimulant of growth. According to Schumpeter (1942), the waves of technological revolution sweep old industries away and replace them by new ones in a process of "creative destruction". Schumpeter accepted that capitalism reform regularly on economic structure and this structure accrue with technical improvement. So, there is a creative destruction. Long term

***** Corresponding author. Tel. + 90-212-383-2527 fax. +90-212-259-4202
E-mail address: bildiri@yildiz.edu.tr

growth is provided by technical innovation and technical innovation is provided by creative mental. In this condition, Schumpeter showed that price was not the dominant criterion in competition.

New Growth Theory, among them, Paul Romer, Paul David, Nathan Rosenberg and W. Brian Arthur (Heskett, 2009) developed to Schumpeter's theory. On the other hand Romer (1992) pointed at technical innovation or new ideas. He thinks that knowledge savings increase advantage of the firms that use knowledge. Unlike the conventional factors of production, labour and capital, ideas are not scarce and convergence between the countries will decrease. Rosenberg (1982) accepted knowledge in making technology into an effective instrument except price competition.

On the other hand, in orthodox economy literature, this kind of coded knowledge is potentially a public good and "…it is potentially available to anyone with the ability to understand it. Once ideas are coded, they can be possessed by numerous people at the same time, and be made available to any number of people with little or no additional cost"(Heskett, 2009). In perspective of neoclassical economy, despite important impact on production, design and innovation's role is external and technical improvement is equal with public supply.

However, It is difficult to determine effect of design on economics. Because there is relate with many other elements as investment, competitiveness condition, marketing, innovation, R&D.(Bruce and Bessant,2002) Design can increase the performance of firms by changing the value of outputs, cost of inputs, consumer demand and efficiency of the production and it can turn into an important competition tool for the firms. In accordance, design is a fundamental requirement for innovation, adding value, increasing market share, growth, assuring national and international competitiveness (ability to export and/or increasing export share). Besides, design can have effect to change non-price factors as ergonomics, performance, style, endurance, colouring, stability and structure. Corfield, et. all (1979), Rothwell and Gardiner (1984), Roy, (1990), Potter(1991), Paul(1999), Hietamäki (2005), Bildirici and Bohur (2008) developed different methods to measure the impact of design on economic and on international competitiveness.

In this study, the impact of design is tested by utilization of variables such as gross value added, sales revenue, labour and exports as it can be seen in Bildirici and Bohur,2008. The reason of using these variables for determination the value of design is that these variables demonstrate design performance. Design effect consumer demand, product price, export, labour productivity. The firms that we analyzed are among the biggest 1000 firms that produce according to international standards and have exporting capacities as another firms in the same sector with them. Accordingly, the reason for firms having higher value added in comparison to firms of the same sector is incorporation in design activities. Especially export activities embrace design effects. Design is necessary for the success in international competition. Nowadays in global world it is not possible to export regardless of design. The other criterion that is used is sales revenue as measure of consumer demand and gross value added is measure of design and labour productivity.

In the first section of the study, the effects of design on economy are determined. Turkey's design performance is included the second section. Third section takes place a panel co-integration analysis and fourth section covers econometric results.

2. The Effects of Design on Economics

The relationship between design and economy is rarely investigated. Design is very important to realize the radical invention as an innovation and it has important roles in industry lifecycle and at different stages of economic up and downturn.

On the other hand, design is not only an important part of the innovation process but also contributes to different stages of lifecycle of technology and production. (Walsh et al., 1992) Each elements of design is represented within the innovation model. Clearly, design and innovation are inextricably linked (NIZ: 4; DTI, 2005; Bohur ,2007).

Design, innovation and R&D have effects on increasing the firms' revenue. Design helps firms in diversification of products. This is due the resources and time is more limited for design instead of innovation. Mostly design improvements of firms are bread and butter of the product development. Successful redesign, component improvement and evolution of the product to improve its performance would increase product quality and reduce its costs(Walsh,2000). While innovation and design with its relatively narrow meaning become more prominent for sustainable growth, it is considered essential to establish mechanisms to flourish design and to increase opportunities to reach capital in order to establish design economics.

Design has an important role in change and appearance of demand. As design starts to increase the importance of non-price factors on demand and changes the demand relationship we interpret in the scope of quantity-price relations, it also signifies the inverse demand relationship. But design is not always effective on customer's product demand. Design is an important competitiveness tool for firms. Also design can lead to a change non-price factors as ergonomics, performance, style, endurance, colouring, stability and structure.(Hietamäki et al .,2005)

Design is an important competition element for the firms and also its an important marketing element which helps to increase firm's image and dependence of the customers (DTI 21). On the other hand creativity and design are important power for increasing firm image and customer loyalty. Because of that reason personal choices are more important than massive choices for design options. Design effect on demand is not same as incredible innovation or price effect. It is not possible to say that design can move the demand curve totally to right direction. (the similar outlook about demand curve shifting can be found the study (Johnson and Myatt (2004). Because although if price doesn't change, new design may not be preferred by all consumers. So some consumers will continue to prefer and buy the product, some will stop buying and some will be neutral also it's uncertain that which situation would be effective.(Johnson and Myatt,2004)

Product design application and consumer demand studies are related with Lancaster (1966, 1971) and Wash et al.,(1992). Walsh (1992) determined that decision and choices about design determine component configuration and manufacturing- montage material so design affects production expenses. On the other hand design also affects product life circle. It can be expected from service costs to reduce and total cost that appearing during the total using period to decline as the reliability of the product is increases. Mussa-Rosen (1978) and Johnson-Myatt (2003b, 2003a) papers in this context are important. Due to J. P. Johnson and D.P. Myatt (2004), design will rotate the demand curve rather than shifting it and it will affect the distribution of expected value of consumers (Johnson and Myatt,2004).

On the other side, design is important the policy tool in perspective of international competition and trade. While Smith (1776),'s absolute advantage and Ricardo (1819)'s comparative advantage theories have been discussed today as well but international trade has changed significantly in the 1960s. In this process, Posner (1961) introduced a new product may export it at least until imitators come into the market, and he explained non-price factors including innovation, the product cycle, the operation of multinational enterprises, delivery dates an sales efforts in competitiveness firstly (Bohur,2007).

Non-price factors were defined firstly by the product life cycle approach of Vernon (1966). In the scope of development of trade theories, studies of Vernon (1970), Hufbauer (1970), Wells (1972), Soete (1985), Dosi (1990) were important. The important point of these theories can be allowed to continuously produce qualitatively differentiated. Due to Dosiet et al (1990), Soete (1988) learning based on comparative advantage is the fundamental of the process as innovative advantages can be established by staged accumulation of capital and technology that are accessible by sectors and that are both the cause and result of the technological focus.

Fegerberg (1985) investigated the contribution of technological innovation to economic growth and accepted design as a part of innovation and technological change. Ughanwa and Baker (1989), on the other hand, studied the role and impact of design on international competition and they found that design

and its related factors increases the competitive power. Economics is important from the design perspective in international competitiveness world. Its important to manage all dimensions of design as well as to unite them productively for inretnational competitiveness power. (Walsh et al 1992- Oyemeka et.al., 1989)

But it is hard to measure the effect of design on economy and international competitiveness, whereas it is known that this impact is large and significantly important. Even if the economic impact of the design is multidirectional, it is hard to separate its effect from other factors as investment, marketing, competitive conditions…etc.There is also another advices that not to separate them and try to mesure their additive one by one. This effect is strong because of their cooperation (Bruce and Bessant,2002) (Potter et.all (1991), Hietamäki (2005), Pres, et al (1995), Paul et al (1999), Corfield, all (1979), Rothwell, Gardiner (1984), Vivien et al (1992), Ughanwa and Baker(1989), Johnson and Myatt (2004), Hietamäki, et al (2005), Hertenstein et al (2005), have designated different methods to measure the effect of design on economy and/or international competition. Design can enable valuable competitive advantage.

When looking the Worlds Economic Forum's Competitiveness report, it is seen that the countries which use design, attend to design dimensions are the competitiveness countries. Ever since middle of 2000's emerging countries production rate is increasing instead of developed countries.

All identified ways of managing design are basically non-price factors, most of which influenced by design, once again emphasizing the importance of design in international competitiveness (Oyemeka et.al.,1989) The countries which have recognized the importance of design in the economics, have national design policy and supporting design concept programs. In the mid-1950s, there existed trained professional designers in Japan. Policies based on the Japanese model were also introduced in Korea and Taiwan and similarly have played an important role in their economic growth (Heskett; 2009). A host of countries Finland, Ireland, the UK, Taiwan and South Korea have developed policies about design and creativity for increasing international competitiveness. Many countries particularly as England, Japon, Germany accept that design and technology should be supported by government. The most wide-sweeping design policy is applied perhaps in Finland and Korea.

Table 1: The Global Competitiveness Index 2013-2014 Rankings

	GCI 2013-201		GCI 2012-2013											
Country/Economy	**Rank**	**Score**	**Rank**	**Change**										
Switzerland	1	5,67	1	0	Malta	41	4,50	47	6	Mauritania	141	3,19	134	-7
Singapore	2	5,61	2	0	Poland	42	4,46	41	-1	Angola	142	3,15	n/a	n/a
Finland	3	5,54	3	0	Bahrain	43	4,45	35	-8	Haiti	143	3,11	142	-1
Germany	4	5,51	6	2	**Turkey**	**44**	**4,45**	**43**	**-1**	Sierra Leone	144	3,01	143	-1
United States	5	5,48	7	2	Mauritius	45	4,45	54	9	Yemen	145	2,98	140	-5
Panama	40	4,50	40	0	Mauritius	45	4,45	54	9	Burundi	146	2,92	144	-2

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3. Design and Turkey Economics

When investigating the effects of the design in Turkish Industry, the importance of the design can't be understood enough but there is some important developments. The success of design strategies and relationship between design and international competitiveness is perhaps best represented by World Economic Forum's Global Competitiveness report. As it is seen on Table1, Turkey's rank is 44 with 4,45. When its looked country profile highlights, it attracted attention that it emphasize the lack of Turkey's innovation with 83 rank and business sophistication with 94 rank . It's clearly seen that both Turkey global competitiveness and Turkey Innovation signs are bad.

"2011 Innovation score board" shows that Turkey's innovation performance is less than the EU average. There are four different categories. One of them is *innovation leaders* another one is *innovation followers*, third one is *moderate innovators* and the last one is *modest innovators*. Turkey, Romania, Latvia, Lithuania and Bulgaria are modest innovators . But in the last few years Turkey's indicator of

innovation growth is larger than the EU27 average.(Innovation Union Score Board 2011, 2012) As long as this performance continue, it's sure that Turkey will jump the other category which is called *moderate innovators*. According Table ,1 Switzerland, Singapore Germany, Sweden, Finland and United States are on the top of the list. When it is looked The Global Compotitivness Report for Turkey Turkey is 45'th country with 3,8point with its innovation capacity. So it can be an indicator that Turkey will move the higher category is called "moderate innovative countries".

4. Sample and Data Collection

In this paper, it was used to variables such as sales revenue from production (sh), Exports (ihr), Gross Value Added (bkd), Labor (lb). The period covers from 1982 to 2012 but 1986 to 2012 period for some firms. Bkd is significantly important to see the impact of design. Design's role has been increasing for firms for their competition power in the global world. On the other hand creativity come into prominence to maximize the added value ihr and bkd were taken as $X=\log(X_t)$. We used Panel cointegration tests: Pedroni, Fischer and Johansen. In the second stage, we used Granger Causality method.

Accordingly, the firms that undertake design activities and that continuously take place among the top 1000 between 1982 and 2012 period for some firms and which comply with similar performance criteria and the sector differences for group 4 were neglected. Bossa, Kordsa, Sanko, Arçelik, Vestel, Simens, Paşabahçe, Anadolu Cam, Boytaş, Merinos firms are analyzed within the study. Paşabahçe, Anadolu Cam as group1(from1982 to2012) Arçelik, Vestel, Simens as group2(from 1985 to2012), Bossa, Kordsa, Sanko (from 1984 to2012)as group3 and Merinos, Boytaş and Bosh Profilo(1999-2012) as group 4 are analyzed within the study. The sector differentials of the firms for group 4 are not important for the study. One of the main assumptions for the study is the unimportance of sector differences of the firms. In order to prove our assumption, firstly the panel data model was solved and the heteroscedasticity of the variance was searched.

In this study, in order to investigate impacts of design on growth, securing market share and exports of firms, the data withdrawn from 1.000 largest firms represented by the Istanbul Chamber of Industry (ICI). In order to determine the impact of design on companies, the performance of firms, which had applied for design after the year 2000 and which take place among the top 10 on design application to Patent Institute, were considered in the first sense. In Table 2 demonstrated below, the firms, which experienced high speed performance growth after having started design and which take place among the top 1000 biggest firm in the survey of ICI, take place.

Table 2: Top 10 Design Applicants

	Top 10 Firms That Applied Design in the Year of 200…						
2002	Boytaş (2.) Paşabahçe cam (3.)	2004	Boytaş (1.) Merinos (7.)	2006	Boytaş (1.) Merinos (3.) Anadolu cam(10.)	2009	Merinos (6.) Boytaş (7.)

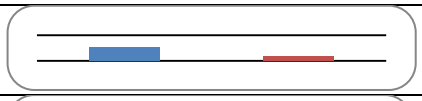
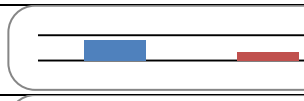
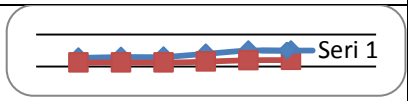
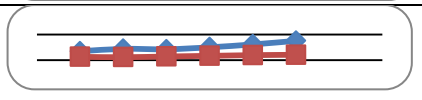
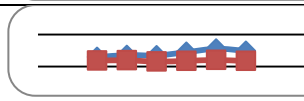
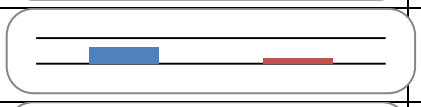
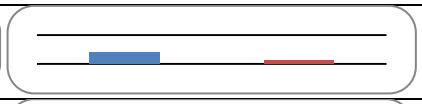
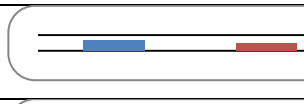
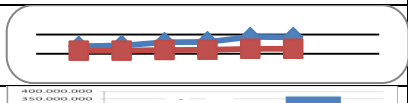
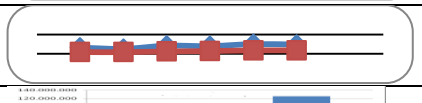
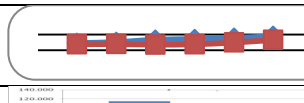
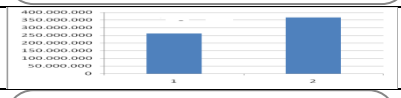
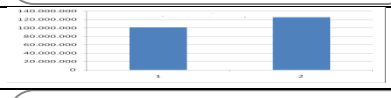
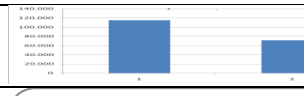
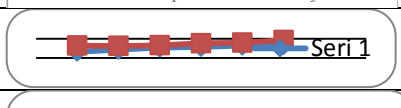
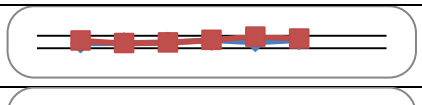
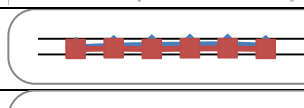
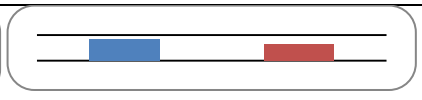
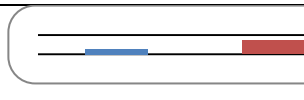
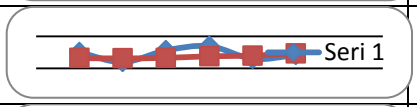
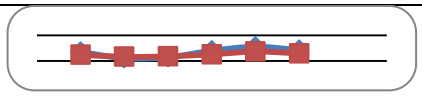
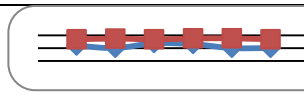
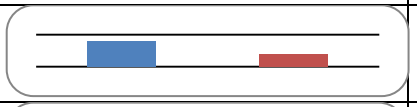
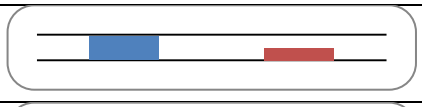
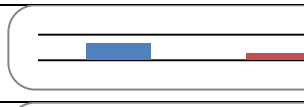
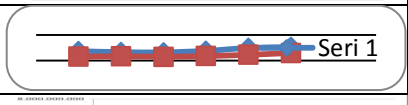
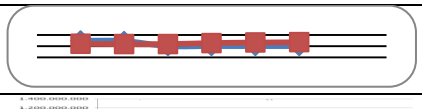
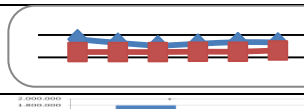
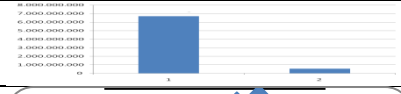
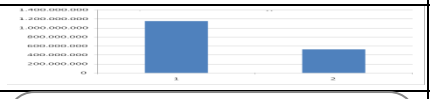
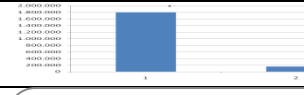
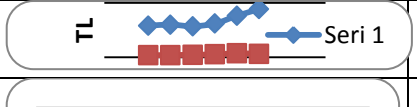
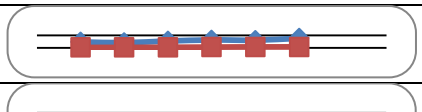
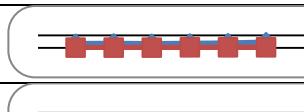
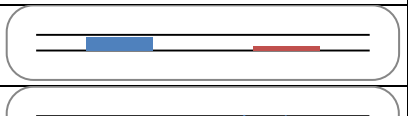
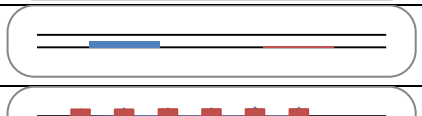
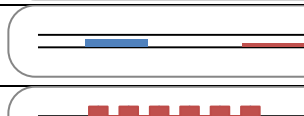
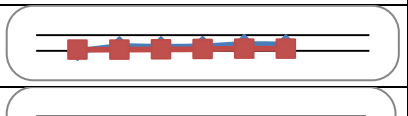
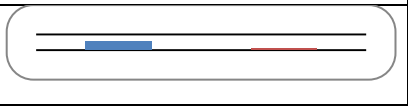
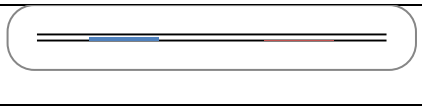
Reference: Turkish Patent Institute, Activity Report

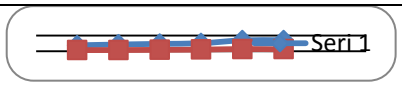
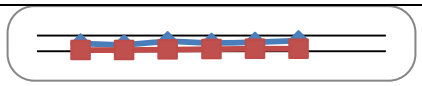
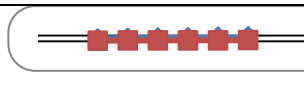
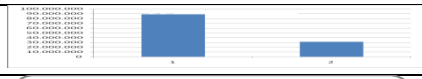
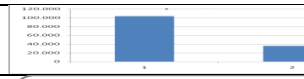
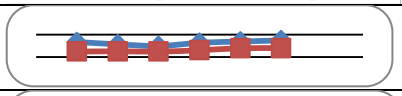
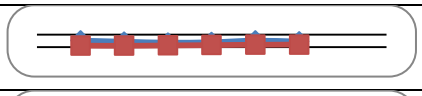
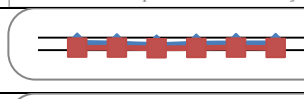
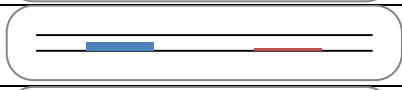
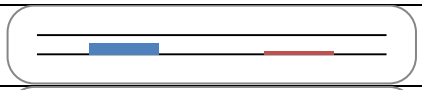
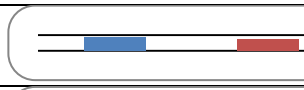
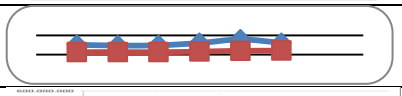
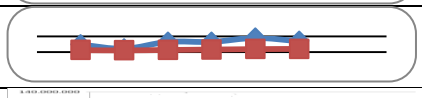
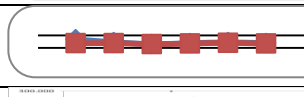
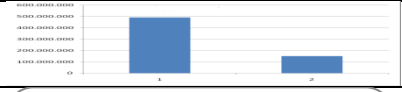
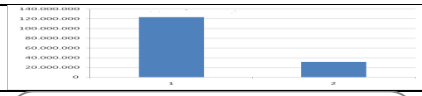
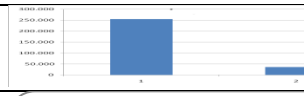
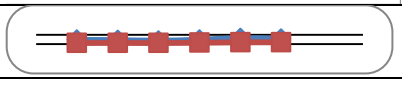
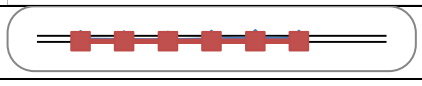
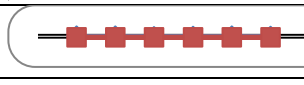
If one firm is in the top ten design applicants list for at least one year, it means that that firm use design much. The reason is that design application does not appear or disappear in a short period of time. One of the good indicators of the design effect on the firm performance is the continuity in top 1000 biggest firms.

As it is observed from Table 2, Boytaş and Merinos used design intensely and achieved to rank in top 10 every year in terms of design applications. Arçelik, Anadolu Cam, BSH, Eczacıbaşı and Paşabahçe are the other Turkish companies that undertake intensive design activities. As it mentioned before, even having ranked in top 10 regarding applications one times for design and patent to Patent Institute demonstrates that these firms use design activities. It is seen from company performances demonstrated in Table 3 that sales revenue, gross added value and exports of these companies are higher than that of the sector average. To sum up, the firms that apply design continuously both take place in top 500 firms and as it is seen from Table 3, they appear as leading firms that develop faster than the sector. Table 3 demonstrates the performance of some top 10 firms, with regards to application for design and/or patent, in comparison with the sectorAs it is seen Table 3; firms are compared with their sector

with using bar charts and graphs. Firstly firm compared with its sector with bar charts then line graphs is used to compare the firm's with its sector by these indicater; average of sales revenue (sh), gross added value (bkd) and exports (ihr).

Table 3. Firm Performances

Firm	Sh	Bkd	ihr
Merinos			
Merinos			
Boytaş			
Boytaş			
Paşabahçe			
Paşabahçe			
Anadolu Cam			
Anadolu Cam			
Eczacıbaşı Yapı			
Eczacıbaşı Yapı			
Arçelik			
Arçelik			
Siemens			
Siemens			
BSH			

BSH			
Bossa			
Bossa			
Sanko			
Sanko			
Kordsa			
Kordsa			

Note: 1; firm 2; sector, sh; Sales Revenue, ihr; Exports, bkd; Gross Value Added. On the table as it is seen; on first line is bar charts. On bar charts first bar indicates the firm and second bar indicates the sector averages of 2006-2013. In the second line, graphs are drawn for each firm. It shows the trend of these 3 rates (SH, BKD and IHR) for firm and for the sector for the period between 2006 to 2013. The "blue line" seri1 represents the firm and "red line" seri 2 indicates the sector.

5. Research Methodology: Panel Unit Root, Cointegration and Causality Analyses

i. Panel Unit Root Test

The popular panel unit root test is Levin and Lin (1992, 1993, called LL after) panel unit root test. This test allow for fixed effects and unit specific time trends and common time trends. In LLC (2003) models allowing for two–way fixed effects, the unit–specific fixed effects are an important source of heterogeneity. LLC focuses on the asymptotic distributions of this pooled panel estimate.

t-statistic is $$t_P = \frac{(\hat{\rho}-1)\sqrt{\Sigma_{i=1}^{N}\Sigma_{t=1}^{T}\vartheta_{t,t-1}^{2}}}{\frac{1}{NT}\Sigma_{i=1}^{N}\Sigma_{t=1}^{T}\vartheta_{it}^{2}}$$ (1) and $$s_e^2 = \frac{1}{NT}\sum_{i=1}^{N}\sum_{t=1}^{T}\tilde{u}_{it}^2$$ (2)

The Im–Pesaran–Shin (1997, called IPS after) development LL's framework by following for heterogeneity of the coefficient on the lagged dependent variable (Smith R.P. and Fuertes A.M.,2003, p.40, Bildirici M.; 2004a, 2004b) IPS allows for a more realistic and flexible alternative hypothesis. Approach used by IPS in context of the standard

ADF-test in a panel is: $$\Delta y_{i,t} = \mu_i + \beta_i t + \rho_i y_{i,t-1} + \sum_{j=1}^{p}\phi_{ij}\Delta y_{i,t-j} + \varepsilon_{i,t}$$ *(3)*

where y_{it} stands for each of the variables presented. The null hypothesis and the alternative hypothesis are defined as: H0: ρi = 0 for all i and H1: ρi <0 for at least one i. Instead of pooling and assuming that Pi is the same for all N, the IPS methodology uses separate unit root tests for the N. The null hypothesis is tested via the t-bar statistic which is calculated as the average of the individual ADF statistics, $$\bar{t} = \frac{1}{N}\sum_{i=1}^{N} t_{\rho_i}$$ (4)

ii. Panel Cointegration Test

Most popular test in panel cointegrating test is Pedroni test. Pedroni (1999) derives seven panel cointegration statistics. The heterogeneous panel cointegration test advanced by Pedroni (1999, 2004) is performed as follows:

$$sh_{it} = \lambda_0 + \chi_i t + \partial_{1i}\mathrm{bkd}_{it} + \gamma_{2i}\mathrm{lb}_{it} + \beta_{3i}\mathrm{ihr}_{it} + \varepsilon_{it}$$ (5) where i=1, ..., N for each firm in the panel and t=1, ..., T refers to the time period. The parameters αi and δi allow for the possibility of firm-

specific fixed effects and deterministic trends. εit denote the estimated residuals which represent deviations from the long-run relationship. To test the null hypothesis of no cointegration, ρi=1, the following unit root test is conducted on the residuals as follows: $\varepsilon_{it} = \rho_i \varepsilon_{it-1} + u_{it}$ The first category of four statistics is defined as within-dimension-based statistics and includes a variance ratio statistic, a non-parametric Phillips and Perron type ρ statistic, a non-parametric Phillips and Perron type *t*-statistic and a DF type *t*-statistic. The second category of three panel cointegration statistics is defined as between-dimension-based statistics and is based on a group mean approach (Bildirici M.;2004a, 2004b).

The first category of tests uses specification of null and alternative hypotheses while the second category uses $H_0 : p = 1, \quad H_A : p < 1,$ for all *i*. where the statistics now require computing *N* autoregressive coefficient, by using the equation for each *i*th unit, i.e. in this case heterogeneity is permitted under the alternative hypothesis, Pedroni's (1999) statistics require estimating some nuisance parameters from the long-run conditional variances *i th*. Finally, under the alternative hypothesis, the first within-dimension based statistic diverges to positive infinity, and the right tail of the normal distribution is used to reject the null hypothesis of no cointegration. (Drine I.and Rault C.; 2002) Pedroni has proposed seven different statistics to test panel data cointegration. The first four are based on pooling, which is called the within dimension and the last three are based on the between dimension. Both kinds of tests focus on the null hypothesis of no cointegration. The finite sample distribution for the seven statistics has been tabulated by Pedroni via Monte Carlo simulations. The calculated test statistics must be smaller than the tabulated critical value to reject the null hypothesis of the absence of cointegration (Bildirici:2014).

Following, Pedroni (1999) heterogeneous panel and heterogeneous group mean panel cointegration statistics are calculated. Although Pedroni's methodology allows us to test the presence of cointegration, it could not provide an estimation of a long-run relationship. Finally, Pedroni proposed Fully Modified Ordinary Least Squares (FMOLS) estimator suggested by Philips and Hansen(1990) for heterogeneous panel. $\hat{\beta}_j = \frac{1}{N}\sum_{i=1}^{N}\hat{\beta}_{ij}$ where β_{ij} is the FMOLS-estimator. The estimator is denoted by Pedroni (2000) as group-FMOLS-estimator.

iii. *Granger Causality Test*

In the paper, we followed the two-step procedure as in Engle and Granger model to examine the causal relationship sales from production (sh), gross value added (bkd), labor (lb) and export (ihr). The Vector Error Correction (VEC) model used to analyze the relationships between the variables was constructed as follows: A panel vector error correction model is estimated to perform Granger-causality tests. The Engle and Granger (1987) two-step procedure is used. And than, Afterwards defining the lagged residuals as the error correction term, the following dynamic error correction model is estimated:

$$\Delta \mathbf{sh}_{it} = \lambda_{1j} + \sum_{k=1}^{m} \alpha_{ik} \Delta \mathbf{sh}_{it-k} + \sum_{k=1}^{m} \vartheta_{it} \Delta \mathbf{bkd}_{it-k} + \sum_{k=1}^{p} \delta_{it} \Delta \mathbf{lb}_{it-k} + \sum_{k=1}^{m} \mathbf{D}_{it} \Delta \mathbf{ihr}_{it-k} + \zeta_0 ECM_{t-1} + \varepsilon_{1t} \quad (6)$$

$$\Delta \mathbf{bkd}_{it} = \lambda_0 + \sum_{k=1}^{m} \alpha_{2ik} \Delta \mathbf{bkd}_{it-k} + \sum_{k=1}^{m} \vartheta_{2ik} \Delta \mathbf{sh}_{it-k} + \sum_{k=1}^{m} \delta_{2ik} \Delta \mathbf{lb}_{it-k} + \sum_{i=1}^{m} \mathbf{D}_{2ik} \Delta \mathbf{ihr}_{it-k} + \zeta_1 ECM_{t-1} + \varepsilon_{2t} \quad (7)$$

$$\Delta \mathbf{lb}_{it} = \lambda_0 + \sum_{k=1}^{m} \alpha_{3ik} \Delta \mathbf{lb}_{it-k} + \sum_{k=1}^{m} \vartheta_{3ik} \Delta \mathbf{ihr}_{it-k} + \sum_{k=1}^{m} \delta_{2ik} \Delta \mathbf{sh}_{it-k} + \sum_{i=1}^{m} \mathbf{D}_{3ik} \Delta \mathbf{bkd}_{it-k} + \zeta_2 ECM_{t-1} + \varepsilon_{2t} \quad (8)$$

$$\Delta \mathbf{ihr}_{it} = \lambda_0 + \sum_{k=1}^{m} \alpha_{4ik} \Delta \mathbf{ihr}_{it-k} + \sum_{k=1}^{m} \vartheta_{4ik} \Delta \mathbf{sh}_{it-k} + \sum_{k=1}^{m} \delta_{2ik} \Delta \mathbf{bkd}_{it-k} + \sum_{i=1}^{m} \mathbf{D}_{4ik} \Delta \mathbf{lb}_{it-k} + \zeta_3 ECM_{t-1} + \varepsilon_{3t} \quad (9)$$

where Δ is the first-difference operator; m is the lag length set at two based on likelihood ratio tests; and where residuals ε_t are independently and normally distributed with zero mean and constant variance and ECM_{t-1} is the error correction term resulting from the long-run equilibrium relationship. ζ is a

parameter indicating the speed of adjustment to the equilibrium level after a shock. Short-run or weak Granger causalities are obtained by testing $H_0: \vartheta_{1if} = \delta_{1if} = D_{1if} = 0$, in Equations (6)

6. Results

In this paper, the cointegration analysis of panel data was consisted three step. First, it is panel unit root test. It was used two panel unit root test: LL, IPS. Second, it was tested for cointegration with use of johansen, Fischer and Pedroni tests, FMOLS and lastly it was determined causal relation with Granger causality test . Panel unit roots tests was reported in Table 4. The result support the hypothesis of a unit root in all variables across countries, as well as the hypothesis of zero order integration in first differences.

Table 4: Panel Unit Root Test (*Show First Difference Result)

	*LLC**	*IPS**	*LLC**	*IPS**	*LLC**	*IPS**	*LLC**	*IPS**
	Group 1		Group 2		Group 3		Group 4	
bkd	-9.578	-12.4758	-10.2510	-11.3341	-11.3628	-17.756	-9.7423	-9.8956
ihr	-11.896	-14.5518	-18.4279	-15.2452	-12.1145	-15.856	-7.1879	-8.27239
lb	-13.758	-27.2264	-24.2648	-23.9912	-13.152	-17.856	-4.7525	-6.745
sh	-9.7436	-11.146	-15.426	-9.136	-11.856	-16.7426	-7.1236	-8.745

Firm by firm Johansen maximum likelihood cointegration results are reported in Table 5. The hypothesis of no cointegration is rejected for all firms, and the hypothesis of one cointegrating vectors are accepted.

Table 5: Cointegration Results

	r=0	r≤1	r≤2	r≤3		r=0	r≤1	r≤2	r≤3
Group 1					Group 3				
Anadolu	35.1532	12.758	2.2245	1.1085	*Bossa*	48.8232	11.0628	4.9194	0.6611
Paşabahçe	37.589	10.256	1.986	1.1186	*Sanko*	47.1383	12.7005	5.1997	0.2156
					Kordsa	42.2020	11.9341	4.0497	0.5695
Group 2					Group 4				
Arçelik	56.6778	16.0921	5.1762	2.0547	*Merinos*	73.1452	13.0102	5.8783	0.0781
Vestel	55.4074	10.5908	4.2435	2.7670	*Boytaş*	74.956	12.9991	5.1931	0.6604
Simens	49.4619	17.8539	5.7805	2.2826	*Bosh Profilo*	59.786	10.6376	4.3687	0.6708

Panel cointegrating tests are reported in *Table 6*. While Johansen and Fisher's test supports the presence of one cointegrating vector, The Pedroni, Fisher and Johansen tests support the hypothesis of a cointegrating relation. Both time series and panel-based tests agree that there is cointegrating vector. Pedroni (1999, 2004) proposes two types of cointegration tests. Pedroni statistics essentially pool the autoregressive coefficients across different countries for the unit root tests on the estimated residuals and it take into account common time factors and heterogeneity across countries. Table 6 reports both the within and between dimension panel cointegration test statistics. All seven test statistics reject the null hypothesis of no cointegration at the 1% significance level. Table 6 displays the FMOLS results. All the coefficients are positive and statistically significant and given the variables are expressed in natural logarithms, the coefficients can be interpreted as elasticity estimates. The results indicate that a 1% increase in bkd increases us by 0.86%, 0.98, 0.92 and 0.89 in sequentially groups; a 1% increase in export increases us by 0.46, 0.011, 0.02006, 0.020011 %; and a 1% increase in the labor increases us by 0.118, 0.0434, 0.001789, 0.0021%. FMOLS results reveal the sufficient arguments for valid long run relations between the variables. According to these estimates, the effects of bkd on sh are positive, which means that results support the design effects for these firms. The sign of the coefficient of the error-correction term must be negative to provide the stability of the error-correction model. We expected to have a negative coefficient with a value of less than 1. The ECM coefficients were calculated between -0.11865 and -0.4122. The error correction term showed a very low speed of adjustment of any disequilibrium toward a long-run equilibrium state in group1 and 4. Whereas in group 1 and 2, adjustment of any disequilibrium toward a long-run equilibrium state is approximately 2.8 years.

Table 6: Panel Cointegration Test

Group 1		
Fisher χ^2 Cointegration Test *r=0* 50.256 *r≤1* 15.758 *r≤2*1.136 *r≤3* 1.111	***Pedroni Result*** Panel v stat: 7.78 Panel rho-stat= -6.11 Panel pp-stat=-5.113 Panel adf-stat=-5.956 Group rho-stat=-8.897, Group pp-stat= -7.004 Group adf-stat= -6.112	***Group FMOLS Result*** 0.1175lb 0.8565bkd 0.4587ihr (2.001) (1.998) (1.889)
Group 2		
Fisher χ^2 Cointegration Test *r=0* 55.85 *r≤1* 16.158 *r≤2*2.602 *r≤3* 2.157	***Pedroni Result*** Panel v stat: 9.77 Panel rho-stat= -8.69 Panel pp-stat=-7.12 Panel adf-stat=-6.55 Group rho-stat= -10.41 Group pp-stat= -7.14 Group adf-stat= -7.003	***Group FMOLS Result*** 0.043449lb 0.9778bkd 0.010996ihr (2.124) (4.758) (1.9875)
Group 3		
Fisher χ^2 Cointegration Test *r=0* 36.52 *r≤1*12.55 *r≤2*10.10 *r≤3* 5.00	***Pedroni Result*** Panel v stat:4.0351 Panel rho-stat= -3.917 Panel pp-stat=-6.820 Panel adf-stat=-4.55 Group rho-stat= -4.97 Group pp-stat= -6.025 Group adf-stat= -3.3633	***Group FMOLS Result*** 0.001789lb 0.9174bkd 0.0200608ihr (3.56) (1.828) (1.7875)
Group 4		
Fisher χ^2 Cointegration Test *r=0* 55.73 *r≤1*15.51 *r≤2* 12.18 *r≤3* 2.17	***Pedroni Result*** Panel v stat: 2.0258 Panel rho-stat= -4.1107 Panel pp-stat=-5.945 Panel adf-stat=-3.8969 Group rho-stat=-6.256 Group pp-stat= -6.557 Group adf-stat= -2.143977	***Group FMOLS Result*** 0.002112lb 0.8912bkd 0.020011ihr (3.56) (1.828) (1.7875)

Granger Causality Results

According to cointegration methods, if there is a long-run relationship between variables in all groups, a causality relationship must exist in at least one direction. The results of Granger Causality test relationship variables analyzed is shown in Table 7. As it was seen in the result, there is evidence of short run causality. The causality relationships between variables are summarized in Table 7. There is

evidence of bidirectional causality between sh- labor, sh- bkd, ihr-labor and bkd-lb in all groups. There is a unidirectional causality relationship from ihr to sh and from bkd to ihr for all groups. The most important result is policy recommendation. If it is wanted to increase export and firm growth in its sector, it should be focused on design policy with short run.

Table 7: Error Correction Term and Granger Causality Results

	ECM	$\Delta sh \rightarrow \Delta lb$ $\Delta lb \rightarrow \Delta sh$	$\Delta sh \rightarrow \Delta ihr$ $\Delta ihr \rightarrow \Delta sh$	$\Delta sh \rightarrow \Delta bkd$ $\Delta bkd \rightarrow \Delta sh$	$\Delta ihr \rightarrow \Delta lb$ $\Delta lb \rightarrow \Delta ihr$	$\Delta bkd \rightarrow \Delta lb$ $\Delta lb \rightarrow \Delta bkd$	$\Delta bkd \rightarrow \Delta ihr$ $\Delta ihr \rightarrow \Delta bkd$
Group 1	-0.3756 (2.112)	8.11762* 6.25717*	0.03179 3.63387*	3.83650* 4.44331*	8.27669* 5.51648*	2.34110* 5.83876*	3.62887* 0.06709
Group 2	-0.4122 (2.117)	3.75669* 4.10813*	0.04818 2.96461*	8.02174* 7.03763*	3.00568* 4.29520 *	5.50528* 6.29912 *	4.72135* 0..00088
Group 3	-0.2123 (2.896)	3.1178* 4.22253*	0.0113 4.8869*	4.05634* 5.01123*	4.00568* 3.29520*	7.0018* 9.1175*	5.4452* 0.00088
Group 4	-0.11865 (3.117)	3.17264* 6.12297*	0.97094 3.65922*	4.46522* 4.26003*	3.86096* 5.40949*	3.28360* 3.76102*	3.40723* 1.63342

7. Conclusion

In this paper, it was investigated the relationship between sales revenue from production, gross value added, export and labour from 1982 to 2012. The panel cointegration test and Granger Causality methods were employed to examine the relationship. According to our results, There is evidence of bidirectional causality between sh- lb, ihr-lb, sh- bkd and bkd-lb in all groups. There is a unidirectional causality relationship from ihr to US and from bkd to ihr for all groups.

As a result, firms should head design for the continuous growth of Turkish Industry and to create more value added. In global world, firms competition power is measured with value added. For this reason design should be attached importance to maximize value added. As it is seen the results of panel cointegration; design is indispensable for firms. Firms must determinate design policy for short and long run.

Our results show that design and incremental innovation are very important for Turkey. At this point, it should be behaved more systematic and government should support design activities with different ways. The competitive countries, which were talked about above this essay, can be good examples. Turkey has no formal Design Policy for a long time. Korean Design-Innovation approach can be an example for Turkey. Korean wasn't effected the Asian crisis because of its approach and support of design. These activities should be reference for Turkey as well:

(i)To raise public awareness, (ii) To establish infrastructure helping to design, such as Korean and design centre, (iii)To develop design education, including professional training, (iv)To encourage firms, especially small and medium-sized, to adoption into their business models and (v) Host international design events and promote the "Turkish brand"

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An Investigation of the Relationship between the Biomass Energy Consumption, Economic Growth and Oil Prices

Melike Bildirici[a] *, Özgür Ersin[b]

[a] *Yıldız Technical University, Istanbul, 34349, Turkey*
[b] *Beykent University, Istanbul, 34396, Turkey*

Abstract

This paper investigates the causality analysis among biomass energy consumption, oil prices and economic growth in Austria, Canada, Germany, Great Britain, Finland, France, Italy, Mexico, Portugal and the U.S. by using the autoregressive distributed lag bounds testing (ARDL) method, Granger causality and Toda and Yamamato non-causality test. The dataset covers the 1970-2013 period. Although many papers have explained the relationship between oil prices and economic growth since 1970, papers have not focused the relationship among biomass energy consumption, oil prices and economic growth. This paper focused the relationship because it was accepted the biomass energy is affected by economic growth and the oil price. For Austria, Germany, Finland and Portugal, the Granger causality test determined the evidence that the conservation hypothesis is supported. In state of U.S., the feedback hypothesis highlights the interdependent relationship between biomass energy consumption and economic growth. Tado Yamamoto test determined, for Austria, Germany, Finland and Portugal, the conservation hypothesis is supported. In state of U.S., the feedback hypothesis highlights the interdependent relationship between biomass energy consumption and economic growth.

Keywords: Economic Growth, Bıomass energy, ARDL, VEC, Granger Causality, Toda and Yamamato non-causality test

1. Introduction

The economic system depends on traditional and modern energy. Energy consumption—especially biomass energy consumption—is old as humanity. Biomass is the only organic petroleum substitute that is renewable and is used to meet a variety of energy needs, including generating electricity, heating homes, fueling vehicles, and providing processed heat for industrial facilities (Ayres et.al 2007; Surmen, 2002). The term "biomass" is used for any plant material available for harvesting for a wide variety of possible uses such as food, building materials and fuel. Biomass can be used as direct substitutes for fuels or they can be processed into liquid fuels as oils and alcohol (Slupek et.al, 2000; Topcu and Ulengin, 2004; Balat et.al 2006; Balat, 2007). Biomass energy is most popular renewable energy in World in recent years.

* Corresponding author. Tel. + 90-212-383-2527 fax. +90-212-259-4202
E-mail address: melikebildirici@gmail.com

Fossil energy resources such as coal, oil, and natural gas have limited reserves, they are non-renewable, and can cause environmental pollution. These days, human beings are facing the dual pressure of economic growth and environmental protection, while energy problems are the basic problem related to national security and sustainable economic and social development (Chheda and Dumesic, 2007; Demirbas and Balat 2006; Jun et.al, 2011).

Biomass is a carbon-neutral form of energy that offers a potential alternative source of energy as a substitute for fossil fuel to will help mitigate climate change (Gumartini,2009). Biomass energy is the only renewable carbon energy, and with its virtues of low sulphur, low nitrogen, low ash, nearly zero-net CO_2 emission, and adequate sources, people are increasingly regarding and supporting its development and consumption (Chheda and Dumesic, 2007; Demirbas and Balat 2006; Jun et.al, 2011; Zhang et.al, 2011).

This paper will discuss the relationship among biomass energy consumption, oil prices, and economic growth. Many papers have explained the relationship between oil prices and economic growth since 1970. The existence of a negative relationship between oil prices and macroeconomic activity, or the asymmetric effects of oil prices were developed by Hamilton (1983) and Hooker (1996), who supported Hamilton's results. Other papers from this perspective were developed by Mork (1989), Hoover and Perez (1994), Lee et al., (1995), Hamilton (1997a, 1997b, 2003), Federer (1996), Balke et.al. (2002) and Bildirici, Alp and Bakırtaş (2011a, 2001b). The oil price affects both the economic growth and the rate of biomass energy consumption. The contribution of this paper is to analyse the relationship among biomass energy, oil price and GDP.

Economic background is located in the second section. Econometric theory and methodology are identified in the third section. The fourth section consists of the empirical results while the last section includes conclusions and policy implications.

2. Economic Background

Rural and poor urban households are the main consumers of traditional biomass energy because the alternative energy sources are very expensive. Commercial energy requires a well-developed infrastructure that is absent in many rural households. Therefore, traditional biomass energy is accessible for rural and urban poor households. Access to clean and affordable energy is essential to supply of heat, light and power to rural and urban poor areas as well as for other benefits such as the generation of income and health improvement (Gumartini 2009). Since the governments of many developed countries encourage the consumption of biomass energy as an alternative energy source, the share of modern biomass energy consumption in total energy consumption is continously increasing (Best and Christensen, 2003). Policy makers and theorists accept that there is value added in terms of the potential for increasing employment opportunities, enhancing energy security, generating income through job creation, and the development of a strong export industry, as well as the environmental benefits (Domac 2005).

The share of biomass energy in the total energy consumption varies among countries, but in general, the dependency on biomass energy is higher in poorer countries than in others. At present, Finland derives more than 20 percent of its total primary energy supply from biomass, while Sweden, Austria, and Australia have lower shares, about 17, 11 and 3.3 percent respectively (Gumartini 2009; Sadler, et.al. 2004). The main factors contributing to the difference in biomass energy consumption are urbanization, economic development and growth, standard of living (Dzioubinski, Chipman 1999), oil prices, and the number of people living in rural areas.

Biomass energy (traditional or modern) and/or fossil energy are essential for production, but standard macro-economic books employ capital and labor without energy in production functions while assuming

energy as an intermediate product of the economy[††††††]. Many of today's models of long-term economic activity assume that changes in the energy supply or demand have no significant impact on economic growth (Ayres, Turton and Castenc 2007).

The literature on the causal relationship between biomass energy and economic growth is very sparse. Recently, Payne (2011), Bildirici (2012a,b;2013:2014) investigated the causal relationship between biomass energy consumption and economic growth by the ARDL method[‡‡‡‡‡].

The causal relationship between biomass energy consumption and economic growth can be synthesized into four testable hypotheses. 1. *The growth hypothesis:* the biomass energy consumption has a significant impact on economic growth and/or complements labor and capital in the production process[§§§§§]. 2. *The conservation hypothesis:* there is unidirectional causality from economic growth to biomass energy consumption[*******]. 3. *The feedback hypothesis:* highlights the interdependent relationship between biomass energy consumption and economic growth[†††††††]. 4. *The neutrality hypothesis* is supported by the absence of causality between biomass energy consumption and economic growth[‡‡‡‡‡‡].

This paper is the first study in the literature that uses cointegration techniques to analyse the relationship between biomass energy consumption, oil price and economic growth. The following demand function for biomass energy consumption will be written as,

$$BMC = f(Y, OP), \quad (1)$$

where, BMC is biomass energy consumption, Y is the real GDP and OP is the crude oil price. Expressing relation (1) in log-linear form, it is obtained the following econometric specification,

$$bmc_t = ao + a_1 y_t + a_2 po_t + e_t \quad (2)$$

Lower case letters show that the variables are expressed in logarithms, e_t is the error term and a_0, a_1, a_2 are parameters to be estimated. The income elasticity for biomass energy consumption and the cross price elasticity for a competitive product are expected to be positive.

3. Methodology

3.1. Research Goal

In the study, we aim to evaluate the long-run and short-run dynamics between biomass energy, economic growth and oil prices for Austria, Germany, Finland, Portugal, USA, Canada, France, Mexico

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[††††††] Many papers challenged the assumptions about energy made by macro-economics textbooks and discussed the importance of energy in economic growth. Kraft and Kraft (1978), Berndt (1978), Akarca and Long (1980), Proops (1984), Yu and Hwang (1984), and Erol and Yu (1987) investigated the relationship between energy consumption and economic growth in context of Granger Causality. The experiences of countries showed that energy plays a important role in their economic and industrial development, not only as a key input such as labor or capital, but also as a key factor in improving the quality of life (see Rosenberg (1998); Bildirici and Kayıkçı (2012) Bildirici, Bakırtaş and Kayıkçı (2012).

[‡‡‡‡‡] According to Bildirici(2012), there is unidirectional causality from GDP to biomass energy consumption for Colombia and there is unidirectional causality from biomass energy consumption to GDP for Bolivia, Brazil and Chile. There is bi-directional causality for Guatemala. According to the long-run causality result, there is bi-directional causality for all countries. Bildirici (2012b) investigated the short-run and long-run causality analysis between biomass energy consumption and economic growth in the selected 10 developing and emerging countries by using the ARDL testing approach of cointegration and vector error-correction models.

[§§§§§] The growth hypothesis is confirmed if an increase in biomass energy consumption causes an increase in economic growth. The energy conservation policies which reduce biomass energy consumption adversely affect economic growth.

[*******] In this case, energy conservation policies oriented toward the reduction of biomass energy consumption may not have an adverse impact on economic growth.

[†††††††] The feedback hypothesis is substantiated by the presence of a bidirectional causality between biomass energy consumption and economic growth. This complementary relationship opens the possibility that energy conservation policies that reduce biomass energy consumption may affect economic growth. Such fluctuations in economic growth will be transmitted back to biomass energy consumption.

[‡‡‡‡‡‡] Under this hypothesis, the reduction in biomass energy consumption through energy conservation policies will not affect economic growth.

and Great Britain. For this purpose, ARDL cointegration approach of Pesaran et.al. (2001) and Granger-causality analyses are performed.

3.2. Research Methodology: ARDL Cointegration and Causality Analyses

To investigate the causality between biomass energy consumption (BMC), real GDP (Y) and oil prices (OP) for 10 countries, the paper employed the ARDL approach of cointegration developed by Pesaran (1997) and Pesaran and Shin (1999)[§§§§§§]. Recently, ARDL has become popular due to the low power and other problems associated with Johansen(1988), Engle-Granger (1987) and Johansen and Juselius (1990). The ARDL cointegration approach has numerous advantages over other cointegration methods. First, the ARDL procedure can be applied if the regressors are I(1) and/or I(0), while the Johansen cointegration techniques require that all variables in the system be of equal order of integration. The ARDL can be applied irrespective of whether underlying regressors are purely I(0), purely I(1) or mutually cointegrated and therefore do not need unit root pre-testing. Second, while the Johansen cointegration techniques require large data samples for validity, the ARDL procedure is a statistically more effective in determining the cointegration relationship in small samples. Third, the ARDL procedure allows the variables to have different optimal lags. Finally, the ARDL procedure employs only a single reduced form equation, while the other cointegration procedures estimate the long-run relationship within a context of system equations.

The ARDL approach to cointegration involves two steps for estimating the long-run relationship (Srinivasan, Santhosh and Ganesh (2012). The first step is to investigate the existence of a long-run relationship among all variables in the equation under estimation. The ARDL-UECM model for the standard log-linear functional specification for the bmc variable is presented as:

$$\Delta bmc=\lambda_0+\sum_{i=1}^{m}\alpha_i\Delta bmc_{t-i}+\sum_{i=0}^{n}\vartheta_i\Delta y_{t-i}+\sum_{i=0}^{k}\delta_i\Delta op_{t-i}+\varphi_1 bmc_{t-1}+\varphi_2 y_{t-1}+\varphi_3 op_{t-1}+\varepsilon_t \qquad (3)$$

where Δ is the first difference operator and and ε is the white noise term. An appropriate lag selection was based on the Akaike Information Criterion (AIC). The bounds testing procedure was based on the joint F-statistic or Wald statistic to test the null hypothesis of no cointegration. The joint significance of coefficients for lagged variables was tested with F statistics calculated under the null. The null hypothesis of no cointegration among the variables in Eq. (3) and Eq. (4) are against the alternative hypothesis. The null hypothesis of no cointegration among the variables in Eq. (3) is $H_0: \varphi_1=\varphi_2=\varphi_3=0$ against the alternative hypothesis $H_1: \varphi_1\neq\varphi_2\neq\varphi_3\neq0$. In the second step, if cointegration is established, the conditional ARDL long-run model for bmc can be estimated as:

$$bmc = \lambda_0 + \sum_{i=1}^{m}\alpha_i bmc_{t-i} + \sum_{i=0}^{n} J_i y_{t-i} + \sum_{i=0}^{k}\delta_i op_{t-i} + u_t \qquad (4)$$

[§§§§§§] Some of the papers that used the ARDL approach in the energy literature are Squalli (2007), Narayan and Smyth (2005a, 2005b), Narayan and Singh (2007), Squalli (2007), Ghosh (2002), Odhiambo (2009 a,b) Wolde-Rufael Y. (2006), Bildirici and Kayıkçı (2012) and Bildirici, Bakırtaş and Kayıkçı (2012) for energy (electricity) consumption-economic growth literature and Bildirici (2012 a,b) for biomass energy consumption-economic growth literature.

In the third stage, the short-run dynamic parameters are obtained by estimating an error correction model associated with the long-run estimates:

$$\Delta bmc = \lambda_0 + \sum_{i=1}^{m} \alpha_i \Delta bmc_{t-i} + \sum_{i=0}^{n} \vartheta_i \Delta y_{t-i} + \sum_{i=0}^{k} \delta_i \Delta op_{t-i} + \zeta\ ECM_{t-1} + e_t \quad (5)$$

where residuals e_t is independently and normally distributed with zero mean and constant variance and ECM_{t-1} is the error correction term. ζ is a parameter that indicates the speed of adjustment to the equilibrium level after a shock. It shows how quickly variables converge to equilibrium and it must have a statistically significant coefficient with a negative sign.

3.2.1. Granger Causality Analysis

In the last stage, we used the Granger (1969) and Toda and Yamamoto(1995) causality tests. ARDL approach tests if the existence or absences of long-run relationship between the BMC, the Y and oil price, but it do not determine causal relationship[*******]. In the paper, we followed the two-step procedure as in Engle and Granger model to examine the causal relationship. The Vector Error Correction (VEC) model used to analyse the relationships between the variables was constructed as follows:

$$\Delta bmc = \lambda_0 + \sum_{i=1}^{m} \alpha_i \Delta bmc_{t-i} + \sum_{i=1}^{n} \vartheta_i \Delta y_{t-i} + \sum_{i=1}^{k} \delta_i \Delta op_{t-i} + \zeta_2 ECM_{t-1} + \varepsilon_{1t} \quad (6)$$

$$\Delta y = B_0 + \sum_{i=1}^{m} \theta_i \Delta py_{t-i} + \sum_{i=1}^{n} \gamma_i \Delta bmc_{t-i} + \sum_{i=1}^{k} \lambda_i \Delta op_{t-i} + \zeta_1 ECM + \varepsilon_{2t} \quad (7)$$

$$\Delta op = \nu_0 + \sum_{i=1}^{m} \mu_i \Delta op_{t-i} + \sum_{i=1}^{n} \upsilon_i \Delta bmc_{t-i} + \sum_{i=1}^{k} \kappa_i \Delta y_{t-i} + \zeta_3 ECM + \varepsilon_{3t} \quad (8)$$

where residuals ε_t are i.i.d. and is normally distributed with constant variance. ECM_{t-1} is the error correction term resulting from the long-run equilibrium relationship. ζ defines the speed of adjustment to the equilibrium level after a shock. Short-run or weak Granger causalities are obtained by testing $H_0: \vartheta_i = \delta_i = 0$, $H_0: \gamma_i = \lambda_i = 0$ and $H_0: \upsilon_i = \kappa_i = 0$ in Equations (6,7 and 8) and long-run Granger causalities are by testing $H_0: \zeta_1 = 0$, $H_0: \zeta_2 = 0$ and $H_0: \zeta_3 = 0$.

3.2.2. **Toda and Yamamoto Test**

[*******] Ciarreta and Zarraga (2007) applied the standard Granger causality test in a VAR for the series in the first differences to achieve stationarity. They also evaluated the Toda and Yamamoto (1995) causality approach and showed that the results are robust to different methodologies. For a discussion of causality analyses, readers are refered to Dolado and Lutkepohl (1996).

Certain shortcomings of the traditional Granger causality tests have been evaluated by the Toda and Yamamoto (1995) to obtain improved causality results under cointegration for variables with possibly different integration degrees. Granger Causality tests are based on null hypotheses formulated as zero restrictions on the coefficients of the lags of the variables (Olajide, 2010)[†††††††]. Toda and Yamamoto(1995) suggest a modified Wald test for restrictions on the parameters of a VAR(k), MWALD (where k is the lag length in the system). This test has an asymptotic χ^2 distribution when a VAR(k + d_{max}) is estimated. The MWT test has a comparable performance in size and power to the LR and WALD tests (Esso, 2010; Shan and Tian, 1998). MWT test needs to determine the maximal order of integration d_{max} in the model and construct a VAR in their levels with a total of p = (k + d_{max}) lags. For d=1, the lag selection procedure is valid since k=l=d. If d=2, then the procedure is also valid unless k=1. The MWT statistic is valid regardless whether a series is 1(0), 1(1) or 1(2), noncointegrated or cointegrated of any arbitrary(Abdul et.al., 2000).

The non-causality model used to analyse the relationships between the variables was constructed as follows:

$$bmc = \alpha_0 + \sum_{i=1}^{m} \varphi_i bmc_{t-i} + \sum_{i=m+1}^{m+d_{max}} \varphi_{2i} bmc_{t-j} + \sum_{i=1}^{m} \delta_i y_{t-i} + \sum_{i=m+1}^{m+d_{max}} \delta_{2i} y_{t-j} + \sum_{i=1}^{m} \phi_i op_{t-i} + \sum_{i=m+1}^{m+d_{max}} \phi_{2i} op_{t-j} + \in_{1t} \quad (9)$$

$$y = \alpha_1 + \sum_{i=1}^{m} \beta_i y_{t-i} + \sum_{i=m+1}^{m+d_{max}} \beta_{2i} y_{t-j} + \sum_{i=1}^{m} \gamma_i op_{t-i} + \sum_{i=m+1}^{m+d_{max}} \gamma_{2i} op_{t-j} + \sum_{i=1}^{m} \lambda_i bmc_{t-i} + \sum_{i=m+1}^{m+d_{max}} \lambda_{2i} bmc_{t-j} + \in_{2t} \quad (10)$$

$$op = \alpha_p + \sum_{i=1}^{m} \chi_i op_{t-i} + \sum_{i=m+1}^{m+d_{max}} \chi_{2i} op_{t-j} + \sum_{i=1}^{m} \kappa_i bmc_{t-i} + \sum_{i=m+1}^{m+d_{max}} \kappa_{2i} bmc_{t-j} + \sum_{i=1}^{m} \mu_i y_{t-i} + \sum_{i=m+1}^{m+d_{max}} \mu_{2i} y_{t-i} + \in_{3t} \quad (11)$$

$\vartheta, \delta, \phi, \beta, \gamma, \lambda, \chi, \kappa, \mu$ are parameters of the model; d_{max} is the maximum order of integration suspected to occur in the system. $H_0 : \varphi_1 = 0$ show the null of non-causality from y to BMC and $H_0 : \phi_1 = 0$ $\forall i = 1, 2, \ldots, m$ from op to bmc. The null hypothesis of no cointegration is not rejected when $\gamma_i = 0, \lambda_i = 0, \kappa_i = 0, \mu_i = 0$ [‡‡‡‡‡‡‡]. In this paper, we involved with implementing the procedure in two step. Firstly, it is included the determination of the lag length (m) and secondly, it is the selection of the maximum order of integration (d_{max}) for the variables in the system. Schwarz Information was used to determine the appropriate lag order of the VAR(Esso:2010).

3.3. Sample and Data Collection

The dataset for Y for the selected countries is collected from the Worldbank WDI database and is calculated with year 2000 constant prices. The BMC data is gathered from the International Energy Agency. The oil prices represent the Brent petrol crude oil prices per barrel in American dollars and is taken from the British Petrol database. The BMC, oil prices and Y data is subject to natural logarithmic transformation and denoted as bmc, op and y throughout the analysis. As a result of the logarithmic transformation, it should be kept in mind that, the first differenced data will also represent the relevant

[†††††††] Granger causality test in perspective of inferring leads and lags between integrated variables can cause spurious regression. The F-test is not valid unless the variables in levels are cointegrated (Abdul et.al, 2000). If the data are integrated but not cointegrated, it can be conducted causality tests by using the first differences (Esso, 2010). Alternative procedures have been developed to improve the size and power of the Granger no-causality test. The direction of causality is determined by Modified Wald Test (MWT) developed by Toda and Yamamoto(1995).

[‡‡‡‡‡‡‡] Let $\varphi = vec(\varphi_1, \varphi_2, \ldots, \varphi_m)$ be vector of find mVAR coefficients. The Modified Wald Statistic for testing H_0 is $W = T\left(\hat{\phi}' R'(R\sum_{\in_t} R')\right) R\hat{\varphi})$ where $\hat{\varphi}$ is the ordinary least squares estimate for the coefficient φ. $\sum_{\in_t}$ is a consistent estimate for the asymptotic covariance matrix of $\sqrt{T}(\hat{\varphi} - \varphi)$. The test statistic is asymptotically distributed as a χ^2 with *m* degrees of freedom.

growth rates of biomass consumption, the Y and petrol prices, respectively. The dataset covers the 1970-2013 period.

4. Analyses and Results

4.1. Unit Root Tests

The unit root tests are used to determine whether the variables are I(0) or I(1). The order of integration of the long-run relationships among the variables is defined using two types of unit root tests: (i) traditional ADF unit root test; and (ii) Lee and Strazicich(2004) unit root tests with structural breaks[§§§§§§§].The results are given in Table 1.

Table 1. Unit Root Test Results

	ADF		Lee and Strazicich			ADF		Lee and Strazicich	
	Level	First Difference	First Difference	Break Points		Level	First Difference	First Difference	Break Points
Austria					Canada				
Y	0.115	-4.015***	-3.206**	1972	Y	-0.980	-4.974***	-7.0929***	1982, 1991
BMC	0.373	-5.74***	-3.914***	1980	BMC	-2.744 (t)	-6.558***	-7.352***	1977,1992
Finland					France				
Y	-1.614	-4.827***	-3.266***	1973	Y	-2.957 (t)	-4.974***	-5.1580***	1980, 1986
BMC	-1.14	-4.074***	-5.822***	1972	BMC	-3.138 (t)	-6.558***	-4.7325***	1975, 1993
Germany					Mexico				
Y	0.253	-4.475***	-4.478***	1973	Y	-1.34494	-5.957(t) ***	-6.8757***	1994, 1999
BMC	1.693	-5.74***	-5.748***	1973	BMC	-2.502 (t)	-3.816***	-6.5407***	1981, 1996
Portugal					Italy				
Y	-1.456	-4.327***	-3.322***	1972	Y	1.538	-4.1527 (t) **	-5.4081***	1986, 2004
BMC	-2.007	-4.691***	-3.2312***	1989	BMC	-0.446	-7.0339***	-6.0232***	1984, 1976
USA									
Y	-0.418	-3.591***	-3.407***	1975	Y	-1.4253 (t)	-3.3554 **	-5.7301***	1981, 2005
BMC	-0.3794	-5.045***	-3.852***	1993	BMC	-2.6466	-4.9891(t)***	-6.2901***	1993, 2000

Notes: For LS test critical values have changed according to position of break, λ(=T_{B}/T).The significance at 10%, 5% and 1% is denoted with *, ** and *** asterixes, respectively.

The ADF unit root test results suggest that the BMC and Y series are I(1) processes that become stationary after taking first differences for all countries analysed. For the Lee-Strazicich unit root tests, all variables are integrated of order one by taking structural breaks into consideration. [********].

4.2. ARDL Cointegration and Regression Results

Table 2 presents the results of the ARDL bounds tests. Dummy variables were attained following the break points observed in Table 1 to control for structural breaks.

Table 2: Bounds Testing for Cointegration

	Fy(y|bmc, op)	*Fbmc(bmc|y,op)*	*Fop (op|bmc, y)*		*Fy(y|bmc, op)*	*Fbmc(bmc|y,op)*	*Fop (op|bmc, y)*
Austria	1.33	15.1284**	1.0050	*Canada*	17.2265**	3.2324	2.3984
Germany	9.95072**	0.40490	1.9035	*France*	6.5325**	2.9516	1.4759
Finland	2.0278	9.8319**	2.2209	*Mexico*	2.2542	7.3112**	1.7620
Portugal	1.73802	13.9620**	2.1099	*Italy*	13.9043**	3.6790	2.7199
USA	2.2735	9.3720**	1.1212	*Great Britain*	2.8606	9.0489**	2.1170

Notes: *, ** denote significance at 10% and 5% significance levels. Critical values are taken from Pesaran et.al. (2001).

[§§§§§§§] The structural break in a macro economic time series is important for the stationarity analysis. Lee and Strazicich (2004) showed that the one-break minimum Lagrange multiplier (LM) unit root test tends to estimate the break point correctly and is free of size distortions and spurious rejections in the presence of a unit root with break.

[********] As a typical, the oil price series is stationary in first differences (LS test statistic is calculated as -9.0582); further, the obtained break dates are 1977 and 1986. By testing the 1960-2013 period, we captured a significant break at the year 1973, as it should be expected. Since the biomass data starts from 1970, the dataset is analysed for the 1970-2013 period.

The notation in Table 2 is such that Fy(y|bmc,op) shows that the vector where y is the dependent variable and bmc and op are the explanatory variable. For a typical, for Germany, the F statistic calculated for Austria is 15.13 and is above the critical upper bound value showing that Fbmc(bmc|y,op) cointegration cannot be rejected. According to the results, the F-statistics are above the critical upper bound of Pesaran, suggesting evidence to reject the null hypothesis of no cointegration in favor of cointegration at 5 percent significance level among bmc, op and y for the countries analysed. The results suggest that there is no evidence of cointegration when the OP are taken as dependent variable. The results confirm the presence of a unique cointegration vector. For Austria, Finland, Great Britain, Mexico, Portugal and USA and the F tests suggests one cointegrating vector and the dependent variable is taken as the biomass consumption for these countries. For Canada, Germany, France and Italy, we observed a unique cointegrating vector, where the dependent variable is the real GDP.

4.3. The Results for Long-Run and Short Run Elasticities

The results in Table 2 suggested existence of a unique long-run relationship among variables of the ARDL type. Table 3 shows the long-run and short-run elasticities for the ARDL model.

Table 3. ARDL Results

Long-Run						*Short-Run ECM Model*				
	Bmc	*y*	*Op*	*Dummy*	R^2	*ECM*	*Bmc*	*Y*	*op*	*Dummy*
Aust.	-	0.22 (2.15)	0.24 (2.28)	0.17(2.03)	0.68	-0.22 (3.2)	-	1.05 (2.25)	0.06 (2.07)	0.01 (1.81)
Ger.	0.51 (2.58)	-	2.37(3.11)	0.12(1.98)	0.72	-0.13 (2.1)	-0.14 (2.82)	-	0.062(2.31)	0.75(1.91)
Fin.	-	1.06 (2.59)	0.35(2.00)	0.02 (2.02)	0.77	-0.32 (2.7)	-	0.23(2.97)	0.008(2.41)	0.12(1.89)
Por.	-	-0.49 (-2.5)	2.36(2.51)	1.01(1.89)	0.66	-0.30 (2.65)	-	-0.1(2.62)	0.05(1.90)	0.12(2.01)
USA	-	0.25 (2.42)	0.476(1.98)	0.27 (2.08)	0.86	-0.31(2.82)	-	-0.30(1.99)	0.06(4.25)	1.01(2.20)
Can.	7.90 (6.84)	-	0.12(0.33)	-4.65(-1.9)	0.99	-0.01(-2.1)	0.086(2.71)	-	0.001(0.31)	-0.05(-5.32
FR	-0.31(3.89)	-	-0.07(-2.58)	0.02 (0.76)	0.99	-0.28 (-2.9)	-0.09(-2.68)		-0.02(-4.45)	0.006(0.78
Mex.	-	-0.93 (-3.5)	-.17 (-3.67)	-.17 (-2.05)	0.98	-0.25 (-6.5)	-	-0.23(-3.16)	-0.04(-3.00)	-0.04 (-2.1
Ita.	2.64 (0.86)	-	2.16 (3.49)	-6.1(-1.27)	0.99	0.01 (1.72)	-0.03(-2.71)		0.0013(0.1)	0.03 (1.96)
GB	-	-0.11 (-3.2)	0.02 (0.09)	0.09 (0.46)	0.99	-.49 (-2.39)	-	-0.06(-1.86)	0.008(0.09)	0.04(0.48)

Notes: t-values are given in paranthesis.

The long-run elasticities are statistically significant for a majority of the coefficient estimates. The elasticities are interpreted as usual, for instance, a 1 percent increase in per capita income, ceteris paribus, leads to a 0.22 percent increase in the consumption of biomass energy for Austria. For Austria, Germany, Finland, Portugal and USA, all elasticity coefficients are statistically significant at 5% significance level. For Canada, the coefficient of *op* is not significant, whereas, *bmc* has significant and positive impact on *y*. For France, all coefficients are significant except for the dummy variable. For Mexico, all coefficients are statistically significant. For Italy, the longrun coefficient of bmc is not significant. Also, the dummy variable cannot be accepted at 5% significance level. For Great Britain, the longrun coefficient of OP is not significant, while Y has a negative impact on bmc, similar to the results obtained for Mexico and Portugal. The estimated cross elasticities display interesting results considering the signs of the coefficients. For Austria, Finland and USA, y has positive impact on bmc consumption, whereas, for Portugal, Mexico and Great Britain, y has negative impact on bmc consumption. For Germany, Canada, and Italy, y is the dependent variable and bmc consumption has positive impacts on Y. On the other hand, in France and Great Britain, bmc has negative impact on Y. OP have positive impacts on the dependent variables for the models estimated for Austria, Germany, Finland, Portugal and USA; and negative impacts on the dependent variables for Mexico. The oil price elasticity coefficients are statistically insignificant for Italy, Great Britain and France.

Regarding magnitudes of cross price elasticities in the short-run, the results are also given in Table 3, where the short-run regression results and the ECM mechanisms are reported. The results for the majority of the countries satisfy the ECM conditions, i.e. possessing negative signs and are less than 1. For Italy, there is an exception: though the ECM parameters are significantly positive, suggesting deviations from the long-run equilibrium. Further, the majority of the short-run elasticities are statistically significant at 5% significance levels. BMC has negative impact on the Y for Germany, France and Italy and bmc has

positive impact in Canada's Y. For all of the countries, where the bmc is taken as the dependent variable, the Y growth rates have significant impacts. For Austria, Finland and Canada, the impact of Y growth rates on bmc consumption growth rates are significantly positive; whereas, for Portugal, USA, Mexico and GB, the impact of Y growth rates on bmc consumption growth rates are negative. Oil price growth rates have positive impacts on biomass consumption growth rates in the short-run for the countries, for which the biomass consumption is taken as the dependent variable. The results are as expected since the oil price increases are expected to increase the tendency towards biomass production and therefore, towards the bmc consumption.

Considering the evidence of a long-run relationship between variables, the long-run and short-run models are represented in the second step. The ECMs indicate that disequilibrium among op, y and bmc are corrected. The signs of the coefficients of the error correction terms are between -0.12 and -0.49 to provide stability for the model, one exception is for Canada, where the error correction terms is estimated as -0.011, as unexpectedly low. Except for Canada, the size of the error correction terms suggest a speed of adjustment ranging from 2 to 5 years for the evaluated countries.

4.4. **Stability**

There were single or multiple structural breaks in the analysed period due to economic crises, policy changes, and sharp shifts. CUSUM and CUSUM-Q tests were used to evaluate the stability of the parameters in the models estimated. These tests are different and more efficient than Chow tests; they do not require prior knowledge about the time of the structural breaks. The CUSUM and CUSUM-Q plots to check the stability of the long-run and short-run parameters. The results in Figure 1 included the CUSUM-Q tests only to save space. The results are given in the Appendix. The CUSUM-Q statistics stay within the critical bounds of 5 percent level of significance and the null hypothesis of all coefficients are stable cannot be rejected.

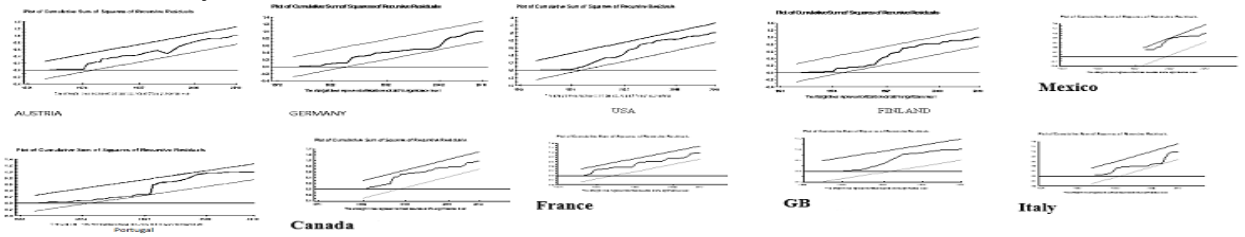

Figure 1. Stability Tests for the Countries Analysed

3.4.5. The Results for Granger Causality Tests

To evaluate the causality, the VAR representations with ECM forms are utilized. The ARDL method do not indicate the direction of causality, but since there is a long-run relationship among op, bmc and y, a causality relationship must exist in at least one direction. Table 4 summarizes the causality relationship among bmc, op and y. The results in Table 4 show that Granger causalities were present implicitly via the ECM. The relationship between bmc and op shows a bidirectional causality from bmc to op for Austria, Germany, Finland, Portugal, and the U.S. For the relationship between y and op, a unidirectional causality from y to op for Austria was determined, along with a unidirectional causality from op to y for Germany and bidirectional for the Finland, Portugal. For Finland and Portugal, the result of bidirectional causality is not in the excepted direction. For Austria, we observed a unidirectional causality from y to op. For the countries analysed afterwards, namely, Great Britain, Canada, France, Mexico, the causality between the variables cannot be accepted. This result is in contrary of the results obtained in the ARDL analysis. On the other hand, the ECM terms have significant impacts for Canada on the bmc and op; significant impact on bmc in France and Mexico; significant impacts on y in Italy. The ECM terms have significant impacts in Great Britain on bmc. The Granger causality results gave unexpected causality results. The

investigation of the reasons behind this result is related to the characteristics of the data analysed and the application of the ARDL method under structural breaks[††††††††].

Table 4. Granger Causality

	Granger Causality		Toda-Yamamoto Causality Test			Granger Causality		Toda-Yamamoto Ca	
	Δy→Δ bmc, Δy→Δop Δbmc →Δy, Δbmc →Δop Δop →Δy, Δop →Δbmc	ECM→ Δy ECM→ Δbmc ECM → Δop	Δy→Δ bmc Δy→ Δop Δop → Δbmc	Δbmc →Δy Δop →Δy Δbmc→ Δop		Δy→Δ bmc, Δy→Δop Δbmc →Δy, Δbmc →Δop Δop →Δy, Δop →Δbmc	ECM→ Δy ECM→ Δbmc ECM → Δop	Δy→Δ bmc Δy→ Δop Δop → Δbmc	Δ Δ Δ
Aus.	14.5117***, 4.1452*** 0.3481, 24.0152*** 0.3315, 4.0468**	20.5179*** 10.8219*** 40.168***	10.113*** 0.3481 7.3315**	1.1452 0.0152 0.7856	GB	0.007, 0.018 0.032, 0.010 1.776, 0.119	0.113 3.414* 0.195	13.1214*** 1.1337 15.786***	0. 17 1.
Ger.	1.1052, 1.1035 87.012***, 9.5201*** 17.822***, 90.206***	33.92*** 92.159*** 47.39***	11.105*** 1.1035 17.012***	0.012 11.479*** 1.822	Can.	0.315, 2.374 0.513, 0.504 0.401, 0.383	1.391 3.198* 7.206***	7.001** 9.746*** 10.665***	9. 11 10
Fin.	46.622***, 45.9574*** 14.512***, 22.21*** 4.1622**, 46.0258***	7.2852*** 27.607*** 47.021***	46.622*** 1.1512 0.1622	1.9574 13.102*** 46.028	FR	2.569, 0.237 2.673, 2.081 5.306*, 1.659	2.436 6.232** 1.803	9.1012*** 1.1112 9.889***	0 0. 0.
Por.	87.836***, 89.135*** 10.853***, 9.9856*** 32.143***, 15.175***	15.453*** 75.453*** 40.785***	10.083*** 0.0086 12.143***	1.135 10.85*** 1.175	Mex	1.334, 0.794 2.221, 2.092 0.008, 0.312	1.941 5.583** 0.151	15.111*** 10.121*** 13.125***	9. 9. 13
USA	19.204***, 28.758*** 30.305***, 54.785*** 35.456***, 36.758***	65.623*** 42.785*** 25.365***	27.126*** 9.9836*** 11.893***	8.886*** 7.869** 10.109***	Ita.	0.159, 2.156 14.725***, 1.889 4.787*, 2.161	8.533** 2.757 0.403	15.668*** 6.7851** 15.789***	0. 19 1.

Granger causality results gave unexpected causality results. As a second test, Toda-Yamamoto Causality test was used. According to the results for Toda-Yamamoto Causality tests, For Finland and Austria that the conservation hypothesis is supported. The growth hypothesis was accepted for Germany and Great Britain. For Canada, Mexico, Portugal and U.S., the feedback hypothesis highlights the interdependent relationship between bmc and y. Toda and Yamamato (1995) causality test determined that for Austria, Germany, Great Britain, Finland, France, Italy and Portugal that the conservation hypothesis is supported, energy conservation policies oriented toward the reduction of bmc may not have an adverse impact on y. In state of U.S. and Mexico, the feedback hypothesis highlights the interdependent relationship between bmc and y. The feedback hypothesis determine the possibility that energy conservation policies that reduce bmc may affect y. Such fluctuations in y will be transmitted back to bmc. For Germany, Finland and Portugal, it was determined unidirectional causality from op to y and from op to bmc. These results are as we expected.

5. Conclusion

This study used the ARDL method to analyse the relationship between BMC, OP and economic growth in Austria, Germany, Finland, Portugal, U.S, France, Mexico, Italy, Great Britain and Canada. To examine the causal relationships, we use the two-step procedure from the Engle and Granger model and Granger causality-Toda Yamamoto non-causality test. Firstly, the long-run relationship between the variables are evaluated by using the ARDL approach. Secondly, a dynamic VEC model is evaluated to test the causal relationships between biomass consumption, Y and OP.The results suggest that there is evidence on the long-run and causal relationships between BMC, OP and economic growth in countries analysed. The main findings of our study are as follows: (a) there is a unique long-term or equilibrium relationship between BMC, OP and economic growth in Austria, Germany, Finland, Portugal, U.S, Canada, Mexico, Italy, France and Great Britain; (b) We found the different results for Canada and Great Britain since two cointegration vectors are obtained, (c) Series are subject to structural breaks and possibly nonlinearity since dummy variables fail to capture or augment the results, (d) Granger causality result gave unexpected causality results. The second causality test being Tado Yamamoto Causality test was used. For Austria, Germany, Finland and Portugal, the conservation hypothesis is supported. In state

[††††††††] As observed, the L-S unit roots tests reported showed that there are structural breaks at different dates. Though certain dates collide for certain bmc, y and op series, for the majority of the sample, the breaks cannot be considered as co-breaks. Further, after including the dummy variables for each break observed, the dummies fail to capture the structural change in the variables analysed considering that the parameters are insignificant for the regressions of certain countries.

of U.S., the feedback hypothesis highlights the interdependent relationship between BMC and economic growth.

Considering the findings; for Austria, Germany, Finland and Portugal, the conservation hypothesis is supported. For U.S., the feedback hypothesis highlights the interdependent relationship between BMC and economic growth. Among Canada, France, Italy, Mexico and Great Britain; only for France, Italy and Great Britain, we observe causality from the OP to GDP growth rates. Further, biomass consumption also has impacts on GDP growth rates for Italy and Great Britain. The long-run ECM factors also play crucial role on biomass consumption for Canada, France and Mexico. Additionally, the ECM factors have important causality results on the GDP growth rates in Italy and Great Britain. However, the results cannot lead to the conclusion that feedback hypothesis exists for this countries as for the case for USA. Toda-Yamamoto tests are evaluated at the second stage. According to the results, for Austria, Germany, Great Britian, Finland, France, Italy and Portugal, the conservation hypothesis is supported. For U.S. and Mexico, the feedback hypothesis highlights the interdependent relationship between BMC and economic growth.

The empirical results of this study provide policymakers a better understanding of between BMC, OP and economic growth nexus to formulate energy policies in these countries. As a policy implication; Austria, Germany, Great Britian, Finland, France, Italy and Portugal and U.S. should invest in biomass energy infrastructure and step up energy conservation policies to avoid a reduction in BMC adversely affecting economic growth. However, without incorporating the structural breaks adequately, either through dummy variable based approaches lead to misleading conclusions. Therefore, the ARDL approach might lead to problematic errors in policies. These findings demonstrate that energy policies aimed at improving the energy infrastructure and increasing the energy supply are the appropriate options for these countries, since BMC increases the income level. In terms of the empirical approaches, the econometric methodology should be augmented to incorporating continuous transition functions to model nonlinearity or breaks without loss of degrees of freedom.

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International Competition and Fiscal Differentiations under Democratic Conditions

Alessio Lokar[a], Lubica Bajzikova[b*]

[a] *P&R, Portorož, Fornače, 35, Slovenia*
[b] *Comenius University in Bratislava, Faculty of Management, Slovak Republic*

Abstract

In the relationships between nations invasions of foreign countries are becoming less relevant. Under US President Bush Iraq has been invaded, but already his successor Obama, assumed that sheer invading of countries nowadays appeared as something obsolescent, as it is opposed to the modern sentiment of democracy, spreading, either with nations or individuals. In the crisis-areas witnessed nowadays in Eastern Europe and in the Middle East the US tries still to solve the occurring problems, but doesn't want to deploy ground troops, to overshadow with local population, which would create the suspect of invasion, a break with the general democratic feeling. It is not sure if this concept is going always to work in practical terms, but the intention is clear: it is preferable for crises to be solved by the domestic population, with foreign mixing as less as possible. Such an attitude changes many things in the realm of international competition, which is therefore more and more shifted to the economic realm. Democratic view-points emerge also if we stare at the huge migrant flows, which are trying to abandon poor and badly administered countries, like some in the Middle East or the South of the World, heading to those with better economic standing, which stays in the center of ruler's preoccupations, like in Western Europe, or in the US, places those, where the Central Bank CEO is becoming almost more important than politicians. In such countries, an important issue is the fiscal standing, depending on the presence of Regional Groupings like the EZ (EUROZONE), offering the advantage of large markets and a common currency, a situation which in the US was realized already some hundreds years ago. But there are advantages and disadvantages of this new situation: the main disadvantage is emerging in the fiscal area. For a given nation, the membership in the EZ brings, for instance, to a loss of economic independence, as it has to stick to the rules imposed by the Grouping affiliation. In such a situation paramount becomes the importance of developing and growing enterprises. The advantage of the economic environment offered by EU (EUROPEAN UNION), EZ, or US for single enterprises is given by the wide market space offered to its striving and developing efforts, assessing its potential of growth. In the article the fiscal situation of various nations is studied and examples of companies are made, looking of confirmation for the theses expressed. Easy explanations for company success often defy common wisdom. The catchword "innovation" is nowadays very much preferred, but not all of the examples proposed are based principally on it. Some of the reasons for company success remain hidden to common rationality and are based on a mix of individual creativity, invention, application, genius, organization and planning.

Keywords: Relationship between countries, Globalization, Firm performance, The secrets of success

* Lubica Bajzikova. Tel.: +421 2 501 17 507; fax: +421 2 501 17 527
E-mail address: lubica.bajzikova@fm.uniba.sk

Democratic governance and the Accumulation of Sovereign Debt

Democracy, i.e., "rule of people", existed also in the past, but at that time it was a rather rare form of government, an example thereof being Classical Athens, where democratic decision making was restricted to the upper part of the city-state population (Kagan, 1998). In antique times democracy didn't have a long endurance in time, like for instance it happened in ancient Rome, where republican democracy was substituted, under Caesar, and his nephew Augustus, by imperial ruling. As an asterisk in that connection, we can mention that the German name for "emperor", "Kaiser", derives directly from the personal name of the first would be emperor "Caesar". (Dahlheim, 2013).

Democracy became more permanent in modern times, with the introduction of nationwide elections and the extension of media information and voting rights to the citizenry, nobody excluded. Democracy is contradictory to despotism, either domestic or foreign, this being the very reason why invasions are not in accord with nowadays feeling and evaluation of facts and deeds in the international policy realm. The domestic population feel invasions like foreign tyrannies.

In general, human beings long for democracy, as it consents even to the humblest of them, to have a say in running public affairs, the so called "res-publica", which is important, if one doesn't want to be confined to mere private dwelling. It is a form of government, which, I believe, is step-by-step spreading to the borders of the globe, even if with painful convulsions and convolutions, like we can witness every day. As a matter of fact, there are still nowadays many areas and population pockets, some of them even pretty sizable ones, where local policies resist to the advancement of democratic ways and behavior.

How can we judge if democracy is really present and functional in a given country (Bartels, 2008)? Its presence can be affirmed, if the entire population has the chance of electing representatives staying at government for the period forecast by law terms, plus descending from their positions at deadline. If such elements are lacking, the suspicion of undemocratic behavior becomes substantial.

But democratic governance has also its pitfalls, the main of them connected with the fact that incumbents, in order to be elected, make a lot of promises to would be voters, out of the real possibilities of a given country (Osterkamp, 2011). Such promises have a financial lapel, as almost everything what is realizable on earth is connected with some cost burden. In advance, it is difficult to establish the limit to which one can go with his promises, the trend very often being, especially in less experienced democracies, to advance vows, with the hidden idea, that after election it will be possible, somehow, to manage the occurrence for the best, counting also on the fact that populaces bear forgetful memories. In Italy, for instance, a former prime minister, in order to be elected, pledged in several electoral occasions, the cancellation of the tax on the first home, even if Italy is the country with the 3rd highest public debt in the world. A bit of caution would have suggested maintaining the tax revenues versus expenditure, not risking the increase of the budget unbalance (Cameron, 2010), like it also happened.

A similar situation is easier to avoid by non-democratic governments, as there is no need to make promises to stay on power: the top person or persons do not need a popular selection and confirmation in order to enter and maintain their positions. Hence, they have the chance of controlling better the financial balance of the country, like it happens in many countries with authoritarian ruling (Lesch, 2005).

Therefore, very often democratically elected rulers find themselves in the circumstance of accumulating expenses and costs, which tend to exceed the budget balance of the state, which tries to equilibrate revenues and expenditures and creating a, so called, sovereign debt, typical for nations, which are considered to have few bridles in handling their finances (Brender, 2012).

The literature of the exposed historical area of knowledge has until now been unable to show poignantly the sequence of facts and consequences, which are so relevant and sometimes even fatal, for democratic regimes.

Sovereign Debt and other fiscal Data of the Countries considered

In Table 1 are shown the 2013 data of the Public Debt as percentage of GDP, PD %, for the countries of the EU (EUROPEAN UNION), the EZ (EUROZONE) and a collection of other countries chosen with the idea of enticing comparisons between different countries. It is shown also the Fiscal Deficit, also as % of the GDP, FD%, the GDP at the official exchange rate, the GDP per capita and the growth rate of GDP, for every country listed. The data of the Table make possible to carry out comparisons between the countries listed, on the basis of the parameters considered. The countries with the highest GDP from top down are US, China, Germany, France, UK, Italy and others following. But if we consider the EU as a country, than the order changes and the EU is first, US second and EZ third. A listing based on the sovereign debt, PD%, gives as first Japan, second Greece and third Italy. The best fiscal surplus/deficit, FD%, is given by Qatar, followed by Malta and Montenegro. Most countries have a negative fiscal balance, worst of all Japan, followed by Ireland and Spain. GDP per capita is highest for Luxembourg, followed by Qatar and Switzerland. GDP growth is pretty feeble for almost all the countries considered, the only exceptions being, from top down, China, Qatar and Latvia.

In Table 2 for each country considered we find essentially two data: the Real Growth Rate of the GDP and the Increment or Decrement of the Public Debt PD%. Very often countries are complaining by stating that if they don't expand their public expenses and hitherto also the Public Debt, PD%, their economy is not going to expand, i.e., the growth rate of the GDP is going to stagnate. Is it true therefore, that growth is achievable mostly by expanding state spending and debt? For the countries considered here the correlation between the measure of debt growing and the growth of the economy has been computed. The data of the correlation coefficient is shown at the end of Table 2. We see that the estimated data is positive and pretty high, confirming the hypothesis, at least for the given collection of countries. It is true that the sample is limited, but the result can be presumed as a significant, even if partial, confirmation: expanding the expenditure and the debt provokes also economic expansion.

In Table 3 we find a ranking of the countries on the basis of improving or worsening their Public Debt situation in the period from 2012 to 2013. The table is self-explanatory, but we can quote the champion of it: Switzerland, a country, which has a long tradition of healthy fiscal standing and Cyprus, which is the last in the standing. Of course, here we must stress again that the collection of countries is limited and better or worse standing countries are probably left out of the review.

A particular situation is that of the ex-Communist countries, which entered into the market economy with a non-existent Public Debt, PD%=0, as this kind of economic parameter was not contemplated by the communist system of governance and state accounting. For these countries the table shows, that in the short period of presence in the market economic system, things changed a lot and most of those countries exhibit now a pretty high value of the PD%, worst of all Hungary, which crossed the 60% limit given by the Maastricht standard, followed by Slovenia and Serbia. It is to remark however, that Hungary doesn't need to comply with Maastricht, as it is not member ob the EZ (EUROZONE).

As we explained above, a consequence of the introduction of democratic methods of government, the ex-communist rulers were not pressed by would-be voters to promise spending, whereas the democratic incumbents have to do it, if they are looking for voters' preference.

Solutions of the Debt Problem

In a debt situation, there are always at least two parts involved, the debtor and the creditor, this last one offering the financial means looked for by the debtor, so that despite its sovereignty, the receiving entity is never completely free to deal with the debt, without any hindrance. It is pressed to consider the point of view of the creditor, managing somehow the debt situation for the best or for the worse. In case of default, i.e., the impossibility to repay the debt, the consequences for a given state may be heavy: loss of

credibility, skyrocketing costs for debts to come, inclusion in the list of bad behaviour and banning the possibility of using the domestic currency for debt nomination. If more financial means are needed, the creditors will be asking to do it by affirmed international currencies, the so-called, strong ones. Therefore, it is wiser for such culprit states, if possible, to find other solutions, than mere default. To that regard, let's take into consideration, for instance, the vicissitudes of Argentine in the last decades, even until recently and other similar cases (Wiggin, 2010). Until now Argentine was not able to solve its debt problems and is so far still in trouble.

Table 1 Public Debt (PD), Fiscal Deficit (FD) to GDP Ratios, GDP (official exchange rate), Population, GDP per capita and GDP real growth rate for the EU countries, the EUROZONE and several other Countries in 2013

Number	Country	Public Debt as percentage of GDP PD%	Fiscal or Budget Surplus or Deficit as percentage of GDP FD%	GDP (official exchange rate) in billion of USD	Population in millions	GDP per Capita in USD	GDP real growth rate in %
1	World	64.8	-3.10	73,870	7,095,217,980	10,411,238	2.8
2	Austria	75.7	-2.90	418	8,223,062	42,600	0.4
3	Belgium	102.4	-3.20	507	10,449,361	48,558	0.1
4	Bosnia and Herzegovina	45.9	1.00	19	3,871,643	4,874	0.8
	Bulgaria	18.4	-2.40	54	6,924,716	7,755	0.5
6	China	22.4	-2.10	9,330	1,355,692,576	6,882	7.7
7	Croatia	66.2	-4.40	59	4,470,534	13,229	-1.1
8	Cyprus	113.1	-5.70	22	1,172,458	18,576	-8.7
9	Czech Republic	48.8	-2.10	195	10,627,448	18,330	-0.9
10	Denmark	47.0	-2.50	324	5,569,077	58,232	0.1
11	Estonia	6.0	-0.50	24	1,257,921	19,302	1.5
12	Finland	56.5	-2.30	260	5,268,799	49,271	-0.6
13	France	93.4	-4.10	2,739	66,259,012	41,338	0.3
14	Germany	79.9	0.10	3,593	80,996,685	44,360	0.5
15	Greece	175.0	-4.00	243	10,775,557	22,579	-3.8
16	Hungary	79.8	-2.90	131	8,919,128	14,643	0.2
17	Ireland	124.2	-7.20	221	4,832,765	45,709	0.7
18	Italy	133.0	-3.30	2,068	61,680,122	33,528	-1.8
19	Japan	226.1	-8.20	5,007	127,103,388	39,393	2.0
20	Korea, North (*)	10.7	-0.40	28	24,851,627	1,127	1.3
21	Korea, South	35.8	0.70	1,198	49,039,986	24,429	2.8
22	Kosovo	9.1	-1.80	7	1,859,203	3,846	2.5
23	Latvia	39.2	-0.20	30	2,165,165	14,031	4.0
24	Lithuania	40.2	-2.00	47	3,505,738	13,324	3.4
25	Luxembourg	22.9	-1.70	61	520,672	116,273	0.5
26	Macedonia	34.3	-4.10	11	2,091,719	5,092	3.1
27	Malta	75.3	5.50	10	412,655	23,121	2.1
28	Montenegro	52.1	1.50	5	650,036	6,950	1.5
29	Netherlands	73.3	-3.80	801	16,877,351	47,430	-1.3
30	Poland	48.2	0.00	514	38,346,279	13,402	1.3
31	Portugal	127.8	-5.10	219	10,813,834	20,280	-1.8
32	Qatar	30.6	9.10	213	2,123,160	100,369	5.5

33	Romania	38.6	-2.50	189	21,729,871	8,693	3.5
34	Russia	7.9	-0.50	2,113	142,470,272	14,831	1.3
35	Serbia	61.2	-4.90	44	7,209,764	6,058	2.0
36	Slovakia	55.5	-3.40	97	5,443,583	17,812	3.3
37	Slovenia	71.7	-4.40	47	1,988,292	23,548	-1.1
38	Spain	93.7	-6.80	1,356	47,737,941	28,405	-1.3
39	Sweden	41.5	-2.00	552	9,723,809	56,768	0.9
40	Switzerland	33.8	1.40	646	8,061,516	80,159	2.0
41	Taiwan	38.9	-2.50	485	23,359,928	20,749	2.2
42	Turkey	36.6	-2.10	822	81,619,392	10,069	3.8
43	United Kingdom (UK)	91.1	-3.60	2,490	63,742,977	39,063	1.8
44	United States (US)	71.8	-4.00	16,720	318,892,103	52,432	1.6
45	European Union (EU)	87.1 (***)		17,300	509,365,627	33,964	0.1
46	Eurozone** (EZ)	92.6 (***)		13,115	331,963,357	39,507	

Sources: CIA World Fact-book, https://www.cia.gov/library/publications/the-world-factbook/geos/bu.html;
**http://en.wikipedia.org/wiki/Eurozone#Comparison_table; * There is no data of public debt, but only foreign debt.
***epp.eurostat.ec.europa.eu/tgm/table.do?tab=tabòe&init=1&language=en&pcode=tsdde410&plugin=1

Table 2 GDP and PD% Increment or Reduction from 2012 to 2013

Country		GDP Real Growth Rate in %	Growth or Reduction of PD% from 2012 to 2013
1	World	2.8	-0,3
2	Austria	0.4	-2,3
3	Belgium	0.1	-2,8
4	Bosnia and Herzegovina	0.8	-2,1
5	Bulgaria	0.5	-2,2
6	China	7.7	9,3
7	Croatia	-1.1	2.0
8	Cyprus	-8.7	-28,7
9	Czech Republic	-0.9	-3,2
10	Denmark	0.1	-0,8
11	Estonia	1.5	-0,3
12	Finland	-0.6	-3,5
13	France	0.3	-3,2
14	Germany	0.5	2.0
15	Greece	-3.8	-18,1
16	Hungary	0.2	-0,6
17	Ireland	0.7	-5,8
18	Italy	-1.8	-6.0
19	Japan	2.0	-11,8
20	Korea. North (*)	1.3	1,8
21	Korea. South	2.8	0,9
22	Kosovo	2.5	-3,6
23	Latvia	4.0	0,6
24	Lithuania	3.4	-1,7
25	Luxembourg	0.5	-3,9
26	Macedonia	3.1	-0,5
27	Malta	2.1	-3,2
28	Montenegro	1.5	0.0
29	Netherlands	-1.3	-2,2
30	Poland	1.3	0,1
31	Portugal	-1.8	-23,5
32	Qatar	5.5	2,2
33	Romania	3.5	-1,4
34	Russia	1.3	-0,2

35	Serbia	2.0	-8,3
36	Slovakia	3.3	-3,4
37	Slovenia	-1.1	-18,5
38	Spain	-1.3	-9,6
39	Sweden	0.9	-3,3
40	Switzerland	2.0	18,6
41	Taiwan	2.2	-3.0
42	Turkey	3.8	-0,5
43	United Kingdom (UK)	1.8	-1,1
44	United States (US)	1.6	0,7
Correlation between Growth and Debt			0.68563436

If a country is totally sovereign and independent, a possible solution to the debt problem may be given by printing money, provoking inflation, which is then step-by-step denting at the debt, which is possible only if the debt is nominated in the domestic currency. But, as mentioned, that becomes, difficult, if not impossible, for countries demonstrating low credibility, as creditors would avoid the domestic money of the credit taker, or they would accept it, but only if he pays skyrocketing interest rates. This aspect is measured through the so called "spread", the difference between the interest rate which the given country has to pay to creditors and the country considered as a reliable standard. In Europe, the role is normally that of Germany. Countries in difficulty, fall very soon in the category of rogue states and then it becomes more and more difficult to handle the occurred situation in an acceptable manner. The debt situation of a given state cannot therefore be handled in a superficial way. To big a debt is always a problem: the solution must be found in the realm of reducing the expenditures, and re-entering into the limits given by state revenues. In order to obtain such a result, it is also thinkable to increase revenues, in particular, rising taxes, but in that case there will be the domestic electorate to protest against the measures, hit by heavier burdens: politically it becomes a mess: originally, the population elected the democratic representatives, on the basis of pledges advanced by them, afterwards, it became clear, that such promises were a joke, as the elected ones are going to charge on their subjects more impositions in order to save the occurrence. Often, in such situations, if democracy persists, the political team must be changed and substituted with a new one (Buttonwood, 2011).

Table 3 Countries ranked by improvement or worsening of the Debt PD% between 2012 and 2013

Number	Country	Improvement of PD% from 2012 to 2013
1	Switzerland	18.6
2	China	9.3
3	Qatar	2.2
4	Croatia	2.0
5	Germany	2.0
6	Korea, North (*)	1.8
7	Korea, South	0.9
8	United States (US)	0.7
9	Latvia	0.6
10	Poland	0.1
11	Montenegro	0
14	Russia	-0.2
15	World	-0.3
16	Estonia	-0.3
17	Macedonia	-0.5
18	Turkey	-0.5
19	Hungary	-0.6
20	Denmark	-0.8
21	United Kingdom (UK)	-1.1
22	Romania	-1.4
23	Lithuania	-1.7

24	Bosnia and Herzegovina	-2.1
25	Bulgaria	-2.2
26	Netherlands	-2.2
27	Austria	-2.3
28	Belgium	-2.8
29	Taiwan	-3.0
30	Czech Republic	-3.2
31	France	-3.2
32	Malta	-3.2
33	Sweden	-3.3
34	Slovakia	-3.4
35	Finland	-3.5
36	Kosovo	-3.6
37	Luxembourg	-3.9
38	Ireland	-5.8
39	Italy	-6.0
40	Serbia	-8.3
41	Spain	-9.6
42	Japan	-11.8
43	Greece	-18.1
44	Slovenia	-18.5
45	Portugal	-23.5
46	Cyprus	-28.7

The Problems of the EZ

A better variant of the described situation we find in the EZ (EUROZONE), where the member states share a common currency, the EURO, which may be labelled as a strong currency, guarded by the ECB (EUROPEAN CENTRAL BANK) and by the tradition of states like Germany, with past unfavourable experiences of unbalances and hyperinflation. At the beginning, the EURO was considered as a foolhardy experiment, because of the wide variety of economic performances of the member countries: some of them good, like Germany, Nederland, Finland, or Austria, some dire, like Greece, Cyprus, Ireland and some states of Eastern Europe. The engineers of the EURO understood fully this aspect; therefore, they obliged the members of the EZ to sign a commitment looking for convergence in the real economies of the single member states; but this is a task, which is again easier to promise than to perform. Therefore, a lot of traditional economists forecast that the EURO experiment was going to fail and that some states will have sooner or later to be expulsed off the EZ, not being able to comply with the common currency regime, because of the difficulty in keeping their accounts in a sound fashion (Martin, 2011).

What happened afterwards, in the realty, was that the EU, by creating particular funds (ESM, EFSF and EFSM, 2010) had to help several states of the EZ, in particular Greece, Ireland, Spain, Cyprus and others, financing rescue operations.

Every country of the EZ had to contribute with its money to the existence of such funds. At the beginning the lamentations were big, and many member states wanted to abandon that kind of operation, asking their money back. But at the end, after a lot of meetings and discussions, the operation succeeded and until now, we can observe, no state decided to abandon the EURO. Having at disposal a strong currency like the EURO represents a stress, but also an advantage, even for the weaker economies, like the fathers founders of the EURO forecast.

EURO Disadvantages and Advantages

The disadvantages and advantages of the common currency EURO can be listed as follows:

The main disadvantage is connected with the strength of the currency: it is rising prices for the products exported, making the goods of the country less price competitive on foreign markets.

But there are also advantages, the main of them being the following ones:

1. The use of a strong currency, which doesn't loose value in time, or even gaining it, in comparison to the currencies of the competitors, is easing domestic economic performance and trade, reducing domestic prices; at income parity, everybody and every company, is able to buy more goods: more buying has the consequence of also more selling and hence keeping the economy on the run.
2. The interest amount for the debt to be paid by the debtor is lower, freeing monetary resources for other developmental scopes.
3. The common currency, extending over several countries, facilitates trade between them, making possible international price comparisons for goods and services and cancelling currency exchange costs.
4. There is a lower cost for materials and commodities imported from outside the EZ.

Let's consider this last aspect; it is an advantage, in particular, for transformation economies: raw materials and/or commodities are bought at lower prices on the international market; moreover, manufactured products, if they are finished in the given country, being also at a higher quality level, find a market, because of their sophistication, not only because of their price convenience.

An example from a simple economic area could be as follows: naturally untreated oranges can be sold with the label of environmental high quality. They require, during the growing season, work with agricultural mechanization, needing fuel for tilling the soil and pumping water for irrigation, which is both cheaper having at hand a strong currency, whereas, the final products fetch higher prices on the market, due to their qualitative excellence.

Generalization of this Concept to the Economy as a Whole

This aspect can be generalized: in an economic environment where there exists a strong currency, companies must tend to improve their performance by innovation of products or improved management, in order to face, from one side, the bigger abundance of production factors, expressed by their lower price level, and on the other, the bigger selling effort of finished products on the market. If they don't change anything, at parity of conditions, they will loose in competitiveness, falling under the menace of national and international competitors. Hence, the stronger currency is going to press companies and single citizens to change, seeking for relevant improvements. But not every company is able to perform such improving changes: under hardship, the best survive and thrive, ascending to a higher level of economic life, whereas the less good, submerge and often also drown.

Some politicians condemn the membership in the EZ for this kind of hardship, but manifestly they mostly represent companies not able to change and improve their performance in order to overcome the EZ competition. Companies, which are able to solve the described problems by themselves stay on their own legs and in general do not resort to politicians for help, whereas the opposite is true for companies, being stuck in their performance improvements. Some Italian politicians declared recently the EURO as being a "criminal" currency, used by the stronger members of the EZ, aiming at destroying their weaker competitors. It is true, inter alia, that politicians have the task of welfare, i.e., taking care of the weak, but if they are honest, they must also take into account the quality of companies and individuals issuing such help cries.

The economy is a strange reality: economic conjuncture, positive or negative, doesn't explain everything about the success, or failure of companies, and even of whole economic systems. Some companies emerge in difficult times and circumstances, wheras the mediocre ones disappear. Nowadays

there is a tendency to explain everything with conjuncture and innovation, or lack of them. But examples, which I would describe, show that success in the reality has often not much to do with these both aspects.

Some Cases of successful Company Strategic Management regardless of Economic Conjuncture

The Czech company Bata, selling shoes, a rather conservative, standard and not very innovative area of production, reached nowadays the economic result of a quarter million of employees in the whole world, certainly a remarkable level. In order to understand how they mastered the difficulties, which have arisen in the operating environment during their growth, we can shortly tell the history of the Bata family: the Batas were a traditional family of shoemakers, originating from Prague, the capital of the Czech Republic.

They were active in the area already from 1600. What propelled them forward, were orders for large amount of shoes, needed by the Austro-Hungarian army during WWI (WORLD WAR I). But after the war finished, a wider economic crisis hit Europe and the world as a whole, pushing to low levels the demand for everything, also shoes. Many shoe producers in such circumstances collapsed, and had to shut off their activity, but not the Batas. In that particular difficult moment they resorted to a kind of cheap cloth and rubber shoe, which became fashionable with customers, being sold at lower price than usual shoes to the impoverished but needy clients. That move permitted the Batas to survive. Aftermath they improved quickly their standing, consenting them, by picking up some Socialist and Scientific-Managerial (Taylor, 1919) ideas, even to invest heavily not only in the management of the company, but also in the city of Zlin, building factories and apartments for employees, so that Tomas Bata, the boss of the company, won the position of Zlin's mayor. But another hit pounded the company: Tomas suddenly died in a plane accident during landing. A third blow happened after WWII (WORLD WAR II), when Czechoslovakia was compelled to enter into the communist economic system, inimical to free enterprise. The son of the company's founder understood in time the political danger and shifted the assets, at first to Brazil and later to Canada, from where he ruled the enterprise, also after WWII, developing it to the present global size. In the example we can see how the owners and managers were able to keep alive a company during economic and political hardship and even enhancing it to the successful global level of nowadays, whenever it was possible.

The Italian company FIAT was founded in Piedmont, the region from where Italy's unification started. It was able to exploit very much the creation of the Italian market, much bigger than the small Piedmontese one, thriving particularly during WWI and WWII, when Italy embarked in several war adventures, needing the cars, trucks, guns, tanks and planes, produced by the company. After WWII the company was able to exploit the Italian economic miracle and the following trend to mass motorization. A difficult situation arose when Italy became member of the EZ, also because the previous owners became old, sick and passed away. It took several years for the new generation to come to power and in the meanwhile there were doubts about the company survival. The German weekly Der Spiegel published at that time an article, labelling the company as "Der marode italienische Autohersteller", "The ailing Italian Car Maker", speculating even that the company would be sold to some Chinese buyers. But then came again a turn for the best: a new general manager was appointed, Sergio Marchionne, and FIAT started with a new flare. The company was even able to acquire the American Chrysler, previously discarded by the German Mercedes Benz. Recently it changed the name signalling the new global allure, shifting its seat from Turin to Holland and London and looking optimistically forward to the goal of becoming the 7th biggest car company in the world, giving jobs to some quarter million of employees.

Another company, which went through lots of interesting shifts and shocks, was the German VW (VOLKSWAGEN). It is renowned that VW was a direct creation of the Hitler era. Between his terrible deeds, the "Führer" realized also some, few, positive ones: the invention, of double lane highways, subsequently copied by the whole world. Another one was the founding of the car company VW. In his

mind, the highways and VW were connected, as they had a role in the imagination of Hitler's paradise on earth: the highways to connect all the corners of the immense Arian empire, which he planned to build in Europe, after his conquest wars, and the VW, as a car where to find place the typical Arian family like imagined by him: a tall, fair hair father at the steering wheel of the beetle, the typical and standard car of the VW beginnings, a mother with a yellow bride, seating nearby him, and on the back seats a son and a daughter, all four of them riding gloriously along the double lane highways to the Ural border of Great Germany. The war collapse impeded the realization of such dreams. After WWII the employees of VW were asked to carry out their jobs devoid of wages for some years, in order to reset the factory. In the middle of the twentieth century, the son of the first Nazi director Pïech, became, at first general manager, and later owner of the company, which reached the employment level of more than a half million workers, engineers and clerks. It is, considering also all its affiliates, the first, or the second car factory in the world, and one of the biggest companies worldwide, a difficult but successful itinerary in modern history, going through areas, which are surprisingly different from the modern usual and standard historical narrative.

Steve Jobs, probably, the most successful entrepreneur of our time, was a dropout of the famous Berkley university, an indication, if needed, of how wrong can professors be on judging the intelligence of students (Blumenthal, 2012). Once out of the study curriculum, he started his own business, in order to realize his intuitions, without all the "rubbish" taught during curricula. He developed the so-called "personal computer" (PC), starting to work in a garage, where he created the "Macintosh" brand. Nowadays, everybody has a PC on his desk, but in those days the idea was a breakthrough. At that time, the computer, like championed by IBM, the most important computer producing company of the world, consisted in several pretty large and expensive pieces, similar to grey wardrobes, to be posted in several rooms, which would be performing endless computations. Nobody imagined that a computer, instead, posted on everyone's table, would be able to execute: yes, the computations if needed, but also to substitute completely the following tools used by mankind through centuries: the pen, the more recent typewriter, the printing device, the photo or film camera, plus, making possible to the owner to be connected to the whole world, listening, if wanted, Beethoven's ninth symphony, or following a sporting game, but also speaking to friends, even if they live far away around the globe, plus, in the morning, if needed, following the last news and reading world newspapers, or a possibly book. This revolution was started and…finished by Steve Jobs in his short lifespan, creating, by the way, the richest company in the world, Apple. Of course, to perform all that it was not simple, and it was necessary to rely on one's geniality and intuition, foresight, technical skills, organizational capabilities and so and so forth. There are several biographies of Steve Jobs, which everybody can read and it is not our task here to repeat what is written there. We would like here only to point out one aspect of Job's performance: in his travel through the Apple company, he founded it, but aftermath it went bankrupt, than he had to recreate it with the help of investors, after, again he was expelled out of it, than he bought it again and finally he drove it to its final glory and wealth. At a certain point, he had to compete with Sculley, a famous marketer, about the next steps on the tactical and strategic road to be followed in order to gain the market (Sculley, 1987). If we analyze the concepts of these two personalities, fighting for influence in Apple, we can affirm that the marketing man made a mistake which in Marketing is not so rare, but wouldn't be presumed for a famous professional: of the four Ps, the variables, which are the Mantra of the Marketing, so called, "science": Product, Price, Place and Promotion, he was concentrating only on the last three, forgetting the first one, the Product. It is true, that the first P variable, the product, is not so easy to vary, i.e., to change, like the other three, but Jobs, even if he never studied Marketing, he didn't do the same mistake: the key to success lasted with the innovation of the product, the idea which he followed, until his early passing away, which also the company followed until nowadays by, becoming so, as we already stated, the number one company of the world. Innovation of the product was paramount to success.

But in the case of Ingvar Kamprad, a Swedish businessman, founder of IKEA, the situation is opposite. His empire is based on producing and selling wooden boards of various sizes, nothing which one would label as a breaktrough innovation. He started with a shop in his Swedish home town, finding out that people liked and bought the product he was offering them. The explanation for that kind of demand was in presuming that in Scandinavia people were enjoying long weekends, lasting from friday afternoon to monday morning. During this long periods they were bored as they didn't know what to do, so they started to buy the IKEA boards, trying to mount them together, creating some furniture pieces for their homes. Kamprad spread the IKEA brand shops through the North, but common wisdom was telling that he would never obtain the same results in Southern Europe where lifestyle pushes people into the streeets and squares, where they prefer to meet and chat to each other, drinking »capuccinos« or wine, not being interested to stay at home in order to painstakingly screw the boards together. But they were mistaken! Kamprad started to open his shops everywhere, not listening to such cheap wisdom, reaping success also in the Mediterranean areas, blessed by climate, even successfuly selling in such places some tasteless Swedish food. Generalizing, the Kamprad idea looks so trivial, that it might be concluded, that almost everything, what people conceive, can be transformed in successful business. If Kamprad was able with his boards to become one of the most rich people in the world, creating a business empire, which is still expanding relentlessly, so everybody could do it with his idea, if he has one. It looks therefore, that there is no rule in order to forecast success for business, only to get an idea and the will to realize it.

Conclusive Remarks

Much more examples could be narrated, but these few ones are shown in order to extrinsic, how economy is based on life, efforts and experience of people, who are daily facing steps to be overcome, difficulties and problems. Some of them, the best ones, are able to do it with ingenuity, common sense and courage, reaching a higher economic and/or managerial level, others, like already told, collapse and disappear. It is a reality, which is not possible to describe using mathematical, statistical and econometrical models, like some economist would like to do, but much more by narratives of real life. Economy and Management own a deeply human lapel, being an essential part of the survival history of the human race.

Once the subject “Economics” was called “Political Economics”, in order to stress out its deep ties with human behaviour and policies. More recently, scholars preferred to mimic the so-called exact sciences, using formulas and aspects from mathematics and statistics, but in the end, if we are culturally honest, they never succeeded introducing exactness and scientific accuracy in the economic and managerial realms.

Recently Elizabeth, Queen of England, asked in an interview: how is it possible, that so many economic and managerial scholars were not able to forecast the recent fatal economic crisis? The answer is simple: in exact sciences it is possible to forecast what is going to happen with the phenomena observed, but not so in Economics and Management, which is a different kind of knowledge, much more connected with human life, even if economic scholars do not love this aspect, preferring a different version of their area of interest, based on mechanisms, like they exist in physics, astronomy, or even chemistry, with exactly, or close to exactly, predictable outcomes. In Economics and Management a lot depends on human beings, their virtues and failings, which are much less predictable. Some scholars affirm that exact sciences are based on experimentation carried out in laboratories. Laboratory work was hence introduced also in Management and Economics by means of the so-called entrepreneurial incubators, where future entrepreneurs would have a favourable terrain to put their seeds. It is an idea, cursing already for some decades: incubators were proposed and tried all over the world. But how many real managerial successes, like those, described above, were realized until now on the basis of incubator start-ups? As far as we know, not even one. Mostly such incubators start with money offered by the

public hand and when that money is finished, also the incubating businesses are mostly closed. Experience, not experiments, show that successful entrepreneurs grow by themselves, pounding and resisting fate and if they are able to overcome all the vicissitudes posed by life and environment, they come out as victorious, reaching also a higher level of economic existence.

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Gender Differences in Promotions to Top Level Management Positions: An Examination of Glass Cliff in the IT Sector

F. Pınar Acar[a]

[a] Middle East Technical University, Ankara,06680, Turkey

Abstract

Extant research shows that female managers face significant hurdles in the attainment of top level positions in IT organizations. Recently there have been some examples to women breaking through the glass ceiling to reach to higher positions. However, there is only a limited knowledge of the obstacles women may face after they break through the glass ceiling to ascend to leadership positions. New studies suggest that women may be more likely to be assigned to riskier, more precarious leadership positions compared to men-a form of bias called the glass cliff. Drawing from role congruity theory, the present study examines whether men and women are differentially selected to leadership positions. Employing a 2 (organization performance: increasing or declining) x 2 (candidate gender: male or female) between subjects design with a sample of 281 Business Administration students did not find support for the glass cliff hypothesis that female leaders are more likely to be assigned to top positions when organizational performance is declining rather than increasing. Hence, this study did not replicate the glass cliff. More research is needed to investigate under what conditions this bias may occur.

Keywords: Leadership, Gender Stereotypes, Benevolent Sexism, Glass Cliff

Introduction

Women face myriad challenges in the attainment of leadership positions (Gutek, 2001; Heilman & Chen, 2005; Rudman& Kilianski, 2000). Barriers such as absence of mentoring, work-family challenges, and overt discrimination are captured by the concept of glass ceiling-the transparent barrier preventing women from rising above a certain level in corporations because of their gender (Eagly & Karau, 2002; Murrell & James, 2001; Sczesny, 2003). More recently, women around the world have been breaking through the glass ceiling (Catalyst, 2011; European Commission, 2011; Turkish State Institute Statistics, 2012). With more women being appointed to leadership positions, scholarly attention shifted towards understanding potential barriers women may face after they break through the glass ceiling (Bowles, 2012; Cook & Glass, 2014; Mulcahy & Linehan, forthcoming). Recently, a group of scholars examined whether types of leadership positions achieved by men and women are different (e.g., Ashby, Ryan, & Haslam, 2007; Haslam & Ryan, 2008; Bruckmüller & Branscombe, 2010). Specifically, Ryan and colleagues (e.g., Bruckmüller, Ryan, Rink, & Haslam, 2014; Haslam & Ryan, 2008; Ryan & Haslam, 2005; Ryan & Haslam, 2007) suggest that the nature of leadership positions that women attain may be quite different than those that men attain. They argue women may be more likely to be assigned to

riskier, more precarious positions compared to men suggesting that they face a "second wave" of gender discrimination after breaking through the glass ceiling to ascend to elite leadership positions (Ryan & Haslam, 2007, p. 550). They call this form of discrimination "glass cliff". Glass cliff is the phenomenon that women are more likely to be chosen for positions associated with deteriorating rather than increasing performance and that men are more likely to be chosen for leadership positions that are associated with increasing rather than deteriorating performance (Haslam & Ryan, 2008; Bruckmüller, Ryan, Rink, & Haslam, 2014).

However, other scholars were not able to replicate Ryan and colleagues' findings (e.g., Adams, Gupta, & Leeth, 2009; Cook & Glass, 2014). Therefore, before abandoning glass ceiling as a thing of the past and accepting the glass cliff as the contemporary barrier to gender parity, this study aims to put the glass cliff hypothesis to an additional test to establish its robustness. Ryan and Haslam (2007) argue that glass cliff should be especially evident in male dominated, masculine sectors. They also suggest that the glass cliff should be more apparent in societies that endorse traditional patterns of gender-based division of labor, because gender discrimination and sexism are more institutionalized in such cultures. The current study aims to investigate the glass cliff hypothesis in the IT sector and in a Turkish setting. IT is viewed as a technical area of work and therefore IT jobs are construed as highly masculine (Gutek, 2001). Although more women employees have joined the IT workforce in recent years, IT is still dominated by men who hold the great majority of upper management positions (Surgevil & Özbilgin, 2012). Traditional gender stereotypes still prevail in Turkish society (Aycan, 2004; Öngen, 2007; Sümer, 2006). Glick and colleagues (2000) identified Turkey as high in ambivalent sexism, making it an appropriate setting to investigate glass cliff. The study begins with a literature review of glass cliff and benevolent sexism, then continues with hypotheses development. This is followed by research methodology, results and discussion together with implications and study limitations.

Literature Review And Hypotheses

Glass Cliff

Ryan and associates demonstrated the glass cliff effect across several contexts (e.g., Haslam & Ryan, 2008; Ryan & Haslam, 2005; Ryan et al., 2007; Ryan, Haslam, & Kulich, 2010). An archival investigation of FTSE 100 companies before the appointment of male and female board members showed that companies which appointed men to their boards had relatively stable performance before the appointment, whereas companies which appointed women to their boards had poor performance before the appointment (Ryan & Haslam, 2005). Another archival examination of FTSE 100 companies between years 2001 and 2005 found a negative relationship between women's presence on company boards and subjective stock-based measures, which mainly reflect investor perceptions and behavior. That is, women were more likely to be found on the boards of companies perceived to be performing poorly (Haslam et al., 2010). An examination of the UK general elections revealed that, in the Conservative Party especially, women were nominated for less winnable seats, demonstrating that glass cliff phenomenon as a unique form of gender-based discrimination was not confined to business organizations and it was also evident in the representation of women in politics (Ryan et al., 2010).

In a series of experiments, Haslam and Ryan (2008) showed that the likelihood of a female candidate being selected ahead of an equally qualified male candidate increased when the organization's performance was declining rather than increasing. Haslam and Ryan (2008) demonstrated that under conditions of declining performance, the female candidate was perceived to have significantly more ability than the male candidate and was seen as more appropriate for the assignment. Under conditions of increasing performance, the male and female candidates either did not significantly differ in terms of their

perceived suitability for the position or the male candidate was seen as more suitable. It was only when the company's performance was declining; the candidate's gender had a significant impact on leadership choice, with the female candidate being seen as more able and more suitable than the male candidate. In another experimental study that involved undergraduate students from a US university, Bruckmüller and Branscombe (2010) identified history of leadership as a moderating factor such that glass cliff occurred only when the history of leadership had been male dominated. In case of historically male organizational leadership, participants chose the female candidate when the performance was declining and chose the male candidate if the performance was successful. Glass cliff was not observed when organizational leadership had been female dominated.

Although above-discussed research provided compelling evidence in support of glass cliff, other researchers were not able to replicate it. Adams and colleagues (2009) examined the average stock price performances of US companies preceding the appointment of female and male CEOs over twelve years and found that, counter to the glass cliff hypothesis, women were more likely to be appointed to the CEO position at firms that were in better financial health relative to those that appointed males to the CEO position. In a Canadian sample, Carroll and associates tested whether differences exist in security market performance for companies that announce the appointment of a female versus a male board member and found no significant difference in security return performance preceding the appointment. Finally, Cook and Glass (2014) analyzed all CEO transitions in Fortune 500 companies in the US over a twenty-year period and did not find evidence that women were more likely to be promoted to CEO in firms experiencing decline in their performances.

The conflicting findings of scarce research on glass cliff indicate a need for further research into whether such prejudice against female leaders really exists. The current study investigates glass cliff in the particularly masculine IT industry setting. It should also be noted that the extant research on glass cliff was conducted in Western settings. Ryan and Haslam (2007) argue that glass cliffs should be more apparent and present a more significant obstacle in sectors that are male dominated and more masculine and in more conservative cultures.

Role Congruity as an Underlying Process

Role congruity theory (Eagly et al., 2000), which explains why women struggle to attain leadership positions in general (Wicker, Breurer, & von Hanau, 2012), may provide a theoretical basis to understand why women may be seen as better fits for leadership roles in certain contexts or conditions, such as glass cliffs (Eagly & Karau 2002). According to role congruity theory, individuals are judged with respect to the congruence between their characteristics as dictated by their gender stereotypes and the requirements of the job roles that they occupy (Eagly et al., 2000). Gender stereotypes identify the attributes that characterize men and women and are consistent across cultures (Eagly & Karau, 2002; Heilman, 2012). Gender stereotypes are commonly described along lines of agency and communality (Bakan, 1966). Communality includes traits such as affectionate, helpful, kind, sympathetic, interpersonally sensitive, nurturant, and gentle. Agency involves traits such as aggressive, ambitious, dominant, forceful, independent, self-sufficient, self-confident, and prone to act as a leader (Eagly & Karau, 2002). Men and women are assumed to differ in terms of agency and communality such that men are considered to possess agency but lack communality, whereas women are considered to be communal but lack agency (Eagly, 1987; Heilman, 2001; Sczesny, 2003). As a result of gender stereotypes, men are expected to display agency and women are expected to display communality. Job roles are gendered in nature and depending on the gender-type; predominantly masculine or feminine qualities may be seen as necessary to successfully perform a role (Garcia-Retamero & López-Zafra 2006; Heilman, 1997; Stulmacher &

Poitras, 2010). Most IT jobs and especially leadership roles are construed as masculine (Gutek, 2001). Agentic attributes such as competitiveness, self-confidence, objectiveness, aggressiveness, and ambition are seen as prerequisites for success in the IT sector in general and especially for leadership positions in IT organizations. The incongruity between the predominantly communal qualities associated with women and predominantly agentic qualities needed to succeed as a leader leads to negative expectations about performance of female leaders (Eagly & Johnson 1990; Eagly et al., 1992; Eagly & Karau, 2002; Heilman, 1983, 2001; Powell et al., 2002; Schein 2001). Thus, role congruity theory suggests that because of the incongruity between the feminine stereotype and masculine construal of leadership roles, women's ability for leadership is likely to be evaluated negatively and women are likely to have lesser access to leadership positions compared to men (Eagly & Karau, 2002). While most leadership roles are construed in heavily masculine terms, some leadership roles may be defined in feminine terms and perceived to require feminine qualities (Bosak & Sczesny, 2011; Eagly & Karau, 2002; Lips & Keener, 2007). According to Bruckmüller and Branscombe (2010) and Ryan and colleagues (2011), leadership roles during declining organizational performance may be perceived feminine rather than masculine. Both studies suggest that decreasing organizational performance may be associated with more communal description of the leadership role, successful performance of which requires stereotypically feminine attributes such as relationship-orientation, being sympathetic, caring and service-oriented.

Development of Hypothesis

The present study aims to test the glass cliff hypothesis that women are differentially appointed to top leadership positions when organizational performance is declining rather than increasing. According to glass cliff literature and role congruity theory, due to gender stereotypes, women may be perceived to be better equipped with qualities necessary to deal with poor performance. In the especially masculine IT setting, a female candidate is likely to be perceived as more able under declining organizational performance condition than under successful organizational performance condition, whereas men will be seen as the de facto leader when there are no organizational performance problems. Hence, the following hypothesis is tested:

> *H: Organizational performance is expected to influence the gender of the leadership candidate appointed to leadership position such that when organizational performance is declining, female candidate will be perceived to have more leadership ability than male candidate and when organizational performance is increasing, male candidate will be perceived to have more leadership ability than female candidate.*

Methodology

Research Goal

This study aims to test whether women are differentially appointed to top leadership position of IT organizations when organizational performance is declining rather than increasing (so called glass cliff phenomenon). In other words, it aims to investigate whether male or female leaders are seen suitable for different levels of organizational performance.

Sample and Data Collection

The participants of the study were 281 Business Administration Department students of a major state university located in Ankara, Turkey. 141 of them were male, average was 21.59 (SD=1.46). Student participation was voluntary.

To test the hypothesis, a factorial between-subjects design with independent variables of organizational performance (declining, increasing) and candidate gender (male, female) and dependent variable of perceived leadership ability was used. Subjects were randomly assigned to one of the four experimental conditions. Participants were randomly provided with one of four versions of a five-page questionnaire such that 64 rated a male candidate and 78 rated a female candidate in decreasing company performance condition and that 68 rated a male candidate and 71 rated a female candidate in increasing company performance condition.

The first page consisted of a brief CV of either a male candidate or a female candidate. The CVs comprised identical information about the candidates' qualifications, personal details, educational background, and job experience. Participants then read a job advertisement presenting details of a vacancy for an IT Director position in an international company that provides technology solutions and services, followed by a newspaper article about the performance of the company. The newspaper article described the company either as having outstanding performance illustrated with a graph showing a dramatic increase in company's stock value over the past decade or as experiencing financial difficulties with referring to a graph showing a dramatic decrease in company's stock value. Participants were then asked to rate the perceived ability of the candidate for the position in question and respond to the ASI items.

Analyses and Results

Perceived leadership ability of the candidate was measured using the four item scale proposed by Haslam and Ryan (2008). Cronbach's alpha value for perceived leadership ability scale was .79. To test the hypothesis a 2 (organization performance: increasing or declining) X 2 (candidate gender: male or female) between-subjects ANOVA was conducted. The means and standard deviations are presented in Table 1. The results reveal no significant main or interaction effects. There was no differences in candidates' assignment to leadership position based upon gender $F(1, 277) = .531$, ns or organizational performance $F(1, 277) = .477$, ns. The interaction terms was also not significant $F(1, 277) = .007$.

This finding is contrary to the glass cliff hypothesis that a female leader is more likely to be appointed when organizational performance is poor and the male candidate is more likely to be appointed when performance is high. Despite the fact that, the current study took place in an especially masculine industry setting and a cultural context that endorses gender stereotypes, it was not able to find evidence that a female leader candidate was evaluated to have higher leadership ability when the performance of the organization was declining rather than increasing.

Table 1 Means and Standard Deviations

Candidate's gender	Organization's performance	Mean	Std. Deviation	N
Male	Decreasing	5.8203	.69788	64
	Increasing	5.8897	.68483	68
	Total	5.8561	.68942	132
Female	Decreasing	5.7628	.72401	78
	Increasing	5.8169	.86288	71
	Total	5.7886	.79096	149
Total	Decreasing	5.7887	.71042	142
	Increasing	5.8525	.77892	139
	Total	5.8203	.74444	281

Conclusion

This study examined whether female leaders may face a form of discrimination called glass cliff after they ascend to elite leadership positions. Research on glass cliff argues that due to gender stereotypes, women may be perceived to be better equipped with qualities necessary to deal with poor performance and, hence, gender stereotypes may lead to differential attribution of leadership ability to male and female leaders under varying performance conditions, such that women are more likely to be appointed to top positions when the organization is failing. However, research on glass cliff is inconclusive. According to Ryan and Haslam (2007), glass cliffs should be especially apparent in masculine industries and cultures where traditional gender roles prevail. The results of this study find no evidence of glass cliff in the highly masculine IT setting and among Turkish students. Although participants of the study came from a society that subscribes to traditional gender roles (e.g., Glick et al,, 2000), they did not differ in their evaluations of the male and female leaders.

In sum, this study was not able to replicate the glass cliff hypothesis that women leaders were selected to more precarious leadership positions. Thus, the current study adds to the literature that found no evidence in support for glass cliff. Accordingly, looking at the results of the study it is too soon to argue that glass cliffs replaced glass ceiling to describe obstacles women face at work. The findings of this study are limited in a number of ways. First, participants of the study were students, and were younger and less experienced than those who would normally make leadership appointment decisions in real life, such as HR managers, board and executive committee members. Related to this, cohort effects pose a serious threat to the external validity of the findings. Participants of the current study are members of Generation Y, also known as the Millennial Generation, with unique interests, tendencies, expectations, and attitudes toward work. The current decision makers in work organizations, however, are likely to be representatives of their parents' generation. Hence, the findings of this study may not be reflective of the leadership selection process in the contemporary work organizations. Further, rating a hypothetical employee's behavior may not carry the same effects as a similar evaluation in an organizational setting and, the intensity of participants' involvement in the task might have been much less than that for "real" managers. More research is needed to settle the debate on glass cliffs.

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4th International Conference on Leadership, Technology, Innovation and Business Management

Employment Relationships and the Psychological Contract: The case of Banking Sector in Albania

Prof Assoc. Dr Mimoza Manxhari[a] ‡‡‡‡‡‡‡‡

[a]*Faculty of Economics, University of Tirana, Albania*
Department of Management

Abstract

This paper identifies the connection between 'breaches' of the psychological contract and employment relations as reflected in three dependent variables: organizational commitment, work satisfaction and the propensity of the employee to leave. For this purpose a study was conducted of 145 employees in the Albanian banking sector, with particular emphasis given to banks in Tirana. The distributed questionnaire considers two types of the psychological contract – transactional and relational. The study attempted to identify breaches in the psychological contracts that affecting employees' attitude and behavior.

Demographic indicators such as age, educational level, study background and work position are key factors influencing perception of breaches of psychological contracts. Age and study background are positively related to organization commitment and work satisfaction, while educational level indicates a negative relation.

Organizational commitment has a positive relation to work satisfaction and negative relation toward "intention to leave". Increases in satisfaction are associated with a lower aim of leaving. Breach of the transactional contract reflects a very high level propensity (0.722) to resign. Finally, results showed that the relational contract provides an organizational commitment around 4 times higher than transactional contract.

Key words: Trransactional contract, relational contract, breach of psychological contract, organizational commitment, intention to leave, work satisfaction**.**

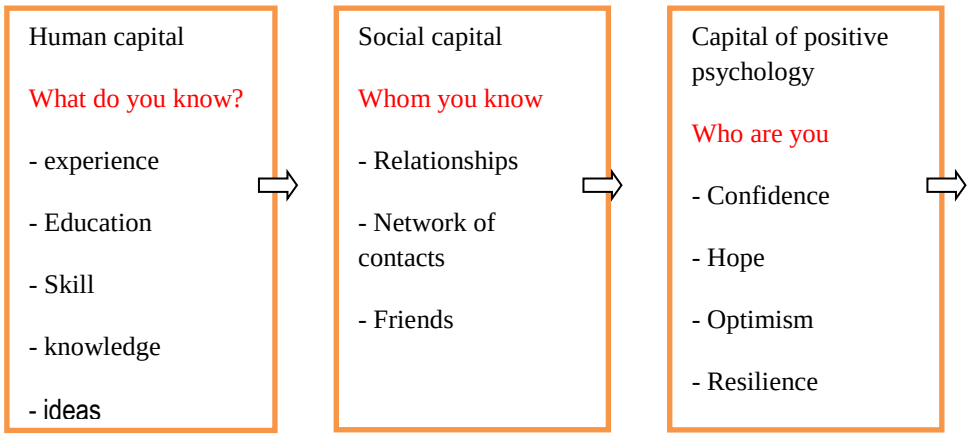
1. Introduction

Today the organizational environment, organizations and the individuals that work within them have changed. The growth of the so called 'knowledge economy' has increasingly directed the attention of researchers toward human capital issues as an important source of creating competitive advantage. Luthans et al (2004), presented a schema of human capital evolution, described according to the stages in Figure 1.

‡‡‡‡‡‡‡‡ *E-mail address:* mmanxhari@yahoo.com, _mimozamanxhar@feut.edu.al: Tel: +355

Figure 1. Human capital extension for competitive advantage

Figure 1. Extension of Human Capital for competitive advantage



As Fig.1 shows employees have enjoyed increased significance year on year, but it would be a mistake to consider this development as indicative of a generally more "caring"approach to employees in the Albanian work environment.

In Albania, the family based organization remains the main business type which can be characterized not unfairly as a kind of business lacking in significant steps in successful management processes.

However, with the establishment of democracy, foreign businesses have invested in and continue to show interest in Albanian economic development. Their investments, along with other benefits, signify the flow of new management practices. The treatment and increased importance conferred on workers in these companies, compared with Albanian owned companies is easily distinguishable. From the briefest overview of the annual reports of these foreign investments can be identified descriptive information concerning training and employee engagement in different activities and their motivation. The promise of changes in basic work relationships attendant in turn on change in the organizational environment has provoked increased interest in the psychological contract and its meaning for employees.

Based on the work undertaken by Rousseau, psychological contracts can be seen as mental models of a sustainable working relationship. Based on the importance that the psychological contract has in the work environment, the aim of this paper is to examine the impact of "breaches" of psychological contracts in the employment relationship of employees in the banking sector, reflected in variables such as intention to leave, job satisfaction and organizational commitment. To identify and further analyze these phenomena, statistical regression methods have been used.

There are three main rationales for focusing on the banking sector:

Most of the banks operating in Albania have acquired foreign capital acquisitions that have allowed the creation and sustenance of positive psychological contracts in these companies to a greater extent than in other Albanian companies.

The employees in the sector have come from different branches and levels of education, thus offering, diversified expectations of the organization.

The choice of this sector is related to the key importance of the banking system in the Albanian economy.

Theoretical background

People in a company are the main resource that enables the company to achieve competitive advantage. In the constellation of developments that dictates the today's business environment, psychological contract is playing an increasing role in today's employment relationships.

The psychological contract term dates to the 1960s, when Argyris popularised this concept, defining it as a "consensus" implied between a group of employees and their employer. Levinson (1962) provided an early description of the psychological contract by portraying it as "an unwritten (working) agreement (and) a resultant of mutual expectations (from work)."

The 1980s, exhibited noticeable changes in organizations; such as restructuring, staff downsizing, increased insecurity of part-time employees, demographic diversity and foreign competition. These changes were also reflected in the "traditional" model of the employment relationship. First, these trends made it very clear what employees and organizations owe to each other, because the traditional guarantee of job security and lasting rewards, in exchange for hard work and loyalty, will no longer work in most cases (Sims, 1994). Secondly, the state of transition and uncertainty, makes it difficult for organizations to meet all the obligations that they have toward the employees (McLean Parks & Kidder, 1994). It is not surprising that the result of these two factors, is the creation of the perception on a large part of the employees that the conditions of their psychological contracts were not met properly (McLean Parks & Schmedemann, 1994; Robinson, Kraatz, & Rousseau, 1994). An increased interest in the psychological contract and the employment relationship was observed after the publication (in 1995) of the seminal book "Psychological Contract in Organizations: Understanding Written and Unwritten Agreements" by Denise Rousseau.

Although there is no universally accepted definition of the psychological contract, it is generally accepted that it represents the beliefs associated with the terms of the mutual exchange agreement between the employee and the employer (Conway and Briner 2005; Rochling 1997). Violation of the psychological contract - has to do with the perception of employees that their organization has failed to properly fulfill the obligations of their psychological contracts.

Researchers (e.g Rousseau, 2004), have identified six characteristics described below:

1. Voluntary choice.
2. Trust in a reciprocal agreement.
3. Lack of completeness.
4. Numerous determinants of contract.
5. Management of losses when the contract "fails".
6. The contract as a model of the employment relationship.

Why is the concept of psychological contract so popular nowadays?

The attention that is paid to psychological contracts can be linked to several factors. Given that the employee is seen as the main resource of the organization, is now important for organizations to better understand the thoughts and feelings of employees. Basic norms of organizational life can be considered

to humanism, respect, trust, compassion, empathy fairness and objectivity and since these are part of the psychological contract, makes the latter an important target for consideration. Their importance originates from individual and organizational consequences that bring about the breach of these contracts. Research has shown that violation reduces the confidence of employees towards employers, satisfaction in the job and in organization and reduced obligations to stay in the organization (Robinson, In press; Robinson & Morrison, 1995; Robinson & Rousseau, 1994).

Previous researches indicate that "breaking" of the contract is relatively common (Robinson and Rousseau, 1994). Their content analysis has shown that such breaches usually occur from aspects of human relations such as training and development, compensation and promotion (Robinson and Rousseau, 1994) where employees feel that the organization has not complied with the promises made.

Researches have shown that if the psychological contract is "broken", the employee intention to leave can grow and commitment to the organization can fall (Guzzo, Noonan & Elron, 1994). So, what is implied is that the psychological state of the employee is a clearly important factor that should be considered and managed, in order to achieve the organization's effectiveness. The measurement of employee psychological conditions as well as their consideration and management from the organization's managers through wise organizational policies will result in appropriate behaviors and responses in the job. The strength of these psychological contracts is dependent on the validity that they have with employees and employers (Anderson and Schalk, 1998). However, there is a danger that the term becomes simply meaningless rhetoric rather than a useful analytical construct (Arnold, 1996; Guest, 1998). Moreover, critical comments address the question of to what extent the breach of the psychological contract leads to significant changes in attitude and behavior of employees, thereby bringing in the last analysis the possibility of change in the performance of the organization.

Violation of the psychological contract is described as multi-dimensional (Morrison and Robinson, 1997), because it includes a wide range of reactions. At one level, such violation causes frustration, irritability and anxiety (Robinson and Morrison, 1995; Pate and Malone, 2000). More extreme emotional responses including grief, anger, resentment and indignation can ensue (Rousseau, 1989; Pate and Malone, 2000). Breach has also been associated with other behavioral outcomes, such as low organizational citizenship, commitment, satisfaction, reduced trust and an increased degree of cynicism (Robinson and Rousseau, 1994, Robinson and Morrison, 1995; Robinson , 1996; Herriot et al, 1998;. Pate et al, 2000). As a result, when an individual's psychological contract is violated, the relationship becomes more calculated and interactive, and as it continues the perceived violation may gain added strength (McLean Parks and Kidder, 1994; Pate and Malone , 2000).

Put differently, psychological contracts serve to motivate employees as to meet the promises made by the employer when employees are confident that employers will consistently meet their promises. Strategies, structures, and organizational processes define what employers want from their employees and what they are willing to offer, influencing in addition the manner in which contract negotiations are undertaken and the nature of the contracts that are managed collectively (Herriot & Pemberton, 1995).

According to Rousseau, there are some general patterns or types of behaviors that characterise the behaviors that employees and employers demonstrate toward each other. Psychological contract types are as follows:

- Transactional Contracts – these are distinguished by very specific types of exchanges, which include a narrow range of behaviors for a specified period of time.

- Relational contracts - include conditions such as loyalty (employee and employer committed to meeting each others needs) and sustainability (for open engagement in the future). Employees who labour under this type of contract tend to be willing to work outside normal working hours, regardless of whether they are paid or not.

- Balanced contracts, including promises and obligations as interactive contracts, as well as from those relationships. Although at a first glance appear to us interactive contracts and relationships, empirical evidence (Coyle-Shapiro and Kessler 2000), suggests that employees often have both types of work contracts.
- Transitional contracts, which are identified at a time when organizations change the terms of the contract, in the response of an overseen situation i.e. of crisis or unforeseen short term emergencies.

The methodology

This paper seeks to verify the importance and impact of the psychological contract in the employment relationship, reflected in indicators such as organizational commitment, intention to leave and satisfaction at work. So basically, the study is of a descriptive nature, dealing with the issue by utilising a quantitative approach. The focus of this research is the collection of original data as the primary source using through direct questioning of a target group. According to Burns and Grove (1993: 777) quantitative research can be defined as a formal process, objectively and systematically undertaken to describe, test and examine the interactive causes and consequences between variables.

The geographical expansion of the study

Questionnaires were mainly distributed to banks located in Tirana with a parallel but limited focus on its immediate surroundings. The selection of banks and employees was undertaken randomly but with the intention of focusing on a sample of a stratified sample of bank employees at various levels and backgrounds.

Population and sample

The target groups of this study are employees of the banking sector. Employees in these banks work full time in their respective positions, ranging from customer relationship, paymaster, specialist, manager and director.

Data Collection

The questionnaire distributed is similar to that used in the study written up in the article "Consequences of Psychological Contract for IS Personnel violations" authored by Jerry C. Chiang, Chenchen Liao, James Jiunn-Yih Jiang and Gary Klein, and published in the Journal of Computer Information Systems in the summer of 2012. Various modifications have been made including the most representative questions, to allow for relevamnt adjustments to suit the conditions of the Albanian environment. Data were collected from questionnaires sent electronically (e-mail) and printed form. From 200 questionnaires 146 were gathered and 145 considered. A response level of 72.5% was achieved.

Study limitations

Employees who participated in the study were not completely convinced that the details of the survey would remain confidential or whether the results would be published together with the name of the bank where they worked. Those demonstrating greater concern with these issued were situated at subordinate levels in the organization rather than those in leadership position. Another, admitted, study limitation was the limited extent of the geographical distribution of the questionnaire.

Data Analysis

The regression analysis program package from Microsoft Office Excel was used for purposes of data analysis. This analysis utilises a linear regression approach using the "little quadratic" method to fit a line through a series of observations. Such a method enables analysis of how a dependent variable is influenced by values of one or more independent variables. In this output, this method it is used to determine how various independent factors operate such as psychological contract violation, violation of interactive contracts and the interactive relationships influencing organizational commitment, such as job satisfaction and the intent to leave. The questionnaire in its second section contains several different positions or statements as part of each variable, in order to create a single variable, the arithmetic average is used. For each of those questioned, an arithmetic average of each of the five variables in the study was utilized.

Qualitative and quantitative analysis of the surveyed case

The first part of the questionnaire contains demographic information. The second part is aimed at the independent and the dependent variables in order to see the connection between them. Demographic data reveal that the banking sector female employees outnumber males by a factor of two to one, while the age group employed in this sector falls within the range of 31-40 years. Also in this sector employees with a higher education are in the majority with a significant percentage holding a masters degree. Based on this fact we can make the reasonable assumption that the bulk of them are covered by an interactive type of psychological contract. With reference to the part of the questionnaire with questions related to the interactive contract and the relationships, the results show that more than half of employees (59%) surveyed perceive psychological contract breaches as significant. Given that 80% of employees have a degree in economic sciences, the chances are that they require to make a career in the banking sector. Referring to previous studies regarding the conclusions reached, we find that contracts are positively associated with desire to have a career (Rousseau, 1990) and negatively associated with lack of trust of the employer (Rousseau and Tijoriwala, 1996) and increased resistance toward the change. On the other hand, relationship contracts, are negatively related to the desire for career and positively associated with trust and acceptance of change (Rousseau and Tijoriwala, 1996).

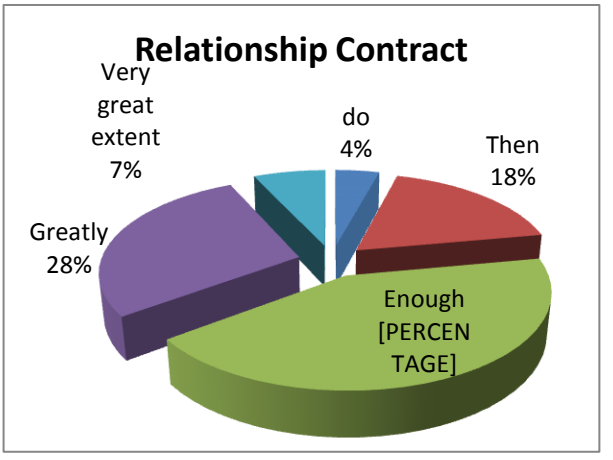
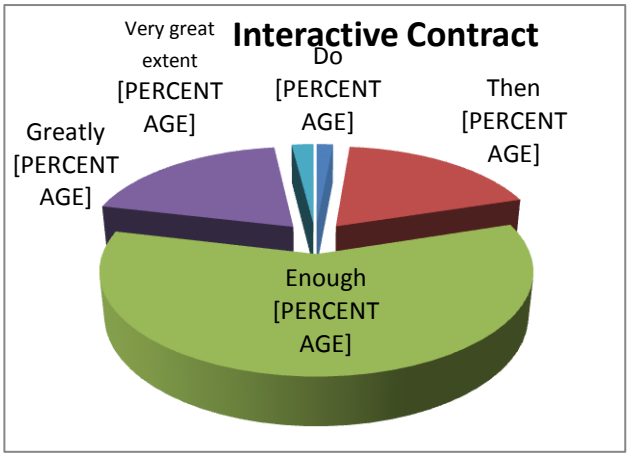


Chart 1 Comparison between the encroachment of the interactive contract and the relationships



Source: Author's processing /operation

Age and dependent variables

One of the demographic data of interest to be analysed was age. According to various studies conducted it is clearly suggested that there is a relationship between age and job satisfaction. Studies conducted (Carstensen et al., 1999) have shown that older workers are focused more on the positive aspects of their relationship with the organization and therefore are less affected by negative events, such as breach of contract (Allen & Meyer , 1993; Löckenhoff & Cartensen, 2004). Given that older workers have more experience, their work in the organization may become less attractive (Clark, Oswald & earr, 1996; Sarker, Crossman & Chinmeteepituck, 2003). For new employees work may have greater importance than their relationship with the employer (in the future this is likely to change), while for older workers who are less likely to work transferring the case is reversed (Hedge et al., 2006; Kacmar & Ferris, 1989). In this way satisfaction of older workers may arise first from the relationship with employer and co-workers, while for the new employee satisfaction may arise more from the work they perform. According to this explanation, when the organization violates the psychological contract, the job satisfaction of new employees is less "damaged or affected", but they lose the trust of their employers and become less engaged in the organization. Since the mobility of older workers is reduced, they may perceive less job opportunities for transfer than their younger counterparts and in this situation they can react more to the breach of contract aspects such as satisfaction at work (Hedge et al., 2006). According to Clark et al. (1996) older workers can obtain greater pleasure from external factors unrelated to work such as family, community and their favorite activities. They can allow themselves to be less satisfied with the work in terms of perceived violation of the psychological contract, meanwhile maintaining satisfaction from areas outside of their work.
Details of the study conducted show that younger people are approximately satisfied (2.742), while older ages have a level of satisfaction "to a great extent" (to degree 4 in the questionnaire). According to the explanation above, younger people are more influenced by the perception of psychological contract violation, while their older colleagues are not focused on negative events but on the positive aspects of the employment relationship. This is in line with results from previous studies. Here you can see very well the importance of psychological contracts in labor relations and subjective conceptions of them. For the other two dependent variables, commitment and intention to leave it was apparent that older age groups are more satisfied at work and are more involved. These two reasons serve to explain the fact that the intention to leave declines with increasing age. We cannot say the same for younger groups. Job satisfaction and commitment are at a lower level compared with other older age groups and thus intention to leave is somewhat higher.

Level of education and dependent variables

The study data show that the level of education has a negative relationship with organizational commitment. So, for employees with masters and doctorates organizational commitment is lower than for those employees who have completed high school or higher professional education. However, the level of engagement displays a very small difference between the levels of education.

Negative relationships resulted between the level of education and job satisfaction and intention to leave. Employees with a higher level of education feel less satisfied with the work at the bank. But, the result is reversed in intention that they have to leave.

Despite the fact that people with vocational secondary education and higher education are more engaged and more satisfied than those with masters and doctorates, they have a higher intention to leave. One reason that explains this negative relationship may be the idea that employees are holders of different psychological contracts and the breach of the relationship contract has a greater effect on intention to leave. Evidence shows that many significant factors that affect the movement of workers are organizational commitment and job satisfaction. Interactive contract employees have a short-term involvement in the organization. In this way a violation of these contracts will have a lesser impact compared with breach of contract relations.

Branch of study and dependent variables

In order to view the link between branches of study and the dependent variables, initially a division of branches into two groups was undertaken. The first group includes all branches belonging to the economic field, while in the second one other fields of study are included. The results showed that persons who have completed various branches other than economics are more engaged and satisfied in the workplace. This can be explained by the different expectations of persons employed in the bank who are coming from dissimilar fields of study.

Normally, the expectations of people who have studied economics are greater than those who completed their studies in other branches. Persons who have completed branches studies in subjects such as foreign languages, translation, Albanian language (revealed by some of the answers given in the questionnaire) have less expectations from the bank.

In our view this is first because, given that the labor market does not offer much demand for other branches, these people have a hard time finding a job in their field of study. Secondly, the economic crisis has created more difficulties in finding a job. Under these circumstances, having a job in the bank for employees with a non-economic profile makes them feel satisfied and engaged.

As might be expected, workers with an economics background feel less engaged and satisfied than other employees with non- economic education and, in consequence, have a slightly greater intention to leave the bank.

Work position and dependent variables

Examination of the relationship between job position and three other variables was considered by grouping different job positions into two groups. In the first group we considered all subordinate positions and specialist groups, while in the second positions in management and leadership levels were included. Data processing showed that people who have managerial and leadership positions in the bank are more engaged and satisfied than persons occupying the position of the specialist, who demonstrated a higher intention to leave. Employees generally have higher educational qualifications, a factor that affects the engagement satisfaction and intent to leave the current job.

Organizational commitment and job satisfaction. Employees displayed a positive correlation between organizational commitment and job satisfaction. Responses indicate that bank employees are more

satisfied with the work when they feel that their involvement in the organization has grown. The result is similar to findings of studies conducted previously.

Organizational commitment and intention to leave. A higher organizational commitment makes employees more satisfied with the work. The results indicate that engagement is positively related to job satisfaction and negatively with intention to leave. Again this is in line with the conclusions of previous studies.

Job satisfaction and intention to leave. It was found from the study that the increases in job satisfaction are associated with a lower intention to leave the job.

If we compare the extent of the impact of satisfaction with the level of impact of organizational commitment , we observe that job satisfaction has a greater effect on reducing the intention to leave. Results appear similar to those suggested by the previous studies.

Violation of the psychological contract and intention to leave

In a study undertaken in 1996 by Robinson, it was concluded that the loss of trust and unmet expectations of employees mediate the relationship between psychological contract breach and contribution to the organization. Previous research also suggests that psychological contract violations produce results in the sense of feelings of offence and incredulity, factors which influence the reduction of job satisfaction. For example, job satisfaction is negatively related to absenteeism and turnover (Locke, 1976; Withey and Cooper, 1989), positively associated with performance of organizational citizenship behaviors (Bateman and Organ, 1983; Organ and Konovsky, 1989; Williams and Anderson, 1991) and positively associated with labor effort (Resbult et al., 1988; Withey and Cooper, 1989).

Conclusions provided by previous studies and the results obtained from the data collected from our study with employees of the banking sector reveal the following results. The relationship between psychological contract breach and intent to leave is negative. This means that even in the case where employees perceive that their psychological contract has been violated and continues to be violated, their intention to leave the job does not grow. On the contrary, a very small decrease of intent to leave is observed (-0.003). This case can be explained by the fact that most of the workers have an interactive contract. This means that they pay more attention to the material side (monetary) and are not inclined towards establishing close relationships with employers. As the financial and economic crisis has affected businesses and the economy, termination of the existing job and the decision to seek alternative employment is not easy.

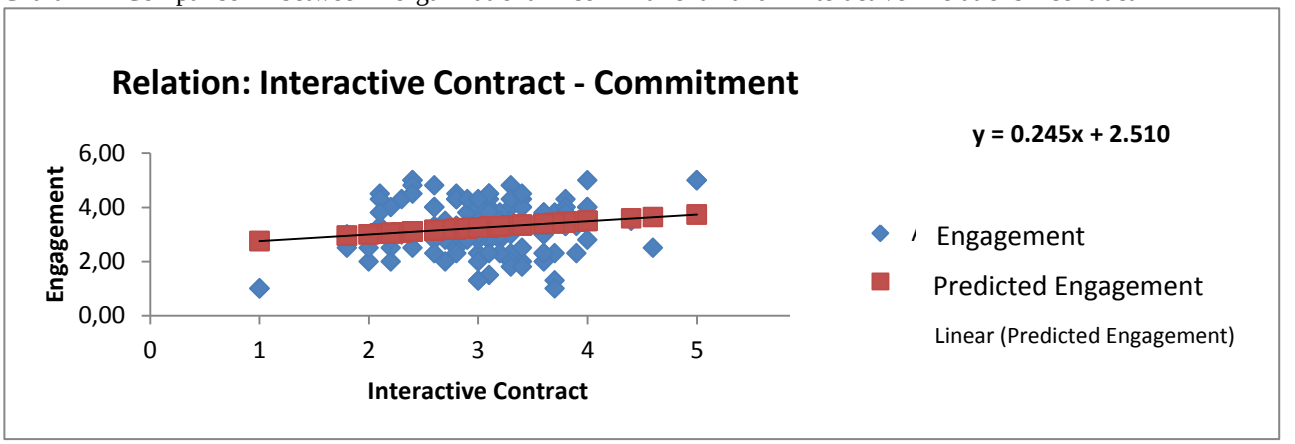
Meanwhile the breach of the interactive contract seems to have a positive relation with employees' intention to leave. Given the fact that questioned employees displayed features like those of an interactive contract holder, this fact reflects also the response to a high extent (0.722) with R Square (0.64)) of their intention to leave

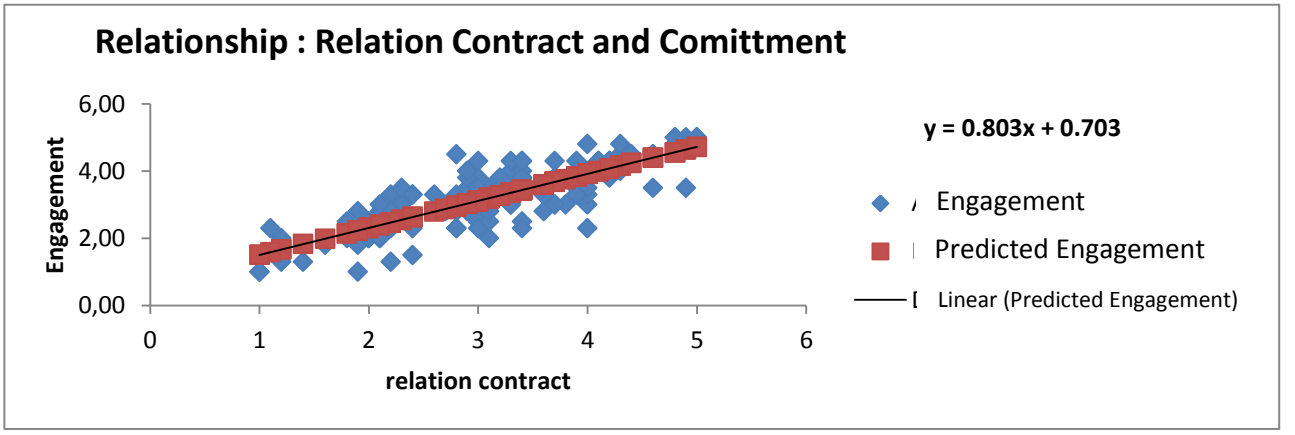
Employees who believe that their organization has breached the psychological contract are likely to display higher levels of fatigue or apathy, absenteeism and intent to leave. (Cartwright & Cooper, 1994; Freese, Heinen & Schalk, 1999; Robinson, 1996; Robinson & Rousseau, 1994; Schalk, Freese & Van den Bosch, 1995; Sparrow, 1996; Turnley & Feldman, 1998).

Comparison between organizational commitment, interactive contract and work relations

From previous studies on psychological contracts, it is interesting to study existing comparisons between interactive contracts and that of the level of commitment reached by them.

Chart 2 Comparison between organizational commitment and interactive relations contract





Sourse- Author analysis

Through this comparison we were interested to underline that relational contracts have a higher impact on organizational commitment, compared with their interactive counterparts. If we compare this phenomenon in the two graphs shown above we will note that bank employees who are holders of relational contracts, have a 4 times greater organizational commitment than workers with interactive contract features.

Many studies have confirmed the fact that psychological contracts which are perceived as more favorable to employees, are associated with higher levels of organizational commitment (Cassar, 2011; Freese & Schalk, 1996; Guest & Conway, 1997, 1998; Guest , Mackenzie Davey & Patch, 1998; Lester, Turnley, Bloodgood & Bolino, 2002; Turnley & Feldman, 1998; Ten Brink, Den Hartog, Koopman & Van Muijen, 1999).

Relational psychological contract relations are focused on a more open timeline and are related to social changes that meet expectations and non-material needs. They tend to generate positive results for an organization. A relational contract is expected to help in delivering better positive individual and organizational outcomes than an interactive contract

Conclusions

The current study focuses on violations of psychological contracts and relationship of the phenomenon of violation with organizational commitment, job satisfaction and intention to leave. The study on which the paper is based suggests that human resource managers and employers must be particularly watchful in making promises during the early phase of the employment of employees. It reveals that particular care should be exercised during training processes for employees because training itself may raise expectations and engender beliefs that training itself confers a right to promotion.

Particular attention must be focused on young employees by offering a challenging job which makes them experience a sense of heightened involvement in their work at the bank. This will increase organizational commitment and job satisfaction and reduce any intention to leave.

Further studies could be carried out to discover reasons why employees report low intentions to leave the job, despite the perception of breaches of the psychological contract. Possible working assumptions here is that could be that employees perceive that parallel violations occur in other organizations, or that they simply "give up" their psychological contracts lowering their expectations in the current situation of the Albanian economy.

To sustain a "healthy" psychological contract managers should emphasize the importance of and investment in job security, promotion opportunities, opportunities for learning, personal development, fair remuneration systems and comprehensive communications processes. All these practices can be expected both to motivate employees and increase organizational commitment.

To avoid reaches of contracts managers need to better understand the expectations of employees. It is better to recruit employees who are receptive to relational contracts, therefore becoming more engaged to the organization.

In the case examined – the behavior of bank employees – psychological contract theory provides a viable platform for examination of the phenomenon of termination – the issues of why individuals decide to leave the banking sector in favor of employment elsewhere.

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4th International Conference on Leadership, Technology, Innovation and Business Management

Structural Transformation of Turkish Insurance Sector and Leadership & Coaching Applications for Human Resources Competency Development: Güneş Insurance Company

Selma Kalkavan[a] , Alev Katrinli , Serhat S.Çetin[b], a*

[a] *ThePerformance Coach, İstanbul, Turkey*

[b] *İstanbul Aydın University, İstanbul, Turkey*

Abstract

This study examines the effects of Leadership Development Model, which was developed in parallel with the restructuring of human resources department of an insurance company that acts in Turkish Insurance Sector Elementary Branch, as part of the change management process on the corporation and on its employees. This study aims to find out the contribution of the mentioned development model to corporations and employees and to give an opinion about the possible model application methods in different corporations and organizations.

Keywords: Leadership, Coaching, Organizational Commitment, Human Resources Development, Organizational Performance

1. Introduction

This study examines the effects of Leadership Development Model, which was developed in parallel with the restructuring of human resources department of an insurance company that acts in Turkish Insurance Sector Elementary Branch, as part of the change management process on the corporation and on its employees. The effects of Leadership Development Model are inspected under the titles of Contribution to Organizational and Individual Performance, Contribution to Organizational Commitment, Contribution to Career Management, Contribution to Strategic Objectives, Contribution to Change Processes, Contribution to Corporate Brand Perception, Contribution to Brand Perception of Human Resources Management, and Contribution to the View of Other Company Employees Regarding Development Process basically. Furthermore, the article covers how the model can be adapted to different corporations and organizations and how the effectiveness of the model can be increased in the next phases.

1.1. An Overview of Turkish Insurance Industry

Turkish insurance industry, developing and growing Turkey keeps creating new opportunities. 66 companies act in the Turkish insurance industry including the reassurance companies. Low penetration

* Corresponding author. Tel. + 90-530-333-81-60 *E-mail address: selma@kalkavan.net*

rates together with the strong growth in insurance and individual pension sectors aroused interest of foreign investors in the last years. There were only 17 foreign capitalized insurance companies in 2000 where this number became 46 in 2013.

By the end of 2013, Turkish Insurance sector had a growth rate which exceeded 22%. When the proper economic conditions occur, positive developments in Turkey, like increasing insurance awareness or growing middle class, are reflected as growth in the sector. SWOT analysis of Turkish insurance sector produces the below table:

Table 1. SWOT Analysis of Turkish Insurance Sector

STRENGTHS	**WEAKNESSES**
▪ Low insurance penetration due to young and dense population in Turkey ▪ Turkey is an attractive market for international groups ▪ The capital structure of the sector keeps getting stronger ▪ The actors in the sector also canalize to non-auto insurances ▪ The sector produces an important source of liquidity for the economy	▪ Low per capita income ▪ Customers have a negative perception of insurance due to past unpleasant experiences ▪ The sector is behind banking sector because required resources are not produced ▪ Low insurance awareness and 'fatalism' ▪ Non-life insurances are affected by the economic stagnations
OPPORTUNITIES	**THREATS**
▪ Young and dynamic population of Turkey ▪ Economic and political stability ▪ High growth potential of the financial sector ▪ The acceleration in the process of information society transformation	▪ Growing global economic and financial risks ▪ Natural disaster risks ▪ Regional political risks ▪ Ambiguities about the upcoming laws and legislation regarding the sector

Source: TSRŞB, Turkish Insurance Sector, March 2011

If the expected developments and reformations in the sector are realized, it is possible that the premium production in non-life insurance will reach 63 billion TL in the next 10 years, which will make the Turkish market a member of the first 16 markets in the world. It is possible that the profitability of the sector becomes far much better if the pricing problems in the current market are removed, the prices come to normal level (the level they should be), and the structural problems of the companies, which decrease their profitability are resolved. This positive expectation makes the insurance business one of the most dynamic sectors in the economy. The enterprises, which emerged as results of mergers or company handovers, are indicators of the boom in the sector. By the end of 2013, total premium production increased by 22.2% and was 24 billion 229 million 616 thousand TL. Approximately 20.8 billion TL of this amount was produced by non-life insurance policies and the remaining 3.4 billion TL was produced by life insurance policies. The annual growth rate for non-life insurances and life insurances were 21.7% and 25.3%, respectively. Considering the Consumer Price Index of 7.4%, the insurance sector had a real growth rate of 14% in 2013. The top ten insurance companies (non-life) make 73% of the total production of the sector. 18,137 employees work in the sector and 68.89% of the non-life premium production is made via agent distribution channel, 13.87% of the production is made via bank channel, 11.59% of the production is made via broker channel, and 5.65% of the production is made via direct channel. The insurance companies prefer production via bank channel and they structure their working models on this issue.

During the development process of Turkish insurance sector, Undersecreteriat of Treasury Directorate General of Insurances published a series of legislation and regulations in order to build the infrastructure

about organizational governance and organizational sustainability. After the development of the sector, appointing competent employees and retaining these employees became one of the major issues.

2. Aim of The Study

This study examines the effects of Leadership Development Model, which was developed in parallel with the restructuring of human resources department of an insurance company that acts in Turkish Insurance Sector Elementary Branch, as part of the change management process on the corporation and on its employees. This study aims to find out the contribution of the mentioned development model to corporations and employees and to give an opinion about the possible model application methods in different corporations and organizations.

3. Methodology

In the context of the aim of the study, meeting directly with the company authorities was preferred to acquire the results of the model application in the company. Model were developed by human resources departments of the insurance company and consulting firms according to vision of general manager and expectation from potential leaders competencies. In the design phase of the project, meetings, which were attended by the General Manager of Güneş Insurance Inc. and HR team, were held with the consultant company, and the module contents were designed. After 3 revisions in the design phase, the project content was approved by the management and the project was realized. Also several techniques were used to evaluate the success of the project. The contribution to general corporate business results was analyzed by comparing official results in the annual activity reports. In addition, to evaluate the effects of the model on organizational commitment and promotion rates, official statistics were requested from Human Resources.

4. Case: Güneş Insurance Company

4.1. Company Introduction

The company which was inspected as the case study is an insurance company, which has more than 50-years-experience in the insurance sector and operates across Turkey with 11 Regional Directorates, over 2,500 sales points, and more than 700 employees. Basic indicators for the Human Resources Policy of Güneş Insurance Company for 2011 and the company organization chart are presented below.

Table 2. Gender Distribution of Güneş Insurance Company

Gender Distribution	Male	Ratio	Female	Ratio	Total
Number of employees	388	53%	338	46%	726
The number of employees promoted	20	40%	30	60%	50
The number of employees who resigned/ quit	62	70%	26	30%	88

Table 3. Age Distribution of Güneş Insurance Company

Age Distribution	0-30	30-50	50+
Number of employees	248	455	23
Ratio	34%	62%	3%

Table 4. Educational Background Distribution of Güneş Insurance Company

Educational Background Distribution	High School or Lower	University	M.Sc. and Ph.D.
Number of employees	194	494	38
Ratio	26%	68%	5%

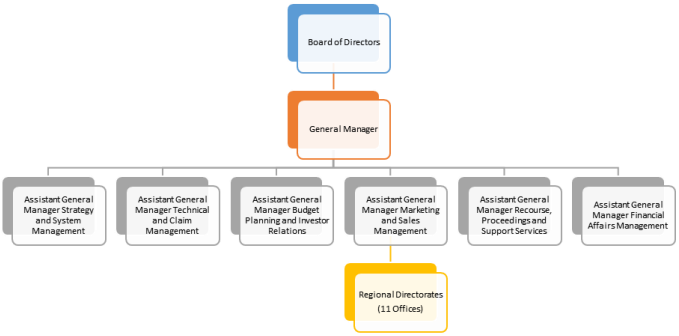

Figure 1. Organizational Chart (2011)

As one of the leading companies in the insurance sector, Güneş Insurance followed policies which focused on profitability and productivity, and after 2011, it changed the weight of motor insurance in its portfolio, targeting growth in the designated non-motor insurance branches. In this context, at the end of 2013, 29% increase was achieved in the designated branches and the results were over sector mean. In the fire insurance branch, one of the most lucrative fields in the sector, 42% growth was achieved, which was 18% more than the sector mean. Similarly, in the engineering branch, sector growth was 34%, where the growth of Güneş Insurance was 50%. However, as mentioned before, after the development of the sector, appointing competent employees and retaining these employees became one of the major issues. In this context, consolidating Human Resources Management and Applications within the companies and ensuring employee competency development parallel with the company strategies became important. In this context, the aforementioned insurance company decided to restructure its Human Resources Management and Applications in 2011 and structured a leader development approach, which consisted of self knowledge, relation management, business management by understanding the outer world, and realization, supported by internal and external coaching applications. In this study, the following mentioned model, which is developed in order to get some positive business results (contribution to strategic target, contribution to effective communication and being a team etc) will be analyzed. Additionally, the results of the application of this model in Güneş Insurance Company will be searched.

4.2. Güneş Insurance Inc. Leadership Development Model

The idea of improving the employee competency development and structuring a leader development approach, which consisted of self knowledge, relation management, business management by understanding the outer world, and realization, for the leading managers, supported by internal and external coaching applications, was defined directly by the General Manager of Güneş Insurance Inc. Accordingly the aims of the Güneş Insurance Inc. Leadership Development Model were listed as follows:

- To determine the future organizational leaders' aspects which are strong and open to improvement,
- To increase the awareness levels of the leaders on these aspects and to make the leaders build up their own leadership styles,
- To plan in-class training, homework, coaching, feedback, presentation, and similar development applications about the designated subjects,
- To develop new and difference making projects aligned to the company mission, vision, and strategy, to create added value for the company with these projects, and to increase the organizational commitment and organizational performance by building up a strong employer image for all of the employees

4.2.1. Context of the Leadership Development Model

According to obtained information, the model covered 17 employees who work as middle level managers in Güneş Insurance Inc. and 6 executives who provided internal coaching support to these employees. There are 54 middle level managers in Güneş Insurance Inc. and they were taken a "Development Center" process. Among them, 17 got successful results and were chosen for the Leadership Development Model. The executives who provided internal coaching were included in the program voluntarily.

4.2.2. Structure of the Leadership Development Model

The Leadership Development Model was initiated in January, 2012. According to obtained information, "Leadership Development Model" of Güneş Insurance Inc. was developed in order to make the chosen 17 middle level managers know themselves, manage their business and teams according to the gained awareness, and make them perceive the outer world better. In this context, the Integrative Coaching Model was used in the model and studies were conducted to strengthen transformational leadership. In this manner, three groups with different roles were identified:

- **Leader (Coachee):** The employees in this group are middle level managers - newly appointed or working in this position for some time -, who successfully completed the Assessment Center. They are also "Coachees" because they are coached in the context of the related model (17 Leaders).
- **Internal Coach:** These are the executives who provide voluntary coaching in the model context (6 executives)
- **External Coach**: These are the business partners who perform coaching professionally, inform the leaders and the internal coaches about coaching process in the model, supervise the progress and evaluate the process in phases. (1 external coach)

According to the General Manager of Güneş Insurance Inc, the internal coaches, who were executives, provided internal coaching to the leaders during the program, aroused awareness, and supported the leaders in every phase of the process. Internal coaches were selected by the participants but a participant was not allowed to choose his direct colleague. In the context of integrative coaching modeling, "Develop, Watch Development, Create an Environment of Trust, Support, Reach to Maximum Potential" issues were taken care of. In the Leadership Development Program, 17 leaders were set off to a leadership development journey which was adapted by, Know Yourself, Manage Relations, Develop Your Business, Realize / Apply modeling. In this journey, the leaders were asked to perform projects (difference making) about one of 8 different subjects, which were directly related to organizational performance increase and organization strategies. Human Resources management also asked the leaders to meet the internal coaches at least once-a-month to make coaching interviews, to share their subjects of interest during the development process as a result of the trust relation, and to make assessments on their project subject.

The Leadership Development Model was conducted according to the below modules. In this process, 80 hours of training were served and 6 sessions of internal or external coaching were provided.

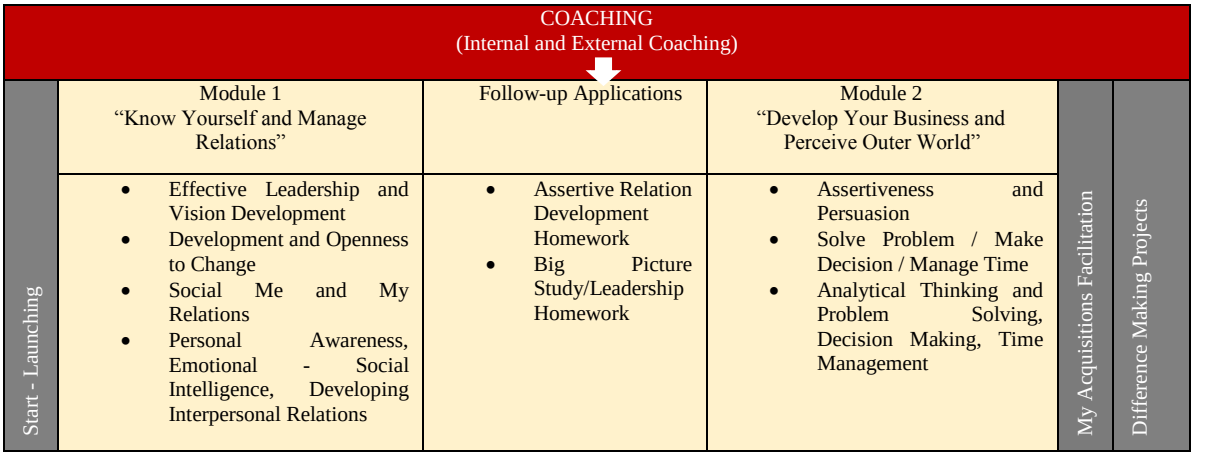

Figure 2. Leadership Programme Details

4.2.3. Coaching Process in Leadership Development Model

According to the General Manager of Güneş Insurance Inc, aligned with the Leadership Development Model, an internal coaching process included the below steps;

1. Phase:
- Context Meeting:
  - Defining leaders' coaching needs
  - Defining the targets of the coaching program and the expectations from it
  - The internal coach, the leader, and the external coach attended this meeting.

2. Phase:
- Coaching Sessions (3 sessions)
  - Defining targets
  - Use of tools and equipment
  - Strong aspects of the leader and the performance drawbacks of the leader were studied.

3. Phase:
- Presenting a written report
  - A report was prepared by the internal and external coaches and it was shared with the HR department with the consent of the leader.

4. Phase:
- Coaching Sessions (3 sessions)
  - Making the potential sustainable
  - Reflecting the differences to business
  - Sharing the outputs of the learning by experience process.

5. Phase:
- Closing Meeting
  - Preparation of the final report about the development plan of the leader and the whole coaching process.
  - The report was shared with the HR department and leader's superior, if existed, with the leader's consent, then the process ended. The participants of the closing meeting were the internal coach, the external coach, and the leader together with his superior, if existed.

During the coaching process, the external coach informed the leaders and the internal coaches about the coaching process and supervised them according to the 7 Eye Model (Hawkins, 2006).

5. **Acquisitions Through Leadership Development Model**

At the end of the program, both the leaders and the internal coaches were asked for their assessments about the program in general. After the assessment, the program success was found as 4.85 out of 5. Both the leaders and the internal coaches expressed their individual and organizational acquisitions. The acquisitions after the program and their organizational contributions are defined in the below groups:

5.1. Contribution to Individual and Organizational Performance

According to the General Manager of Güneş Insurance Inc, in the Leadership Development Model, the aim was making the leaders notice their own personal differences and directing them to increase their performances by focusing on their strong aspects. In this respect, the premium production of Güneş Insurance Inc. increased by 31% from 2011 to the end of 2013.

5.2. Contribution to Organizational Commitment

According to the General Manager of Güneş Insurance Inc, none of the leaders, who participated in the program, left their jobs and organizational job quitting rate decreased by 1%.

5.3. Contribution to Career Management

According to the General Manager of Güneş Insurance Inc, 2 of the 17 leaders, who participated in the program, promoted to a superior position, 1 participant was appointed to a higher position with a greater responsibility area but remained in the same rank, and 2 participants were appointed to strategic company functions which were restructured.

5.4. Contribution to Strategic Targets

According to the General Manager of Güneş Insurance Inc, by the projects given in the context of Leadership Development Model, the leaders were asked to develop different projects which would have affected the performance and the strategy of the organization. In this context, leaders proposed to change the regional structure of the insurance company to increase the premium production and profitability. The proposal of the leaders was accepted by the executives and the board. The board decided that agency and bank distribution channels should be managed by different regional directorates and the service model should be changed.

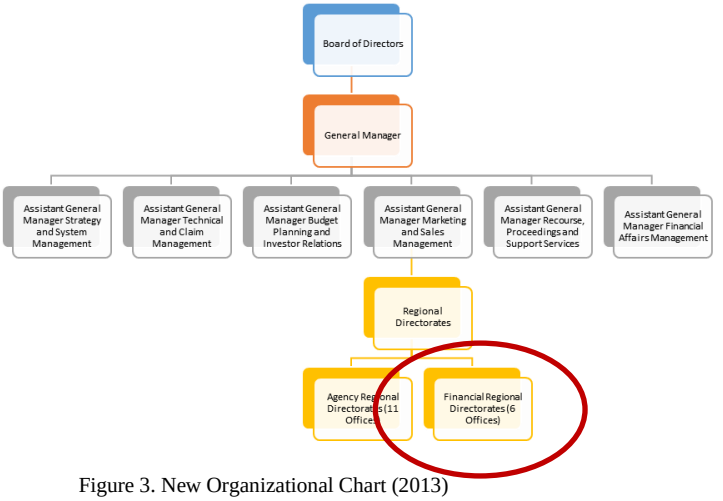

Figure 3. New Organizational Chart (2013)

5.5. Contribution to Effective Communication and Being a Team

According to the General Manager of Güneş Insurance Inc, the participants of the Leadership Development Model were managers of different organizational functions and they stated that the inter-functional collaboration and interaction increased by the relation model in the Development Program.

5.6. Contribution to Transformation Processes

According to the General Manager of Güneş Insurance Inc, leaders became the "Pioneers of Transformation" by taking role model responsibility of "Constant Improving" competency, which existed in the competency set of Güneş Insurance.

5.7. Contribution to Organizational Brand Perception

According to the General Manager of Güneş Insurance Inc, the Leader Development program, which was conducted for the first time in Güneş Insurance Inc., was an important program, which supported change and development together with organizational interaction, by all of the employees. In this manner, the participant leaders shared the program content on their networks and in this particular period, job applications to the organization increased by 233% and closing duration for professional manager positions decreased.

5.8. Contribution to HR Management Brand Perception

According to the General Manager of Güneş Insurance Inc, with the mentioned program, the employees' perception of HR Management transformed to a strategic function from a support function. In addition, by the constructed trust relation, the organizational interaction and energy increased.

5.9. Contribution to Internal Coaches

It was also determined that the volunteer internal coaches of the leader development program were effected positively during the process. İnternal coaches improved in

- Structuring the coaching dialog in clear target definition and improvement,
- Defining development needs,
- Building a trust and agreement culture in the coaching relation between the employee and the leader,
- Asking strong questions in order to increase awareness,
- Having knowledge about fulfilling promised actions and controlling them,
- Structuring quality dialogs with employees, colleagues and partners,
- Having knowledge about how coaching helps sustainable high performance

by using especially their coaching competency.

6. **Results and Suggestions**

Situational and transformational leadership, developed by James McGregor, J.M. Burns, and B.M. Bass, is considered as a new vision in management sciences (Gürüz and Yaylacı, 2004). According to this approach, leadership is divided into transactional and transformational leadership approaches (Townsend,

2002). Leadership approaches are different according to the perception of the past and the future. The leaders who connect past to present day are called transactional leaders and the leaders who connect present to the future are called transformational leaders (Tahiroglu, 2004). Interactional leaders continue the positive and beneficial traditions of the past and legate them to ne next generations. Transformational leadership is about change (Mohammad, Al-Zeaud and Batayneh, 2011) and it makes change possible by presenting required behavior in the required phases of the transformation process (Bolat and Seymen, 2003). Interactional leadership tends to keep the status quo where transformational leadership is focused on mission and vision in management, creativity and innovation (Gürüz and Yaylacı, 2004). By influencing the employee behavior, attitude, values and commitment, transformational leadership pioneers a transformation process including team decision making and creating a common culture (Moynihan et al., 2011; Hyypiä and Parjanen, 2013).

The results of this study showed that coaching increased the leadership behavior of the employees and the model implemented in Güneş Insurance Inc helped organisation in many ways from innovativeness to organisational commitment. In fact, the main aim of the model was improving the transformational leadership within the organisation and the results showed that this was achieved by the management. In fact, Transformational leadership outcomes include increased employee satisfaction, motivation, (Kovjanic et al., 2012) innovation, and leader effectiveness ratings (Humphreys, 2002; Medley and Larochelle, 1995). The results of the model showed that employees' motivation was increased significantly, the company was able to improve its sales channels through innovative new structure and leaders became more effective than ever. Similarly, it is claimed in the literature that Transformational leaders build trust, improve organizational learning, and elicit organizational members to share their expert knowledge (Farrell et al., 2005; Tafvelin, 2013). The results of the implemented model showed that organisational commitment was increased among the employees and employees and leaders started to share more information between them and within the organisation.

The results of this study showed that increased competition within business climate required organisations to look for better approaches to improve their competitiveness that require more leadership, and specifically, the use of more transformational leadership. Organizations will want to develop transformational leaders and transformational leadership capacity. Two important assumptions form the basis for leadership development programs: (a) leader development is an ongoing process that occurs in almost every situation and (b) leader development must be at the core of the organization's collective mental mode (Popper, 2005). Companies can develop contingency models of leadership development that account for the current organizational context, individual leader developmental needs, and a strong understanding of the leadership development approaches that work the best for each leadership passage (Popper, 2005). In this process, another important factor is the leader's realization of his own being (Harms and Credé, 2010). Coaching approaches are widely applied to support this factor.

The assessments of the leaders, the employees and the internal coaches reveal that the model made an important impact on employee commitment and motivation. As general evaluation, application of the model is recommended to;

- Increase the development and the performance of leaders and their direct subordinates
- Help creating sustainable high performance culture in the organization
- Create an environment in which individual talents and potential are utilized
- Support the employees to take new responsibilities and encourage them to reach hard targets
- To create loyalty and retention by increasing employee happiness
- Manage the organizational human resources perception
- Strengthen the general organization brand perception

Application of the model on companies from other sectors than insurance sector is recommended in order to strengthen the model. To understand the sustainable performance, it is also recommended to evaluate the applications on different groups of the same company in several years time.

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Total Rewards and Retention: Case Study of Higher Education Institutions in Pakistan

Ch. Shoaib Akhtar[a] , Alamzeb Aamir[b], Muhammad Moinuddin Qazi Abro[c], Jawad Hussain[d] , Muhammad Adnan Khurshid[e], a[*]

[ad] *Universiti Teknologi Malaysia, Johor Bahru, Johor, 81310, Malaysia*
[bce] *King Saud University, Riyadh, Saudi Arabia*

Abstract

Societies expect that higher education systems contribute to the overall development, but this development depends upon qualified and competent staff of the higher education institutions. Retaining this resource is of utmost importance for higher educational institutions. However, higher educational institutions are finding it hard to retain competent and qualified faculty in the face of competition from the industry. Retention is becoming a big dilemma for developing countries. The present study investigates the relationship between total reward and retention of faculty members in higher education institutions in Pakistan. The data was collected from the faculty members of 10 universities located in the twin cities of Islamabad and Rawalpindi, Pakistan. Analysis was done on SPSS version 21. The results indicate a strong and positive relationship and influence of total reward on retention. The study is significant for the top management of the universities who are facing retention problems. The results could provide them with guidelines regarding total reward strategies and how they can be used for retaining of talented faculty members. Future recommendations have also been provided for the researchers interested in the area.

Keywords: Total rewards, Retention, Higher education institution, Pakistan

Introduction

With massive technological changes happening at the work place, the focus of attention has been on knowledge workers to meet the changing needs of the society (Holbeche, 2009; Kuruvilla and Ranganathan, 2010). To attain competitive advantage, organizations are more concerned with the skills and the quality of their employees to ensure sustained performance (Harvey, 2009; Reiche, 2007) and retaining capable and quality employees are becoming the top strategic policy issue for many organizations (Heinan and O'Neill, 2004; Bersin, 2008; Holbeche, 2009). Literature is full of empirical researches indicating that organizations adopt various policies and strategies to retain employees (Sheridan, 1992; Pamela, 2003; Samuel and Chipunza, 2009; Price, 2003; Holland, et al., 2007; Hom, et al., 2008). One strategy that has been adopted in recent times is that of total rewards, which aims to maximize the combined effect of wide range of reward elements on motivation and commitment, and

[*] Corresponding author. Tel. + 60-137411139 *E-mail address: sachaudhry2@live.utm.my; csakhtar@gmail.com*

embraces all that employees value in their employmentship (Sweeney and Mcfarlin, 2005; Anku-Tsede and Kutin, 2013; Cao, et al., 2013; Kaplan, 2007; Armstrong, 2009). Total rewards includes the traditional pay and benefits employees receive as part of their employment, as well as other programs that help make the work experience more fulfilling that is work-life balance, career mobility, acknowledgement etc. (Cao, et al. 2013; Durrani & Singh, 2011; Medcof & Rumpel, 2007).

There are contradictory views as to the effectiveness of monetary rewards. Researches point out that employees in general and more experienced employees specifically are motivated through non-financial rewards like work life balance, personnel appreciation, challenging tasks, special projects etc. (Jeffords et al., 1997; Hytter, 2007; Zahra, et al. 2013). Thus, organizations are engaged in developing innovative compensation packages that not only includes financial benefits but also non-financial benefits to attract and retain employees (Gibson & Tesone, 2001; Muralidharan & Sundararaman, 2011; Zingheim & Schuster, 2007; Milkovich & Newman, 2008, Chen & Hsieh, 2006; Armstrong & Murlis, 2004). However, compensation packages in form of total rewards are tied skills and capabilities of individuals rather than experience in modern knowledge based economy (Chen & Hsieh, 2006; Bates, 2004).

Retention is not only problem for profit oriented organizations but not for profit organizations such as universities are also facing the dilemma of retaining capable and qualified academic staff. The internationalization of education has made higher education institutions competitive in their respective fields. Universities are in run for skilled staff with attractive reward packages. High quality academic staffs are the corner stone of any successful educational institution, as these are the highest source of knowledge and awareness production institutions in the country (Khalid, Irshad, and Mahmood, 2012). Previous researches highlight that academic staff focus more on their intrinsic satisfaction than extrinsic (Wu and Short, 1996; Place, 1997). However, research also emphasizes that both intrinsic and extrinsic satisfaction predict satisfaction of academic staff (Dvorak and Philips, 2001).

The present study investigates the relationship between total rewards and employee retention in the higher education institutions of Pakistan. Pakistan is a developing country and relies heavily on human capital prepared by higher education institutions. In Pakistan higher education system is highly competitive with more than 135 institutions in public and private sector are competing for the students and funding. In this scenario, having a capable, qualified and skilled academic staff on their payroll not only enhances their prestige and ranking in the country but also helps them enrol more students and be competitive. However, these educational institutions are competing among themselves as well as with the industry to attract and retain qualified employees. According to an estimate there is approximately 9 percent turnover of teaching staff in higher education institutions especially public sector universities. Thus, retention presents a huge problem for many higher education institutions in Pakistan, and is true for many developing countries as well. Previous researchers have highlighted that to increase the retention of employees, it is imperative to understand the behaviour and attitude of employees (Muller, et al. 2009). However, the studies that have been conducted in relation to higher education institutions faculty retention are scant in developing countries (Ghaffar, et al., 2013). Thus, present study is an attempt to bridge the gap by discussing total rewards and retention in a developing country context.

Literature Review And Hypotheses

Total Rewards

The main purpose of introducing reward system in an organization is to attract and retain qualified and competent employees and to control costs associated with repeated recruitments (Bergman and Scarpello, 2002; Asinoff, 2006; Milkovich and Newman, 2008). In this scenario, total rewards not only helps in retention but also motivates employees through a continuous process of psychological, sociological, economic and political exchanges (Gross and Friedman, 2004; Bergmann and Scarpello, 2002).

Milkovich and Newman (2008) have suggested that pay plans associated with employee behavior would result in better individual and organizational performances. The employee behavior is linked to the reciprocal relationship that exists between employee and organization and the compensation system provides the basis for this exchange relationship. Chen and Hsieh (2006) have highlighted that in traditional reward system motivation remained a critical issue mainly due to seniority or length of service focus, which formed the criteria of rewards.

Total reward concept was first provided by the classical economist Adam Smith, who included pay, responsibility of results, learning difficulties, job protection and willingness to work (Armstrong, 2012) in total reward. Replicating Adma Smith's wisdom, Jiang et al (2009) have recently mentioned that the concept of compensation or total compensation is replaced with total reward. Risher (2013) have also observed that organizational total reward activities indicate that modern organizations are moving towards broader definition. Chen and Hsieh (2008), who noted shift in the total reward concept, based on recent evidence suggested that a total reward is based on competency and performance rather than seniority. On the other hand Kantor and Kao (2004) found that despite the use of broader definition there exists confusion about the definition of total reward, which can be the result of the traditional narrow definition of total rewards. For example, the survey of more than 1000 multinational companies conducted by Mercer (2008) revealed that only 50% of the participants viewed total rewards as more than compensation and benefits. Reilly and Brown (2008) also suggested that compensation professionals failed to implement an integrated total rewards approach. One of the possible reasons was their central focus on the alignment of reward strategy with business strategy, whereas limited attention was on the alignment of total rewards with the needs of employees. This failure to focus on employees and what they value could be the reason for the implementation issues and failure rates of numerous total rewards strategies (Reilly and Brown, 2008). Researchers have pointed out that organizations should adopt total rewards as compensation mechanism for retaining talented employees (Cao, et al. 2013; Medcof & Rumpel, 2007).

Employee Retention

Retaining talented employees is becoming challenging than ever. Availability of jobs with higher rewards and environment, suitable for career development, are pushing companies to review their employee retaining strategies The challenge of retaining employees for longer period of time require organizations to create an environment, where employees are not only engaged but have the sense of job and career security (Chaminde, 2007). Similarly, previous researchers agree on the notion that successful organizations share a fundamental philosophy of appreciating and investing in their employees (Samuel, 2008; Nwokocha and Iherirohanma, 2012). Attempts in past had been made to define and describe retention. Few notable efforts in this regards are that of Frank *et al*., (2004, p. 13) who defined retention as "An effort by an employer to keep desirable employees in order to meet organizational objectives". Similarly Chiboiwa *et al.,* (2010) provided a more comprehensive definition of retention and mentioned that it is a mean 'to prevent the loss of proficient employees from leaving".

The Human capital because of its knowledge, skills and experience has the higher economic value to organizations and is regarded as high worth productive asset (Ejiofor and Mbachu, 2001; Snell and dean, 1992). Similarly, most of the researchers have agreed that employee retention strategies cannot be overemphasized because a well-trained and experienced work-force is crucial for achieving the organizational objectives. The facts provided by Fitz-enz (1997) are worth mentioning. He is of the view that on average organizations loses about $ 1 million with every 10 managerial and professional employees who leave the organization. Combined with direct and indirect cost the total turnover cost associated with one employee ranges from a minimum of one year's pay and benefits of two years. These facts highlight the significant financial impact on organization when employee's quits witches job. One of

the reasons for such impact could be the knowledge and skills of the employees' leaving the organization and which is vital to the organization's ability to be competitive (Kyndt, *et al.,* 2009). Gentry et al., (2007) added to the debate by mentioning that the switching of job by these talented employees could be a reason that organizations experience a decline in employees' performance, productivity, and morale (Gentry *et al.,* 2007).

Armstrong (2009) highlighted factors that help retain employees. He suggested several measures that ensure retention. These includes availability of skill development and career progression opportunities for individual employees; ensuring that the work is as interesting as possible; making line managers responsible for turnover within their teams; ensuring that new workers have realistic expectations of their job and sufficient training during their induction programs; wherever possible, putting consultative bodies in place to ensure that employees have a voice; maximizing job security; and evaluating commitment based on results achieved rather than hours worked. Researchers considers it vital to get an estimate about the expenses of employee turnover prior to the preparation of effective staff retention practices, similarly the attainment of these programs should be checked repeatedly to ensure that they are contributing to the organizational success (Scott *et al*., 2007; Zingheim and Schuster, 2008). Generally employee retention is the result of the implementation of policies and processes that influences employees to remain with the organization because of the provision of work environment that satisfy their needs (Baer *et al.,* 1996). However, according to Allen (2008) there is no any easy solution to the problem of establishing employee commitment, and successfully managing retention.

Development of Hypotheses

Review of previous studies showed that divergent views exist about the relationship between rewards and employee retention. For example Stone et al. (2010) found that financial incentives are not always welcomed by all employees and material incentives generally do not tend to satisfy the basic psychological needs and discern the individual variance. Similarly, Hill and Tande (2006) have highlighted that 88% of highly skilled employees leave the organizations for reasons that are not based on money, but the main reasons were limited development opportunities (39%), unhappiness with management (23%), lack of recognition (17%) and other reasons (10%). The most attractive organizations to work for are those that allow their employees to think productively and need an innovative approach to work. Furthermore, attractive workplaces provide flexible work arrangements such as job sharing, telecommuting, flex time and other work-life balance programs to meet family obligations. Employees express an increased demand for work-life balance and a change in the employer/employee relationship that requires compensation professionals to understand what employees want and design total rewards that meet these needs (Lockwood, 2007). On the other hand a survey conducted by Spherion Corporation indicated that 75% of employees consider compensation and benefits as most important to retain them within the organization (WorldatWork, 2007). Adding further to the above argument Massey (1996) found that "among the payment system that have become more popular are broad-banded ones which apparently support cultural alteration by aligning competence and contribution of individuals with the requirement of the organization" (Thorpe, 2000, p. 30).

Skilled workers are the basis of competitive advantage and are required to grow the business at an augmented speed (Saint-Onge, 2001). Effective recruitment and retention of employees with knowledge and skills are vital to the long-term success of every organization. Sourcing and retaining talent is the competitive battleground in today's ever-changing global business environment (Ulrich, 1997). A survey conducted by Wyatt (2004) in their Human Capital Index (HCI) study of 750 publically traded companies in Europe, US, and Canada including Microsoft, Shell Oil, Rolls Royce, Textron, Nokia, and IBM shows

7.6% greater market value for organizations that have the best recruitment and retention strategies (Pfau and Kay, 2002). Thus, based on above discussion we hypothesize that

H1: Total rewards would have significant relationship with employee retention.

Methodology

Research Goal

The present research aims to investigate the relationship between total rewards and employee retention in higher education institutions in Pakistan. The study used self administered questionnaires (SAQ) to test the hypothesis.

Sample, instrument and Data Collection

The data was collected from a sample of 350 faculty members belonging to ten public and private universities in the twin cities of Islamabad and Rawalpindi, Pakistan. Completely filled and usable questionnaires collected amounted to 187 indicatingesponse rate of 53.42 percent. Average time clocked to fill the questionnaire was approximately 10 minutes. The data collected was analyzed using SPSS version 21. The instrument for the study was designed to capture the perceptions of the respondents regarding the variables of the study. The SAQ had three sections: section one was related to total rewards and had 42 items, which were adapted from the study of Medcof and Rumpel (2007); section two was related to retention and was adapted from the study of Mobley, Horner, and Hollingsworth (1978); third section was demographic items such as age, gender, educational level, designation, experience etc. Items related to total reward and retention, were measured on 5 point likert scale using level of agreement. Data obtained was subjected to Pearson correlation and the hypothesis was tested using linear regression. Assumptions of regression were satisfied before regression analysis was conducted.

Analyses and Results

The reliability of the instrument was checked through Cronbach alpha reliability, which indicated that the reliability of the instrument was 0.894 for total reward and 0.866 for retention. To ascertain the relationship, Pearson correlation was analyzed. The results are shown in Table 1.

Table 1 Correlation Matrix

	Total Reward	Retention
Total reward	1	.636**
Retention	.636**	1

**. Correlation is significant at the 0.01 level (2-tailed).

The results indicate that both total reward and retention have a strong and significant relationship. To test the hypothesis and to check the influence of total reward on employee retention, linear regression was applied. The result is shown in Table 2.

Table 2. Regression Result for TR-R Model

Model	R	R Sq.	Adj. R Sq.	F	Sig.	β	t	Sig
1	.636[a]	.405	.401	125.723	0.000	0.549	11.213	0.000

a. Predictors: (Constant) Total reward

The regression results indicate that total reward is causing a variation of 40.5% in retention of employees. The F-statistics and its significance value indicate that the model is fit. The beta coefficient value indicates that 54.9% impact is being created by total reward on retention. This beta coefficient is highly significant.

The results of the study are in line with many previous studies. Previous studies have highlighted that rewards can be used as a strategy to retain competent employees and for enhancing organizational performance (Armstrong and Stephens, 2006; Cao, et al. 2013; Medcof & Rumpel, 2007). In modern globalized world, the role of universities have became wider than ever, and universities are expected to play their role in economic development knowledge sharing and talent development (Goransson and Brundenius, 2010; Comunian, Taylor and Smith, 2013). Doherty's (2013) recent argument seems to be a logical justification of this transition. He points towards the necessity of an environment and rewards systems in the university that not only retains university employees that is faculty members but enable them to achieve the objective of producing talented workforce. A higher retention rate is valuable for the organization as it reduces the overall cost associated with recruitment process.

There are researchers who are of the view that it is not always that motivational strategies have positive impact. There are situations when motivational strategies negatively affect employees' motivation. By way of illustration Lindner (1998) argued that monetary compensation, which generally is regarded as motivational instrument, is proved to be hygiene factor. In-addition he revealed the general perception of managers who regards money as the major reason of employees stay or turnover. Similarly, Kaye and Evans (2000) conclude that monetary rewards matter but employees are more interested in challenging tasks to apply their abilities, supportive bosses, and opportunities for learning and development. Thus, total rewards encompass all the monetary and non monetary benefits that employees seek in their relationship with the organizations.

Conclusion

Societies expect that higher education systems contribute to the overall development, but this development depends upon qualified and competent staff of the higher education institutions. Retaining this resource is of utmost importance for the educational institutions. Employee retention is one of the constructs that holds importance for organizational researchers because of the costs associated with it. These costs are not just financial in terms but also intangible in form as when employee leaves he/she takes with them experience and knowledge that resides in them. This knowledge and experience is the competitive advantage that organizations hold and retaining this asset is of utmost priority for the organizations. For a developing countries especially Pakistan, retaining competent faculty is becoming an ever increasing challenge that needs to be addressed at priori. The results of the study do indicate a strong relationship between total reward and retention. The most attractive organizations to work for are those

that allow their employees autonomy to be creative, provide flexible working arrangements and environment, and other benefits along with financial benefits. Thus, Pakistani higher education institutions need to adopt total reward strategies for not only retaining the competent and qualified faculty but also to become competitive in regional and global higher education arena. The present study is not without limitations. The foremost limitation is of sample size and of institutions selected. The present study only focused on ten universities located in the twin cities of Islamabad and Rawalpindi, Pakistan. Secondly, the study used quantitative data only. To gather in-depth information and knowledge regarding retention policies of the universities, it is recommended that mix methodology using both quantitative and qualitative data collection and analysis should be adopted. This would not only provide with greater information but would also help in generalizing the results of the study. It is also recommended that a comparative analysis of public and private universities should also be done to ascertain the differences between retention and reward policies adopted by the universities. Total reward and retention is an area that is affected by numerous factors and psychological processes such as satisfaction and commitment levels of the faculty, leadership of the university, culture that is prevalent in the universities, volition, and other variables. It is recommended that these factors and psychological processes should be checked for their influences on total reward and retention relationships.

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Innovation Management

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The role of competition and technology in the innovativeness of companies

Arzu Karaman Akgül[a] , Sıtkı Gözlü[b], a*

[a]*Yıldız Technical University, İstanbul, 34349, Turkey*
[c]*İstanbul Technical University, Istanbul, 34357, Turkey*

Abstract

In today's highly competitive and dynamic markets firms having an intention to meet the changing needs of customers as soon as possible and nourishing innovative ideas by making use of appropriate technology may sustain and/or improve their competitiveness. The purpose of this study is to investigate the relationship between competition, technology, and innovativeness of Turkish companies. A model that investigates the influence of technology and competition on innovativeness is developed. Hypotheses are developed and tested by conducting several statistical tests and techniques such as frequency analysis and logistic regression analysis. The results indicate that both competition and technology have a positive effect on the innovativeness of a company.

Keywords: Competition, Technology, Innovativeness

Introduction

Global competition is getting higher, markets and technology are changing rapidly, and complexities and uncertainties are increasing in the market, which results in the creation of a new competitive environment (Allison, 2002). In the industrial era, firms aimed to produce a narrow range of products, sustain economies of scale and achieve high productivity and low costs. In post-industrial era, organizations take the customer needs into the consideration and aim to develop production systems which design, produce and deliver high-value products to the customer (Brady, Clauser and Vaccari, 1997).

In such a competitive environment, firms have to cope with the pressures of their rivals and customers, and use a licensed technology in order to meet the changing needs of their customers against their competitors. The purpose of this study is to investigate the relationship between competition, technology,

* Corresponding author. Tel. + 90-212-383-2582 fax. +90-212-259-4202
E-mail address: akaraman@yildiz.edu.tr

and innovativeness of Turkish companies. A model that investigates the influence of technology and innovativeness on quality is developed. Hypotheses are suggested and tested by conducting several statistical tests and techniques such as frequency analysis and logistic regression analysis.

The main aim of this study is to deal with the effects of technology and competition on innovativeness in manufacturing companies. In order to realize these aims, a model is developed based upon the literature regarding the concepts of technology, competition, and innovativeness. The constructs represented in the model are described in detail. Then, the model is tested by conducting several statistical tests and techniques such as frequency analysis and logistic regression analysis by using SPSS 16. In this study, the data gathered from Business Environment and Enterprise Performance Survey conducted by World Bank is used. It is collected from 1152 Turkish companies in 2008. Since the aim of this study is focusing on manufacturing companies, 860 of these 1152 companies who are operating in manufacturing industry are selected. There are some missing values in some questionnaires so that list wise deletion approach is applied. The cases with missing data are omitted and the analyses are run based on the remaining 643 questionnaire forms. The results indicate that all of the hypotheses are supported.

Literature Review And Hypotheses

Enhancement of global competition, rapid changes of markets and technology, and increasing complexities and uncertainties in the market have given rise to a new competitive environment (Allison, 2002). Today's highly competitive and turbulent markets, shortened product lifecycles and rapid technological changes have made the technology a key source of competitiveness of a company (Erensal, Öncan ve Demircan, 2005; Ethier, 2005). As being an important contributor to success and the competitiveness of companies, technology, must be managed effectively and needs to be integrated to the firm's strategy. Technology provides firms improving their competitiveness whenever it is truly strategic. It means the appropriate licensed technology should be identified and consistent with the strategic plans and the investment of the appropriate technology should be formulated. While determining the technological needs of the firms, the technological resource skills and competencies should be considered (Hipkin and Bennett, 2003).

Technology is very significant for the companies since it provides sustainable competitive advantage, increases productivity, creates profits, protects from obsolescence, achieves business-market fit, enhances motivation and potential of employees, engine of economic growth, and improves quality of life (Hsuan, 1999). In order to transform their operations, companies using technology facilitate the emergence of new industries and create new sets of economic activities (Koufteros, Vonderembse and Doll, 2002).

Today's products and services are often technology based in order to fit customer's objectives, values, production system, lifestyle, use-pattern, and self-identity because technology has affected most business activities like manufacturing, administration, sales, distribution etc. by causing important changes (Krishnamacharyulu and Ramakrishnan,2008; Munir, 2003; Prajogo and Sohal, 2004). Managing technology effectively allows firms to enter new markets, renew existing product lines and keep up with rapid technological changes in the markets where they operate (Hipkin and Bennett, 2003). Technology may exist not only in tangible form such as machinery, tools, and equipment, but also in intangible forms such as knowledge, information, and know-how. According to the specific needs of a sector, industry or firm, different forms of technologies may be sought (Ethier, 2005).

Demands of customers are customized for high quality products, and manufacturing firms should response to these demands as quickly as possible (Allison, 2012). Each firm has to introduce new and

perhaps radically innovative products for surviving in such a highly competitive, dynamic, and uncertain environment (Reddy, 1997).

The aim of new product development process is to provide outstanding service to customers by manufacturing products of more variety and better suitability for customers' unique needs through responding without delay (Rungtusanatham and Forza, 2005). Nowadays, adjusting production methods globally and quickly in response to changes in the environment has become possible (Samaddar and Kadiyala, 2006).

Improving the new product development (NPD) process is one of the most important management challenges today. Successful new products not only contribute to financial and market performance measures, but also offer new opportunities to become visible (Schilling, 2005). Schumpeter (1947) was among the first economists who emphasized the importance of new products in economy. Since then, the studies related with the innovation area have defined different types of innovation that cover process innovations beside product innovation (Teitel, 2005; Tracey, Vonderembse and Lim, 1999; Trott, 2008). Thus, innovation can be defined as

> *the management of all the activities involved in the process of idea generation, technology development, manufacturing, and marketing of a new (or improved) product or manufacturing process or equipment (Tseng, 2006).*

The most widely used typologies of innovation are product versus process innovations; radical versus incremental innovations; technological versus administrative innovations and architectural versus modular innovations. However, the commonly used classification is the typology of product and process innovations. While product innovation can be defined as tangible objects that deliver a new level of performance to customers, process innovation is defined as the way an organization conducts its business (Zhang, Vonderembse and Lim, 2003). In this study, product and process innovations are used for measuring innovativeness since this typology is more objective than the other dimensions and also easy to observe.

Methodology

Intense global competition, changing customer expectations and the employment of advanced manufacturing technologies makes the environment more complex and uncertain [21, 22]. In order to sustain their competitiveness, firms have to review their competition strategies and use advanced technologies. Companies adopt a variety of strategies to attain the technological edge in their market so to gain or maintain their competitiveness in the global market (Erensal ,Öncan and Demircan, 2005; Ethier, 2005). Based on literature review the hypotheses stated below are determined and the developed research model is based on these relations as illustrated in Fig. I.

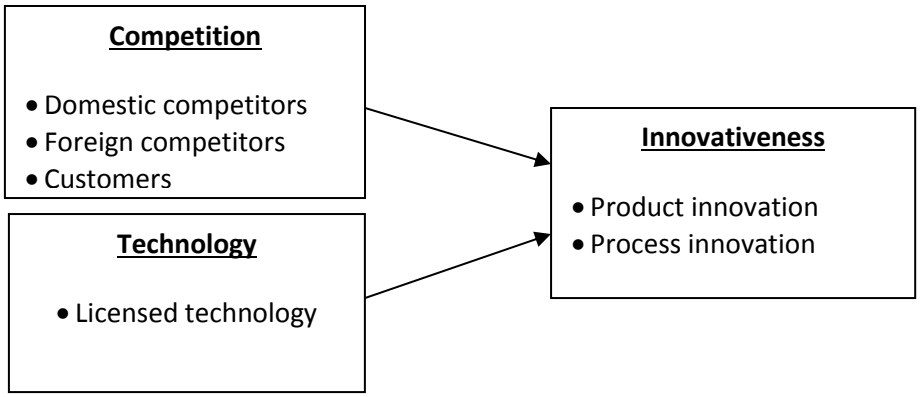

Fig. 1. Research model of the study

Hypothesis 1: A company that has a technology licensed from a foreign-owned company is likely to be innovative.

Hypothesis 2: A company who operates under pressure of competition is likely to be innovative.

Hypothesis 2a: A company who are under pressure from domestic competitors is likely to be innovative.

Hypothesis 2b: A company who are under pressure from foreign competitors is likely to be innovative.

Hypothesis 2c: A company who are under pressure from customers is likely to be innovative.

Hypothesis 3: A company that has a technology licensed from a foreign-owned company and also operates under pressure of competition is likely to be innovative.

Sample and Data Collection

The hypotheses are tested by utilizing the data in Business Environment and Enterprise Performance Survey conducted by World Bank. The survey provides a wide range of data regarding to financing, laboring, infrastructure, training, innovation, quality, technology etc. related issues in 29 economies located in the region of Europe and Central Asia. It is a periodic survey, which is last updated in 2009 (The World Bank, 2009). The data used in this study is collected from 1152 Turkish companies in 2008. Eight hundred and sixty of these 1152 operate in manufacturing industry, 165 in service industry and others in core industry.

In some questionnaire forms, there are some missing values due to lack of knowledge, declining to give any response or because of any other reason. The most common approach to missing data is list wise deletion, which means omitting the cases with missing data and running the analyses with what remains. List wise deletion often results in a decrease in the sample size. Since the sample size is big enough, this approach is chosen.

Measures

All factors investigated in the conceptual model, variables used in measuring these factors and scales used for the items are provided in Table 1.

Table 1 - Factors and related variables and scales

Factor	Variable	Scale
Technology	Use of any licensed technology from abroad	1: Yes 2: No
Competition	Pressure to innovate from domestic competitors Pressure to innovate from foreign competitors Pressure to innovate from customers	1: Yes 2: No
Innovativeness		
- Product innovation	Introduction of a new product or service within the last 3 years	1: Yes 2: No
- Process innovation	Upgrade of an existing product line or service within the last 3 years	1: Yes 2: No

3.3. Findings

The data retrieved from the survey are analyzed statistically. After list wise deletion, the sample size remains 821 and all of them have been operating in manufacturing sector. For evaluating firm specific characteristics, frequencies are used and these characteristics are summarized in Table 2.

Table 2. Demographic characteristics of the sample

	Frequency	Percent
Industry		
Food	149	18.15
Textiles	167	20.34
Garments	120	14.62
Chemicals	100	12.18
Plastics & rubber	37	4.51
Non-metallic mineral products	104	12.67
Basic metals	16	1.95
Fabricated metal products	29	3.53
Machinery and equipment	31	3.78
Electronics	11	1.34
Other manufacturing	57	6.94
Firm Age		
1-10 years	201	24.48
11-20 years	329	40.07
21-30 years	169	20.58
31 and more years	122	14.86
Firm size		
Small Sized Enterprises	221	26.92
Medium Sized Enterprises	336	40.93
Large Sized Enterprises	264	31.56

Since the dependent variable is a yes/no question which means it is a dichotomous variable, we decide to focus on logistic regression analysis which is an optimal method for the regression analysis of dichotomous (binary) dependent variables (Allison, 2012). Before giving the results of logistic regression analysis, the correlations between variables are illustrated in Table 3.

Table 3. Descriptive Statistics

	Variable	Mean	Std. dev.	1	2	3	4
1	Technology	1.76	0.43	1			
2	Pressure from domestic competitors	2.70	0.96	-0.022	1		
3	Pressure from foreign competitors	2.33	1.12	-0.100**	0.235**	1	
5	Pressure from customers	2.99	0.89	-0.068	0.345**	0.270**	1

***: Significant at the 0.01 level*

Tables 4 and 5 show the results of logistic regression analysis. In Model 1, the effect of certified technology on innovativeness is investigated. In hypothesis 1 we argue that a firm with a licensed technology from a foreign-owned company is likely to be innovative. Also, in Model 1 we find that having a licensed technology affect the likelihood of introducing a new product or service and/or upgrading of an existing product line or service. Thus Hypothesis 1 is supported.

Hypothesis 2a suggest being under pressure to innovate from domestic competitors influences the likelihood firms will decide either be innovative or not. While hypothesis 2b is investigating the effect of foreign competitors, hypothesis 2c is related with the pressure of customers. Interestingly, we could not find significant evidence that neither the pressure of domestic competitors nor the customers influence the decision of being innovative. The only determinant here is the foreign competitors. Thus hypothesis 2 is partially supported. The variables related with hypothesis 2a and 2c are removed from the next model and the results are shown.

Table 4. Logistic regression analysis results for model 1 and model 2

	Model 1				Model 2			
Variable	**B**	**S.E.**	**Wald**	**Exp (β)**	**B**	**S.E.**	**Wald**	**Exp (β)**
Technology	0.758	0.196	14.948***	2.133				
Pressure to innovate from domestic competitors					0.087	0.086	1.032	1.091
Pressure to innovate from foreign competitors					-0.227	0.072	9.939***	0.797
Pressure to innovate from customers					-0.159	0.092	2.995	0.853
R^2 (Nagelkerke)	0.028				0.027			
R^2 (Cox&Snell)	0.020				0.019			
-2 LL	1010.414				1010.664			
χ^2	χ^2= 16.296, p=0.001, d.f.=1				χ^2= 16.046, p=0.001, d.f.=2			

Table 5. Logistic regression analysis results for model 3 and model 4

	Model 3				Model 4			
Variable	**β**	**S.E.**	**Wald**	**Exp (β)**	**β**	**S.E.**	**Wald**	**Exp (β)**
Technology					0.707	0.197	12.187***	2.028

Pressure to innovate from domestic competitors **Pressure to innovate from foreign competitors** **Pressure to innovate from customers**	-0.242	0.068	12.574***	0.785	-0.220	0.069	10.193***	0.803
R^2 (Nagelkerke)	0.022				0.045			
R^2 (Cox&Snell)	0.015				0.032			
-2 LL	1010.664				1000.084			
χ^2	χ^2= 12.785, p=0.001, d.f.=1				χ^2= 26.626, p=0.001, d.f.=2			

The results regarding to Model 3 demonstrate that both having a licensed technology and being under pressure by foreign competitors influence the likelihood firms will decide either being innovative or not. Since the results are significant in the expected direction Hypothesis 3 is also supported.

Conclusion

The contribution of the study is to provide an in-depth literature review about technology, competition and innovativeness, and the relationships between them. However, there are a few studies in the literature related to the relationships between technology and innovativeness, and competition and innovativeness. The primary aim of this study is to deal with the need for a model looking into the relationships between technology, competition and innovativeness as a whole. According to the literature there are just a few studies conducted in Turkey concerning this topic. Another contribution of this study is to give Turkey specific information related with those issues.

Fierce competition and shortened lifecycles force companies to become more innovative. The changing needs of customers and competitors are the main pressures in the market. In order to get the idea behind the competition, these pressures coming from the domestic and foreign competitors and customers are investigated in detail. Another aim of this study is to investigate the effect of technology on innovativeness and their relationships as a whole.

The study has implications for operation and IT managers in firms. Obviously, this study signifies the role of technology and innovativeness in companies. In this paper, both competition and technology have a positive effect on the innovativeness of a company, which means that these criteria should be considered carefully for being successful in the market..

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Towards a new approach of support innovation guided by knowledge management: Application on FERTIAL

Brahami Menaouer[a§§§§§§§§] , Semaoune Khalissa[b] , Benziane Abdelbaki[c], Touati Abdelhamid[d]

[a] *National School Polytechnic of Oran and Laboratory LIO, University of Oran, BP: 1523 El M'naouer 31000,Oran, Algeria*
[b,c] *Laboratory LAREEM, University of Oran, BP: 1524 El M'naouer 31000, Oran, Algeria*
[d] *Training Manager to the company FERTIAL, BP 40 Zone Industrielle* Arzew, *Oran, Algeria*

Abstract

In the context current industrial, the companies consider the knowledge as an important resource and strategic for innovation. For it, a good understanding of intellectual patrimony of the company and its environment promotes the emergence of the new ideas. In this paper, we present a new approach to support innovation which builds on the one hand, on the critical knowledge mapping, respecting the principle of the method MASK, and on the other hand on the exploitation of these capitalized knowledge (mapped) for innovate the production processes using the method TRIZ.

Keywords: Knowledge management, Knowledge mapping, Knowledge capitalization, Innovation process, MASK method, TRIZ method

Introduction

At the time the information, carried by the new technologies, appears as a major resource for companies, the deficiencies, related to losses of know how (retirements) emphasize knowledge. In our day, the organizations have a growing interest the capitalization and systematic modeling of knowledge and know-how of trades actors linked to the processes and products for the purpose of help them meet their goals for growth and of innovation (Ermine and Boughzala, 2005). Knowledge management (KM) is increasingly recognized within manufacturing firms as a critical approach that can be leveraged to attain competitive advantage and superior performance. Managers realize that knowledge management draws on principles, practices, and technologies from a wide spectrum of disciplines (Hill and Jones, 1998). These disciplines include management information system, computer science, behavioral science,

§§§§§§§§ Corresponding author. Tel.:+213 41 29 07 76 ; fax: +213 41 29 07 72 .
E-mail address: mbrahami@gmail.com (Brahami Menaouer), semaounekhali@gmail.com (Semaoune khalissa), benziane_baki@yahoo.fr (Benziane Abdelbaki), atouati@fertial-dz.com (Touati Abdelhamid)

organizational learning, research, and training. During the late 1980's, managers in several industries believed that advances in technology prepared them to manage knowledge effectively. However, they soon discovered that managing knowledge is not a simple issue of managing technology, but it also requires managing social relations and interactions in the firm (Grundstein, 2012).

Knowledge management is a necessity order to ensure the sustainability of organizations and their performance (Tounkara, 2009)**.** According (Gooijer, 2000), defined knowledge management as "those actions which support collaboration and integration". Also (Yahya and Goh, 2002), described knowledge management as "…a process of leveraging of knowledge as the means of achieving innovation in process and products/service, effective decision making, and organizational adaptation to the market". For (Grant and Spender, 1996)**,** knowledge management defined as "a socio-technological based system that supports collaboration and integration among interlocking organizational functions to create more innovative and value-added products and services for the market". Knowledge management practitioners and researchers alike support the view that knowledge management requires the integration between the IT systems and people who run the firm as means to attain innovation. Finally, knowledge management systems are guided to capture, create, store, organize and disseminate organizational knowledge (Nonaka and Takeuchi, 1995; 1997).

Several steps were identified in the process of knowledge management: it comes to the explicitation of tacit knowledge identified as crucial for the company, the sharing of knowledge capital rendered explicit in the form of memory, of the appropriation and of exploitation of a portion of this knowledge by the actors of the company (Nonaka and Takeuchi, 1995; 1997) (see *Figure. 1*).

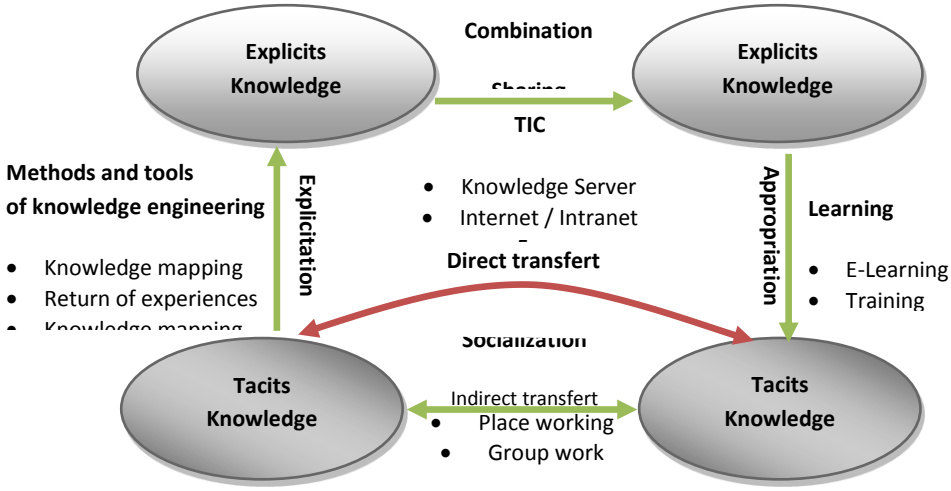


Fig. 1. The process of creation and transfer of knowledge adapted from (Nonaka and Takeuchi, 1995)

In this context, knowledge mapping imposes itself therefore naturally in an organization because the main stake is no longer storing the knowledge and makes it available, it consists rather to do emerge the elements of necessary knowledge, them to be etched into the reference documents, databases or the brains of the trade's actors. In the other words, Knowledge mapping is defined as a set of techniques and tools used to analyze and visualize of the knowledge domain and their relations for the purpose of highlight some specificities trades and the impact of these on the innovation process.

Basis of this observation, we emit the hypothesis that organizations that want to stand out from the concurrency must have a permanent flow of the new ideas leading to new processes or still at new products or services. We raise then the following questions:

1. **Is it really possible to innovate from knowledge (tacit, explicit) capitalized?**
2. **What links uniting innovation and knowledge management?**
3. **What is the impact of the knowledge mapping on the innovation process?**

In a first part, we study the main theoretical concepts that are used in our paper on to the knowledge mapping, innovation, and the using of TRIZ method with its different dimensions. In a second part, we propose a new approach which is based one hand, on knowledge mapping using the method MASK (Ermine et al, 2006; Aubertin, 2006) and on the other hand, on the innovation process by the use of TRIZ method (Alshuller, 2006) for having at end the decision-making .

Interrelation between knowledge mapping and innovation

Knowledge mapping – Definitions and Background

In recent years, awareness about the strategic importance of knowledge of an organization that has its strategic value is linked to its knowledge and its exploitation. The potential damage caused by the loss of a key competence and the volume of departures, scheduled or not, most experienced staff alert, in a manner becoming stronger, the need to adopt management strategy knowledge. Indeed, tact/explicit knowledge management is extremely rich and dynamic and it has become necessary to model them. This modeling is used to transform large amounts of data, from interviews with experts to searching documents in multiple repositories that are related to trades activities (Ermine and Boughzala, 2005; Grundstein, 2012). To this end, a multitude of tools and methods exist for knowledge discovery in data, expert interviews, and/or reference materials. These methods are classified into two categories: explicit methods (capitalization) and methods for automatically extracting knowledge (Ermine and Boughzala, 2005; Matta and Castillo, 2009; Nonaka and Takeuchi, 1995).

Knowledge mapping, which is considered as a method of knowledge explicitation, aims to showcase the trade's critical knowledge of the company (Aubertin, 2006). Knowledge mapping is primarily a managerial approach whose finality is to identify the patrimonies of know-how that are strategic in the actions of the trades in the organization. The identification of the latter in an organization is to sustain develop knowledge that is related to the company's business as its work strategy. In the other words, knowledge mapping is a process by which organizations can identify and categorize knowledge assets within their organization – people, processes, content, and technology. It allows an organization to fully leverage the existing expertise resident in the organization, as well as identify barriers and constraints to fulfilling strategic goals and objectives. It is constructing a roadmap to locate the information needed to make the best use of resources, independent of source or form (Ermine and Boughzala, 2005). Knowledge mapping is an important practice consisting of survey, audit, and synthesis. It aims to track the acquisition and loss of information and knowledge. It explores personal and group competencies and proficiencies. It illustrates or "maps" how knowledge flows throughout an organization (Grundstein, 2012). Its main purpose consists in quickly showing the collaborators of an organization, a network or pathway, where is

located the expertise sought. Similarly, it allows for the indication of the importance of knowledge that is at risk of being lost and that must be preserved (Matta and Castillo, 2009).

Several approaches to the evolution of mapping have been proposed for organizing the cognitive resources of a company. Aubertin (2006) proposed three different approaches for the realization of mapping by functional classification, which respectively use the organization chart, classification by process, and classification by domains. Matta and Ermine (2001) conducted a project for mapping the knowledge and the technical competence that are critical within the direction of the innovation and research of the INRS. Ermine and boughzala (2005) completed a project at Chronopost International (observatory of trades), which relies on the following two objectives: first, to identify the know-how of trades that are affected by the strategy; and second, to consider the evolution of critical skills in the future. For this, Ermine J.L. built upon the project in several phases: the first phase is the realization a mapping that is strategic in regards to business actions and that is formalized by the graphical model approach of "a map of knowledge domains." The second phase consists of an analysis of the know-how of the trades that are critical. This is done through the use of criticality criteria and takes into account the specifics of Chronopost International. Chabot (2006) proposed a complete mapping of the different areas of expertise to the company HYDRO-Quebec. However, the primary objective was to on one hand, identify the areas of knowledge, and on the other hand, to do a study of criticality in order to bring out the critical knowledge domains with the help of the French Society Kadrant. Barroso and Ricciardi (2003) conducted a project at the center of radio pharmacy in Sao Paulo (IPEN). Since the nuclear domain suffers from problems related to this considerable accumulation of the knowledge, such as the risk of non-preservation, the difficulty of transfer, etc. they have developed the project in several steps by using a process approach. The process was described in a conventional manner in the form of flow diagrams linking the activities that in the process. Knowledge Engineering (Charlet, 2003; Aussenac-Gilles et al, 1996) offers a rational framework allowing a representation of knowledge obtained through the experiments (Matta and Zaher, 2008). This technique found a great application in knowledge management and especially to capitalize knowledge (Deing and Matta, 2002). For that, we find in these approaches in one hand, models representing tasks, manipulated concepts and problem solving strategies, and in the other hand, methods to extract and model knowledge. We note for instance MASK (Ermine et al, 2006; Matta and Ermine, 2001) and REX (Malvache and Prieur, 1993) methods. These methods are used mainly to extract expertise knowledge and allow defining corporate memories.

Innovation – Definitions and Background

Definitions

Innovation is crucial to the success and survival of companies. It is seen as the single most important building block of competitive advantage. "Successful innovation of products or processes (or services) gives a company something unique that its competitors lack" (Hipple, 2005). Different types of innovation can be delivered, for example it may be a product-, process- or organizational innovation. The scope of innovation can range in scope from radical/disruptive to incremental/evolutionary innovation) (Christensen, 1997; Trott, 1998). Depending on the type, complexity and scope, the role of knowledge in the innovation process is crucial. For more radical innovations, new knowledge needs to be created or applied from very different contexts. For incremental innovations, it is more important to re-use existing knowledge in many aspects of the product's design, manufacture and delivery (Le lann, 2007).

Various mechanisms exist to deliberately feed new knowledge into the organization, for example communities of practice, the reading of technical journals, conversations with customers and suppliers etc. Literature supports the view that you need new, external knowledge to generate innovation (Miller and Morris, 1999). Tasmin and Woods (2007), commenting at an organizational level, suggested that borrowing rather than invention was fueling innovation. Additionally information useful to innovation

can come from other internal units in the organization. So in different organizations particular sets of practices for feeding and creating knowledge and sources from which it is drawn may be found.

Innovation and using of TRIZ method

Today innovation is more than a need, it is a company policy. In the literature, we find several methods to generate innovation in the projects of company (the creativity tools, the theory C-K (Creativity – Knowledge) of Hatchuel and Weil (2007), and the TRIZ method of Altshuller (1999; 2006)…). In the context of our works, we are interested specifically here; to the TRIZ method (Theory of Invention Problem Solving) that is a set of methods, processes and tools for conduct innovation.

The analysis of the literature highlights that TRIZ is for sure one of the most known systematic approaches for creative design. According to Zhang et al (2010), TRIZ methods are based upon prevailing trends of system evolution (predominantly, technological systems). These trends were identified by examining statistically significant information from different areas of intellectual activities (mainly, technological innovation). In paper of Yamashina et al (2002) TRIZ method is presented as a method that "opens up the pragmatic orientation of engineering creativity, represented more modest by value analysis (engineering) and by numerous analitico-matricial methods (e.g. arrays of discovery). According to Apte (2009), TRIZ was developed successfully as a powerful problem solving tool, especially for product innovation design in conceptual design phase, to promise the engineers with breakthrough thinking.

The goal of TRIZ, as it is known today, is to support inventors when they have to solve primarily technical or technical-economical problems. The fundamental idea of TRIZ is to provide them with easy access to a wide range of experiences and knowledge of former inventors, and thus use previous solutions for solving new inventive problems (see figure 2).

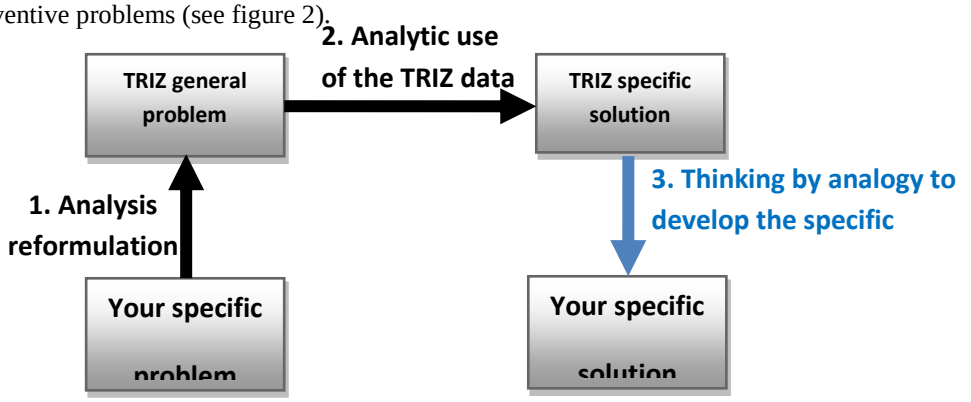


Fig. 2. Problem solving with TRIZ tools at different levels of abstraction (Leung and Yu, 2007)

Problem solving within TRIZ can be described using a four-element model (Fey and Rivin, 1997):

1. The problem-solver should analyze this specific problem in detail. This is similar to many other creative problem-solving approaches.
2. He should match his specific problem to an abstract problem.
3. On an abstract level, the problem-solver should search for an abstract solution.
4. If the problem-solver has found an abstract solution, he should transform this solution into a specific solution for his specific problem.

During this process, TRIZ can support the problem-solver by accumulating innovative experiences and providing access to effective solutions independent of application area (Dubios et al, 2008). Consequently, TRIZ has the capacity to considerably restraint the search space for innovative solutions and to guide thinking towards solutions or strategies, that have demonstrated its efficiency in the past in a

similar problem and, in this process, to produce an environment where generate a potential solution is almost systematic (Hipple, 2005).

Research approach

Context research

Manager the knowledge and the skills of companies is one of the challenges ahead, the knowledge constitute an essential factor of the development, of performance, of profitability and of innovation. For evolve, any person needs to discern its know-how, to evaluate its skills in order to them reinforce. Experience feedback is then made at the individual level, at the team level and at the company level.

To realize our new approach, we have opted for the Algerian company of Fertilizer (FERTIAL). The latter conducts a research project in collaboration with the research team to be able bring elements of response to support the innovation process.

National Fleuron of the petrochemical industry, FERTIAL (Fertial, 2014), Company of Fertilizer of Algeria, is a company resulting from a partnership signed in August 2005 between the Group Algerian ASMIDAL (Asmidal, 2014) and the group Spanish Grupo Villar Mir (Grupo Villar Mir, 2014). Also, it is composed of five major divisions specialized in numerous activities related especially the manufacture of fertilizers and agricultural fertilizers. Indeed, the security is a key factor in the Industrial Policy and Human Resources, as well as staff training, quality and respect for the environment. The goal most important for the company FARTAIL is to achieve zero accidents and ensure industrial safety of the surrounding communities by proposal an approach of knowledge capitalization in the trades' and its exploitation in the projects. These projects were intended for among others to the renovation and modernization of industrial facilities to improve their capacity, the acquisition of new digital control system, to the environment and to the security.

Finally, the FERTIAL Company enrolled fully in a market of the fertilizer strongly competitive, striving reduces its costs, its development cycles and in a continuous improvement approach of the quality and its innovation process. Develop an innovation process closely linked to knowledge trades of the group is therefore a priceless asset.

Experimental protocol

The literature of technology shows us that the success of a generation of innovation depends on the context in which to situate the patrimony of knowledge. In order to address the need for generation of innovations from the capitalized knowledge (tacit and explicit), we decomposed our approach in two parts (see figure 3):

1. The knowledge capitalization via critical knowledge mapping using the principle of the MASK method in order to highlight pathways of innovation,
2. The generation of innovation with as a resource the capitalized knowledge (critical knowledge mapping).

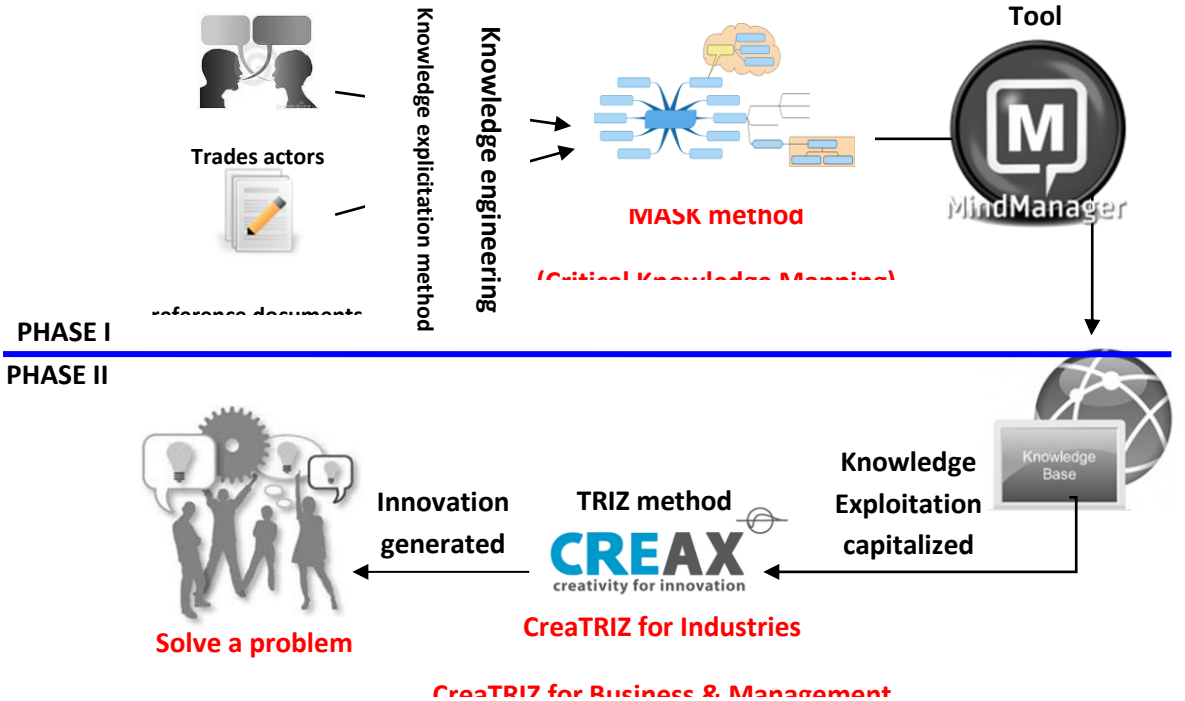


Fig. 3. The problematic industrial of support innovation guided by the knowledge management

The model of "generation of innovation starting from knowledge capitalized" is formalized with the aid of software tools, that we consider a full-fledged product (inseparable nature of the two computer software: tool of knowledge capitalization and generation tool of innovations).

As we have seen previously, the direct passage of knowledge (tacit and explicit) to innovation is not possible. However, the model that we proposed is based on the hypothesis that is possible to generate innovation starting from knowledge capitalized passing through the knowledge base is to verify.

In the life cycle of the knowledge base, the first phase of our approach feeds the knowledge base through the MindManager tool (MindManager, 2014) (tool of analysis and knowledge visualization) by critical knowledge mapping strategic / trades. The second phase exploits the knowledge base through the TRIZ method.

Experimentation

Realization of the critical knowledge mapping

Experience has demonstrated that the implementation of an effective knowledge management goes through the establishment of knowledge mapping. Thus, the knowledge mapping is a means of navigation (cognitive) to access the resources of a patrimony of knowledge in an organization, and to be implied or explicit. More so, the knowledge mapping allows having a fine understanding, by a criticality analysis, the domains of knowledge on where efforts should be made in terms of capitalization, sharing, or innovation (Aubertin, 2006). Moreover, the field of knowledge mapping presents itself as an emerging

research domains where there has been little work done that can be identified in literature and the work that has been done is not thorough (Ermine et al, 2006).

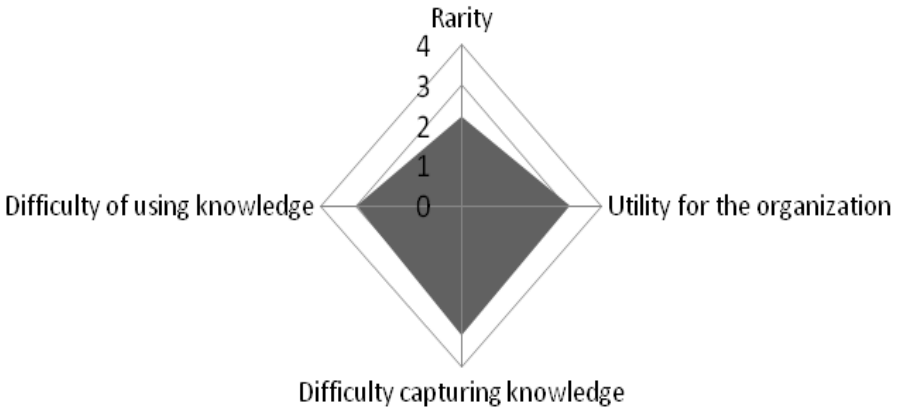
There are various approaches to organizing the cognitive resources of an enterprise or agency. However, we can distinguish two types of cartographic approaches. The first focuses on classification by process and on the classification by domains that organize the knowledge around the subjects, objects, or purposes of common interest that have been identified in the organization. The method of critical mapping knowledge, MASK, is classified in the latest approach. The latter (MASK) proposes in parallel to formalize the strategy and to identify strategic competencies and other items by achieving a criticality analysis of knowledge domains with the trades. The evaluation of the latter is elaborated on the basis of a library of the criteria or a grid CFK (Critical Knowledge Factor) that has been elaborated on by the Knowledge Management Club and tested in various contexts (Aubertin, 2006; Ermine et al, 2006; Tounkara, 2009). The strategic alignment allows crossing the two points of view and for identifying strategic actions to improve the performance of the organization. To begin the generation of innovation, the map was created to visually represent the domains critical knowledge (or different know-how critical trades) of the FERTIAL in a synthetic and intelligible way. We recall, in this step, that the realization of the map was based on an analysis of references documents (organizational chart, description of the distributions of activity services, directory of staff activities, plan medium term of the production, studies, etc.) and interviews with of about fifty persons involved in the different processes (actors of the knowledge or trades experts) and others who are responsible in FERTIAL.

The adopted principle of knowledge mapping is to group the different activities' knowledge domains, of them get in shape format via a representation vulnerable then the complete and validate the mapping produced with experts, in an iterative manner. These iterative validations allow having co-construction work. They also guarantee the maximum involvement and appropriation of the interviewees. The result is a map of knowledge domains or know-how map trades. This mapping is a description of a level of the meta-knowledge (Grundstein, 2012) of FERTIAL know-how. It provides a system for being able to address know-how in order to facilitate access to knowledge domains.

From this map, a study, thought, criticality was realized, which took into account the specificities of FERTIAL service and expected project mapping. The criteria presented in the map are organized into 4 families (Difficulty to capture knowledge, Difficulty of usage of the knowledge, Rarity of the knowledge, and Utility of the knowledge) Ermine et al, 2006). Each criterion is designed to be valued. For this to happen, we have established an evaluation scale for each criterion, based on the evaluation method that was developed by the Knowledge Management Club or on the Critical Knowledge Factors (CKF) (Aubertin, 2006; Ermine et al, 2006; Tounkara, 2009). We recall that critical knowledge is knowledge that has value but is difficult to exploit. In our case it is for each knowledge domain (from interviews), to assess the risks and opportunities related to the availability, nature, utility for the FERTIAL, and accessibility of know-how it covers.

From (Aubertin, 2006; Ermine et al, 2006; Tounkara, 2009), the criticality of a knowledge domain is to assign a score from 0 to 4 in order to represent the degree of realization of the criterion of grid analysis for each domain. The purpose of criticality analysis, which is viewed through the grid of criticality criteria, is to objectively determine which knowledge domains are the most critical for the future of the company and to recommend actions to prevent risks in these domains. More the domain is critical within the meaning the criterion evaluated, higher the note is high. Each evaluation of criterion rests on a synthesized question. When the respondent does not know the answer, a score of "0" is assigned. This note will not be taken into account during the analysis. A complementary analysis was conducted on the basis of combinations from the criterion and/or groups of criteria that were chosen in relation to the objectives of the criticality of the study. An interesting aspect of this analysis is that it allows bringing out some specifics (i.e., the niches of expert current/future domains to enhance the highly sensitive domains, etc.). A tool (i.e., Excel) was used for the restitution of these results in graphical form, especially for the

radar chart (Kiviat diagram) format. The radar charts compare the values of criticalities of knowledge domains that have been aggregated into multiple data series that have been collected from different interviewees (see figure 4a and 4b).



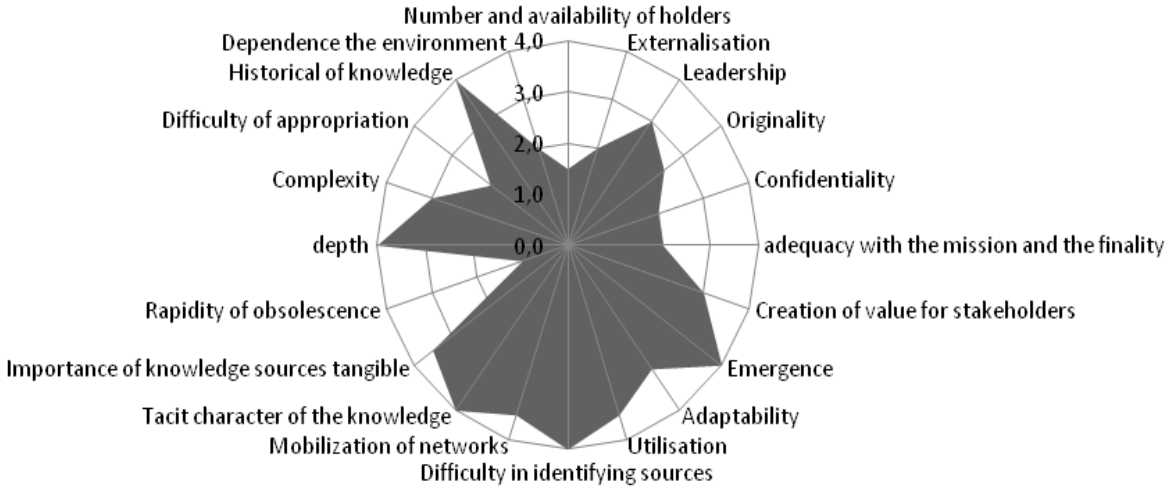


Fig. 4. Diagrams for the automatic analysis by Excel tool "(a) thematic axes; (b) criteria of criticality"

The result is a map of domains of critical knowledge or a map of know-how/strategically critical trades (see figure 5). This mapping is a description of the level of the meta- knowledge (Grundstein, 2012) of know-how FERTIAL. This mapping provides a system for the addressing of the know-how critical in order to facilitate sharing.

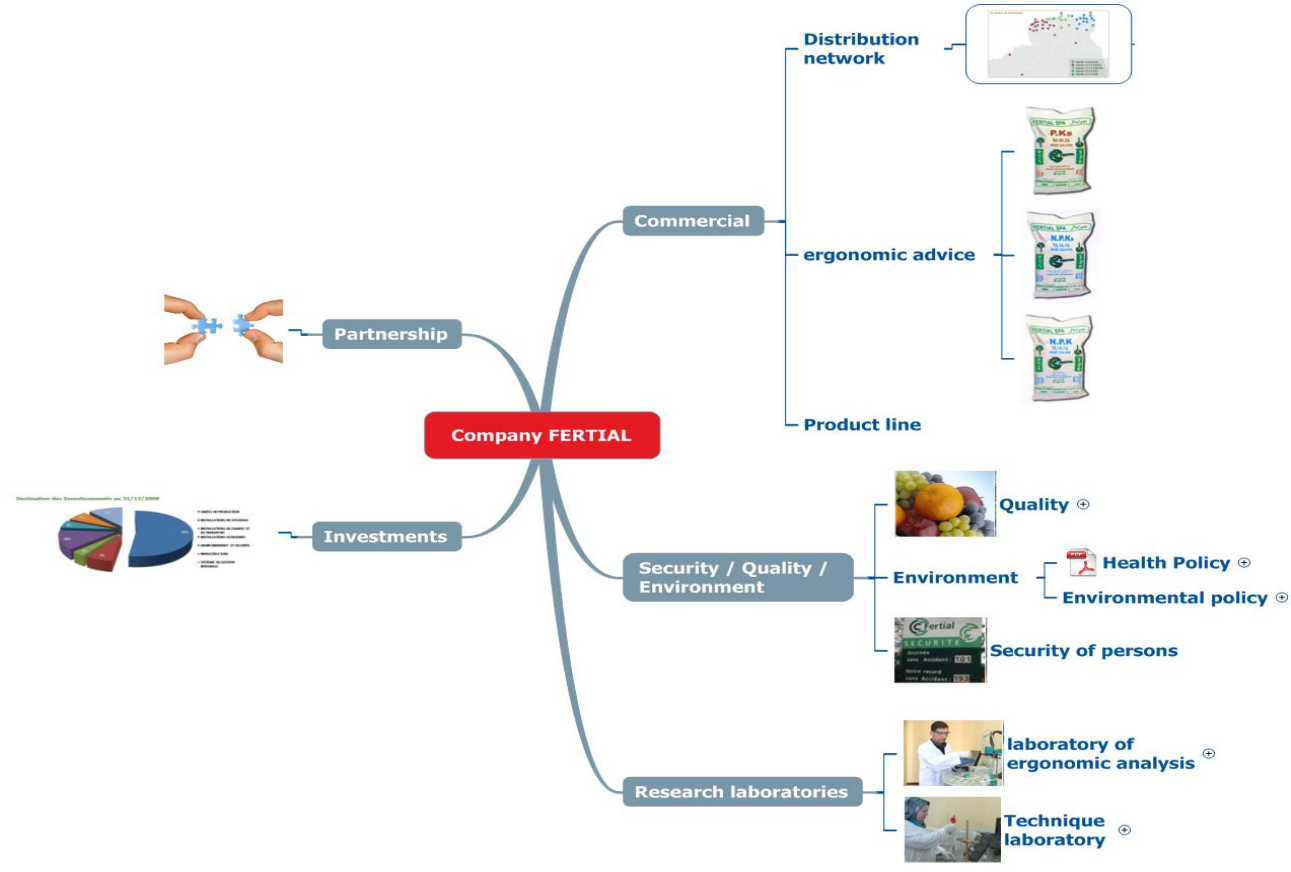


Fig. 5. Critical knowledge mapping of FERTIAL Company by MindManager tool

Innovation process by TRIZ method

We decided to use the TRIZ method concerning the application of innovation support for multiple reasons. First of all because the constraints of industrial realities impose to solve the problems of innovation increasingly quickly; henceforth a company cannot afford to adopt a technique of trial and error to satisfy this need (Moehrle, 2005). It is important to stress this remark because this is one of the main reasons for the existence of TRIZ method. Also, the TRIZ method makes it possible to conjugate the tools and the methods fostering the analytical and rational approach the capabilities of the individual, a view to increasing the potential for innovation (Meylan, 2007; Phaal et al, 2010).

In this context and for exploit the knowledge capitalized previously via the TRIZ method, we have chosen to use the software CreaTRIZ (the CreaTRIZ software for Industries, the CreaTRIZ software for Business & Management) of the CREAX society (Creax, 2014).

CREAX now offers you the latest high tech software support that helps you with your innovation process. You get benefit driven access to systematic innovation, tools to systematize your creativity and to help you manage the complexity of your problems. You can analyze your current products in no time and solve your problems using the strategies of the best inventors worldwide. In addition, CREAX consists of two independent modules basic: the CreaTRIZ software for Industries, the CreaTRIZ software for Business & Management and the Evolutionary Potential program.

Conclusion

The fertilizer industry generates a high level of knowledge whose management is critical for survival in environment concurrencies. Make quickly a decision and understand the effects of actions taken, these are the challenges which must to face the production units. For it, the principal objective of our paper is to demonstrate the possibility of generating paths of innovation and / or innovative products from the trades knowledge capitalized. In addition, we have thus demonstrated that it is possible to generate innovation in rupture by the TRIZ method taking as input data for the detection of problems the implicit knowledge of the trades actors formalized according the formalism of the MASK method. Finally, the next step for the company FERTIAL should reside in the integration of this new method of design / innovation in the innovation process. To this effect, it will then answer the question: How to transpose this model in operational FERTIAL?

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FERTIAL, Official Web Site: http://www.fertial-dz.com/,

ASMIDAI, Official Web Site: http://www.asmidal-dz.com/, The ASMIDAL group is specializes in development of fertilizers, of ammonia and derivatives.

Grupo Villar Mir, Official Web Site: http://www.grupovillarmir.es/, Grupo Villar Mir, S.L., through its subsidiaries, is engaged in real estate, electrometallurgy, electric energy production, fertilizers, construction, concessions, services, etc.

MindManager, Official Web Site: www.mindjet.com/?lang=fr , MindManager is software for creating mind maps. It is developed by Mindjet Corporation. Mindjet specializes in Business Mapping.

The company CREAX, official Web Site: http://www.creax.com/ , Creativity for Innovation.

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Unravelling the integration mechanisms in open innovation projects: the case of inter-organizational networks

Andres Ramirez-Portilla[a,b,*], Terrence Brown[a], Enrico Cagno[b]

[a]*KTH Royal Institute of Technology, Lindstedtsvägen 30, Stockholm, 10044, Sweden*
[b]*Politecnico di Milano, Piazza Leonardo da Vinci 32, Milan, 20133, Italy*

Abstract

In recent years, there has been a tendency to evolve the innovation process into a flexible model known as Open Innovation where innovation takes place with several external actors. Nevertheless, although organizations are applying Open Innovation within networks, there is still a poor understanding of the mechanisms that help integrate the innovation activities with other actors. This paper explores the integration mechanisms used in inter-organizational networks for Open Innovation Projects (OIPs) with six organizations representing two types of innovators, private firms and academic institutions, as well as a nexus agency that acts as an integrator between them. Our results show that besides the 21 categories of integration mechanisms obtained from an extensive literature review, six new categories of mechanisms apply particularly to OIPs i.e. strategic prioritization, government incentives, specific trading controls, environmental exchange, learning curve techniques, and compatible technology infrastructure. In addition, we propose a conceptual framework to study integration mechanisms in OIPs at the analysis level of inter-organizational networks within several types of Open Innovation actors. This study expands the literature in integration mechanisms that solely consider its application inside an organization. Likewise, it shows that in OIPs it is not sufficient to manage the integration of the innovation process like an individual function, but it needs to be done as an integrated chain of processes supported by specific mechanisms.

Keywords: open innovation; integration mechanisms; inter-organizational networks; open innovation projects

Introduction

In an IBM CEO study (Chapman, 2006) a CEO stated, “Integration is as important as water is for sea traffic”, referring to the significance of integration in Open Innovation (hereafter referred also as OI) activities. Practitioners are aware that to properly facilitate OI within an organization, it is necessary to set in place integration processes that vary depending of the context in question. Even though the significance of this integration is great it has so far received little academic attention (Elmquist, Fredberg, & Ollila, 2009; Neyer, Bullinger, & Moeslein, 2009). The question of how integration happens in Open Innovation Projects (OIPs) remains unexplained. Open Innovation is defined as “the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively” (Chesbrough, Vanhaverbeke, & West, 2006; p. 1). Since Chesbrough (Chesbrough, 2003) introduced the concept of OI, more and more firms are trying to incorporate this

model in their innovation strategy. This trend began primarily inside big firms but there is recent evidence that small and medium-sized firms (Brunswicker & Ehrenmann, 2013) are also managing OI with positive results. Even though this model has been criticized for being too prescriptive and for offering little new to innovation research or practice (Trott & Hartmann, 2009), undoubtedly OI has contributed to previous concepts such as employees cumulative innovation (Reuter, 1977) or user innovation (von Hippel, 1986). The idea of OI originated from current contexts where innovative processes demand combinations of distinct sets of actors, competences, and resources (Enkel, Gassmann, & Chesbrough, 2009). However, having this diversity in skills brings out the challenge of synergizing the various interdependent areas of the project they are working on. Firm absorptive capacity or traditional systems are not enough, but there is a need for new capabilities to retain and manage knowledge in partnerships and alliances (Brunswicker & Ehrenmann, 2013). In inter-firm cooperation teams, which are usually used in OIPs, there are important challenges in aligning disparate performance incentives, work process, and project priorities (DeFillippi, 2002). Undeniably, it is of great relevance for firms to have effective communication, cooperation and integration between specialists and functions during the innovation process (Sicotte & Langley, 2000). This tension between the need for differentiation and for integration lies at the centre of the study of organizations and becomes quite a characteristic challenge for OIPs.

Moreover, the difficulty of understanding how inter-organizational integration takes place in the innovation process is inherent in OI (Elmquist et al., 2009). Even though this issue draws an increasing interest in practice, there are limited studies focusing on this issue. Hence, the purpose of our study is to investigate how is integration achieved in OIPs between inter-organizational networks of "outside innovators", specifically in projects between private companies and universities. To answer this question, a framework was developed using approaches to coordination and integration derived from literature, as well as anecdotal evidence. To investigate their applicability, we conducted semi-structured interviews with people working in two companies from the food industry, as well as researchers in three universities and one industry–university liaison. These organizations were selected because of their strong innovation and entrepreneurial culture, which indeed is reflected in some of their practices related to an OI approach in different levels and contexts. Even though researchers have identified five units of analysis in OI (i.e. individuals, firms, dyads, inter-organizational networks and national innovation systems (Vanhaverbeke & Cloodt, 2006)), this study is limited to the inter-organizational networks level, as its dynamics have not been studied extensively. In addition, the challenges of inter-organizational team-based cooperation in innovation projects can be managerial and thus the framework proposed as a result of this research can be of interest to practitioners when trying to successfully bring out novelty from different sources. The rest of this paper is organized in four sections. In section 2, we present a literature review briefly talking about OI but emphasizing more the integration mechanisms obtained from organizational theorists and others perspectives. In section 3, we provide a detailed description of the methodology employed as well as presenting information about the cases used. In section 4 we present the analysis and main results of the research together with their discussion. Finally in the last section, we present some conclusions, limitations, and recommendations for future research in the subject of integration in OIPs.

Literature Review

In the literature there are numerous recent reviews of past research, theoretical and empirical, focusing on OI (Elmquist et al., 2009; Huizingh, 2011; Lichtenthaler, 2011; Schroll & Mild, 2012). In these examinations, besides defining the peculiarities of OI, the literature mostly identifies differences with the traditional innovation process. It also provides models and theories concerning its applicability and adoption, and numerous authors have recommended how to foster, implement and promote this model to market. However, to the best of our knowledge and with few exceptions (see, e.g., Jaspers & van den Ende (2010); Lin & Chen (2012); and Wallin & Von Krogh (2010)), there are limited studies providing a clear understanding of the mechanisms (Enkel et al., 2009) and the integration process (Neyer et al., 2009) of how OI takes place when done in diverse levels of analysis. Even though OI is now a well-known concept due to continuous efforts from notorious scholars (see, e.g., Brunswicker & Ehrenmann (2013); Chesbrough et al. (2006); Enkel et al. (2009); Gassmann & Enkel (2004); van de Vrande, de Jong, Vanhaverbeke, & de Rochemont (2009); and Vanhaverbeke & Cloodt (2006)), we consider it important to explain its basic assumptions to clarify our research field and the relevance of our study.

Open Innovation and Innovation Networks

Innovation has always been associated as a positive noun, especially in the business environment (van der Meer, 2007). There is evidence to a large extent that identifies innovation as the principal driver for companies to flourish, grow, be profitable, and sustain in the long term (Elmquist et al., 2009). But even if a company has a clear innovation strategy it may encounter barriers obstructing the innovation process. For instance, in a large-scale study, executives from 650 top-performing global companies mention that investing in innovation is seen as the key source to guiding growth; however it is also hard to implement a growth strategy through innovation due to the lack of appropriate tools (Koudal & Coleman, 2005). Thus, organizations have historically invested lots of resources and efforts in research and development areas to drive innovation and obtain a sustainable strategy. However, in recent years there is practice of a more open model where companies are aware that not all good ideas will come from the interior and not all innovations created within the company can be successfully marketed internally (Chesbrough et al., 2006). This phenomenon was probably caused by the last decades' stronger global competition guided by a higher knowledge sharing and collaboration between firms' innovation processes (O Gassmann, 2006). Considering this, the Open Innovation model was shaped using ideas from innovation management – the process of bringing economic value to knowledge and creativity (van der Meer, 2007).

In addition, the innovation process itself should be innovated and not restricted to only one perpetual model. Proof of this statement is that evolution of the innovation process has been through five accepted generations known as technology-push (up to 1960s), market-pull (1960s), coupling processes (1970s), integrated innovation (1980s), and systems integration and networking (from 1990s) (Rothwell, 1992). More recently it has been argued that the evolution process should be synthesized to only four major innovation process progressions (Berkhout, Hartmann, Van der Duin, & Ortt, 2006). The 4th generation known as "Open R&D" emphasizes the managing networks with potential specialized innovation actors, for example as in OI. Others believe that OI is considered to be more the 3rd stage (van der Meer, 2007). Whichever authors' perspective is chosen, the signals are that OI is seen as the breakthrough that was needed in the way organizations innovate in recent years. Although the concept of OI originated only a few years ago, a lot has already been written about its advantages. Literature includes comparisons of the

major advantages of an open model over a closed one (van der Meer, 2007), findings that the best innovative products and services come from innovation networks (Fowles & Clark, 2005), and even studies proposing that the model can help to overcome barriers between economy and sociology (Freund, 2010). More recently, studies have provided evidence on the direct positive effect between firm performance and OI practices across diverse environments (Lichtenthaler, 2009), and also between innovation revenues and firm financial performance (Fatur, Likar, & Ropret, 2010). In addition, practitioner's perspectives and real life cases prove the growing popularity of OI. On the Internet there are several websites promoting the model and its related networks (e.g., Innoget), as well as leading organizations exploring the model as a pillar of their innovation strategy (e.g., IBM, Intel, P&G and Cisco). Top management is already aware of the value of OI, as they know that the most significant sources of innovative ideas come from business partners and customers outside the firm (Chapman, 2006).

By definition, OI is related to open relationships with other firms. Organizations are becoming gradually more open to networks in order to create customer value (Vanhaverbeke, 2006). As an effect, firms trying to increase their innovation initiatives are using the services of other actors to find external sources of innovation. These actors called knowledge brokers are institutions bringing together firms, individual inventors, and people with problems to find solutions, and vice versa (Gwynne, 2007). However, networking can also include cooperation with other partners not necessarily in the same industry. Companies can develop relations with outside innovators (Neyer et al., 2009) or different types of external innovative actors such as external partners, clients, end customers, users, retailers, suppliers, and competitors (De Backer & Cervantes, 2008). Researchers mostly agree that to enlarge the scope and enhance the understanding of these OI actors, a breakdown should be made of different levels of analysis (Vanhaverbeke & Cloodt, 2006). In addition, to understand the position of the Open Innovation model from a bigger perspective, it is possible to use the concepts of value constellations. According to Vanhaverbeke and Cloodt (2006) these are defined as inter-organizational networks established to create value based on new business models, which can be situated on the right-hand of the OI model and innovation networks on the left-hand side (see figure 1).

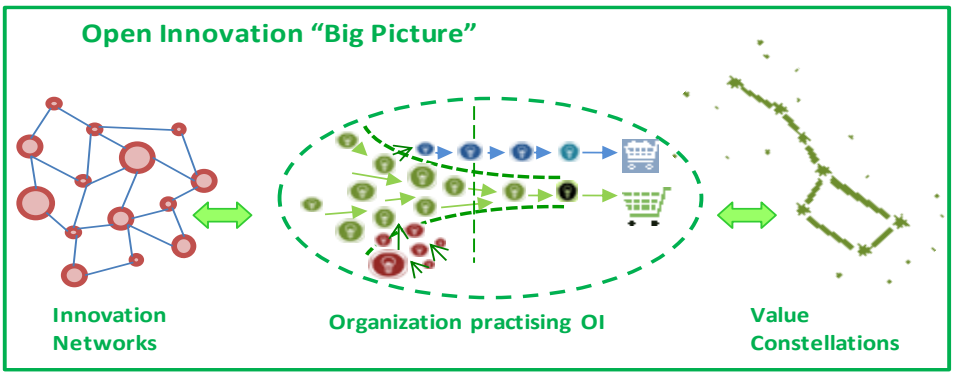

Fig. 1. Open Innovation Big Picture: the stance of the model with innovation networks.

The need for integration in OI Networks

Top management in many firms have in recent years considered adopting OI although pitfalls to this new innovation model may be present (Bughin, Chui, & Johnson, 2008). There are some general issues but it is also possible to find the following specific issues related to integration:

- Globalization increases the relationships amid innovators, which also increases the complexity to manage and integrate all kinds of competencies in the areas where additional expertise is required (Blau, 2007).
- There is a debate between OI theory and practice value (Trott & Hartmann, 2009), meaning that people could not be convinced that theoretical mechanisms work in practice.
- Organizations invest simultaneously in closed and OI thus mechanisms that can be suitable for one approach may not be proper for the other (Enkel et al., 2009).
- Even though OI uses mechanisms from its past contributors, there is no warranty of their appropriateness as early supplier involvement (Bidault, Despres, & Butler, 1998) may or may not help to integrate innovators.

Enkel et al. (Enkel et al., 2009) stress the necessity for a correct balance between classical innovation and the OI model, which in turn creates the need to find appropriate contributors and integration mechanisms. In their study of 107 firms, one of the most frequent implementation obstacles mentioned by firms was the high complexity integration. Similarly, in an IBM CEO study 80% of the interviewees rated integration as of huge importance (Chapman, 2006). Moreover, in innovation networks it is crucial to understand how to reduce the risk of losing Intellectual Property through coordination and integration (Fowles & Clark, 2005). Some researchers emphasize that in order to integrate innovators in OI processes, it should first be known what kind of innovators are being integrated (Neyer et al., 2009), and which are the proper practices to integrate knowledge (Jaspers & van den Ende, 2010; Wallin & Von Krogh, 2010). However, there is an intrinsic challenge within the OI model, as even though it increases the potential creativity in the innovation process, it also increases the complexity involved in managing it (Elmquist et al., 2009). Solving this challenge can be beneficial as companies which can orchestrate complex global value chains and integrate their innovation process, are 73% more profitable than others without proper integration abilities (Koudal & Coleman, 2005). Examples are Samsung and Porsche AG, part of whose growth factor in international markets relies on their capacity to coordinate and integrate innovation across their global operations and their partner networks.

Theoretical Framework

The existing Open Innovation paradigm does not consider to a great extent either the implementation or the integration elements. This means the model describes in a general way what the idea is but it does not specify the steps to implement it. We believe that the search for integration elements in Open Innovation needs to consider a broader range, from organizational theory views to a more specific innovation process context. First, in organization theory, integration is defined as any administrative tool whose implementation assists in achieving coordination among different units within an organization. Martinez and Jarillo (Martinez & Jarillo, 1989) have categorized these tools and mechanisms into two groups: structural and formal, and subtle and less formal. They mentioned that organizational theory moves towards the "less formal" group in response to the managerial challenge of coordinating an increasing number of dispersed and independent activities.

Second, the integration in innovation projects has been described as an attempt to elevate the linkages within each project component, enable more effective interaction among them, and create visibility that allows identification of bottlenecks (Putzger, 1998). Some researchers have described the principal

elements of integration as being information systems, inventory management, and supply chain relationships (Handfield & Nichols, 1999). Others believe that the fundamentals of integration of an innovation process are considered to be collaboration, cooperation, trust, partnerships, information and technology sharing, and the management of integrated chains of processes (Akkermans, Bogerd, & Vos, 1999). While still others claim the selection of the most appropriate integration mechanisms will vary depending on the levels of the innovation project's uncertainty and ambiguousness (Daft & Lengel, 1986). Integration mechanisms related to R&D projects should also be considered because of the direct relation to this area in the context of OI. Based on the literature, the mechanisms could be grouped as:

- *Horizontal structures* entwine with established functional structures. They are achieved through information systems, direct contact, task forces, full-time integrator, and teams (Daft, 1998).
- *Formal project leadership* in innovation projects has a crucial integrative role within the project team. Formal leaders support the communication with top management as well as the internal dynamics of the team (Ancona & Caldwell, 1992).
- *Planning and process specification* can be a powerful integration mechanism (Cooper, 1996). Planning can be appropriate for R&D projects with moderate level of novelty and less for extremely novel projects (Adler, 1995).
- *Information technology* facilitates coordination of innovation projects by increasing communication speed and reducing its cost, widening the information network and allowing access to communal information (Dean & Snell, 1991).
- *Informal leadership* portrayed by project champions can act as "informal integrators" by reducing ambiguousness in personal contacts (Cooper, 1996).

Third, even though there is not a clear understanding of the integration mechanims to fully profit from OI (Enkel et al., 2009), there are some recent studies providing some insights. First, as technology can facilitate innovation enablers (Chapman, 2006), it can be classified in the categories of coordinating, liberating, and including (Elmquist et al., 2009). A more focalized study argues that organizing OI is related to the selection of the right mechanisms for integrating domain knowledge outside and within the firm (Wallin & Von Krogh, 2010); however the mechanisms proposed are sequential steps rather than parallel and simultaneous means to achieve integration. In a similar way, the role of integration mechanisms in OI teams has been explored within student team contests (Lin & Chen, 2012); nevertheless the sample used does not represent any type of firm and the three mechanisms studied (team vision, commitment, and self-efficacy) seem more from a behavioural rather than organisational nature. Other than these basic guidelines, there are no concrete and accepted mechanisms that support the implementation and integration of OI. Nevertheless, it can be useful to examine OI case studies in order to identify and synthesize special elements (O Gassmann, 2006). For instance, Philips has been the subject of study by authors because of its advanced OI business model [1; 47; 48]. A big project in the firm was the creation of the High Tech Camp to foster OI and to integrate people, technology, and knowledge between the firm and innovators (Vaughan, 2009). Therefore the integration mechanism identified in this case is the creation of an innovation ecosystem, either physical or virtual. P&G is another example of a firm using a distinct integration mechanism. It uses information and communication technologies to enable the exchange of distributed sources of information in the OI process (Viskari et al., 2007). This technological interface reinforced by an open culture to adapt external ideas enables the firm to integrate with different groups of innovators (Vaughan, 2009). In a similar way, Nokia has created a worldwide innovation network which gives the firm the ability to multiply efforts on projects, improve innovation efficiency, create new innovation ecosystems, and create more shared value (Dittrich & Duysters, 2007) ,which in turns creates a sociable system to share relevant knowledge. Other ideas from practitioners' anecdotal evidence show that a common technique is the involvement of a third party to

guide through the closed-open process. These parties are companies specialized in encouraging OI implementation and in the integration aspect. The literature on innovative networks and innovation systems defines them variously as central agencies (Teubal, Yinnon, & Zuscovitch, 1991), central firms (Sawhney & Prandelli, 2000), innovation intermediaries (Oliver Gassmann, Daiber, & Enkel, 2011; Katzy, Turgut, & Holzmann, 2013), or systems integrators (Brusoni & Prencipe, 2001; Jaspers & van den Ende, 2010). More difficult but not impossible is the process of defining a new organizational identity and culture to foster and integrate OI throughout the entire company (Viskari et al., 2007).

In sum, we have reviewed extant literature regarding innovation process integration and the integration in OIPs. This literature shows that integration efforts come in a variety of forms and, as such, are also associated with a variety of mechanisms not yet standardized. Throughout the literature we identified a trend towards specifying the types of collaboration, a common category of innovators and the analysis levels (Vanhaverbeke & Cloodt, 2006). Following the nature of OI, we expect to find that beside structural and formal mechanisms the integration in OIPs will also include subtle and informal mechanisms. All these mechanisms to be investigated are summarized in table 1. Through a comparison of the classic inter-organizational innovation projects where all collaborative actors are known and are integrated in the process by established mechanisms, in OIPs the external sources can be unexpected or are rarely known in advance. Therefore, our assumption is that the integration mechanisms used in OI have to be able to support interchangeability of the networks involved, and also enable a flexible integration infrastructure to accommodate for various potential participants.

Table 1. Theoretical framework of integration mechanism in non-conventional innovation processes.

	Structural and formal mechanisms	**Subtle and less formal mechanisms**
Integrations mechanisms from organizational theory	Departmentalization or *grouping of organizational units*, shaping the formal structure Centralization or decentralization of decision making through the hierarchy of *formal authority* Formalization and standardization: *written policies*, rules, job descriptions, and *standard procedures* such as manuals. Planning: strategic planning, *budgeting*, functional plans, *scheduling*, etc. Output and behavior control: *financial performance*, technical reports, sales and marketing data, as well as *direct supervision*	Lateral or cross-departmental relations: direct managerial contact, *temporary or permanent teams*, task forces, committees, *integrators*, and *integrative departments.* Informal communication: personal contacts among managers, management trips, *meetings*, conferences, *transfer of managers*, etc. Socialization: building an *organizational culture* of known and shared strategic objectives and values by training, managers exchange, career path management, *measurement and reward systems.*
Integration mechanisms in R&D projects	Formal Leadership– Delegation of power. Motivation of team members. Use of personal credibility, expertise and authority. Formal project leaders seen as external integrators. Planning and process specification– Project breakdown into components. Tasks and responsibilities effectively delegated. Information Technologies– Allow communal information (electronic mail, voice mail, and electronic data management)	Horizontal Structures – Information systems, direct contact, task forces (temporary assignments), full-time integrator and teams. Informal leadership – Project and technical champions showing transformational leadership, such as persistence, influence, risk-taking and persuasiveness.
Integration mechanisms in OIPs	State of the art Innovation Technology and infrastructure. Involvement of a third party mediator or 'nexus agents'. Redefining a new organizational identity (a more drastic mechanism)	Creation of an innovation ecosystem or a sociable system for knowledge sharing between actors Tools and methods promoting better visibility and flexibility within the innovation processes. Activities to involve stakeholders e.g. empowerment

Methodology

This study was treated as exploratory considering that few researchers have focused on this topic. It used an interpretivist and an inductive approach, as innovation projects are social constructions made by

social actors' actions, which were used to move from specific observations to broader generalizations. Therefore the use of qualitative data can be justified in this study (Bryman & Bell, 2007) as it contributes to grasping meanings in complex data by developing categories or themes (Saunders, Lewis, & Thornhill, 2003). It used a mixed research strategy where different approaches were considered in order to have the best-suited strategy for the study. For instance, grounded theory was weighed as it is useful to expand upon the explanation of a phenomenon by identifying its key elements, and then categorizing the relationships of those elements to the context and process of the phenomena (Strauss & Corbin, 1998). However, as using grounded theory has some disadvantages of being a formalized research strategy, a research strategy using both grounded theory and ethnography was used (Seidel, 1998). This mixed strategy allowed increasing the 'density' and 'saturation' of recurring categories, as well assisting in providing follow-up procedures in regards to unanticipated results. Besides, interlacing data collection and analysis in this manner is also designed to increase insights and clarify the parameters of the emerging theory (Seidel, 1998). At the same time, this method supports the actions of initial data collection and preliminary analyses while attempting to incorporate previous research literature. This strategy guarantees that the analysis is based on the data obtained but at the same time on pre-existing constructs.

Data sources and participants

Maximum variation sampling was used to collect data and explain the key elements from different scenarios. These scenarios include six organizations in Mexico: three universities, two companies from the food industry, and one university-based nexus agency. This accounts for seven in-depth interviews with relevant actors directly involved with OIPs. The three academic institutions are renowned in terms of quality education, as well as being continuously involved with entrepreneurship and innovation activities. In order to avoid organizational generalizations of any type based on the limited interviews the names of the organizations are not disclosed. In addition, this study attempts to emphasize the type of context rather than the name of an organization for its best practices. The first university has 33 campuses throughout the country with another 42 technical schools. Its learning strategy is oriented towards the development of entrepreneurial practices and thus it is involved in several innovation projects. The second university has five main campuses in Mexico City with a strong focus in technological innovation in the local industry. The third university is located in Northern Mexico and despite having only one campus it is renowned due to its strong research by collaborating with multinational corporations in electronics, high-tech firms, and universities in the south of the USA. It should be noted that even if the universities differ in their profiles, i.e., public or privately funded, all have in common that innovation is embedded in their culture.

The two multinational companies have a good reputation for innovation in the food industry. This is visible as both companies based their growing strategies on market expansion by offering innovative and quality products to customers. The first company is dedicated to the production and commercialization of different types of cereals. It has a close involvement with education centres in the central region of Mexico and thus, it has an extensive number of innovation projects involving different types of actors. The second company is dedicated to the production and commercialization of dairy products. This company focuses more on customizing the products for regions but it also develops projects with innovators ranging from customers to communities of scientists in universities in the central region of Mexico. A nexus agency, i.e. a mediator between these two types of innovators, was also selected. However, the nexus agency as such is not a type of innovator; its main function is to integrate and coordinate the efforts between different types of actors in the innovation process. This nexus agency is located geographically in a research institute; therefore the entrepreneurial and innovation culture of the institution influences it indirectly. The selection criterion for the participants was based on the contribution derived from their professional activities in the context of OI as seen in table 2.

Table 2. Information about the participants' contexts, positions, and length of the interviews.

Interview	Context	Position	Length
Interviewee 1 (Int1)	Company	Innovation Manager	68 min
Interviewee 2 (Int2)	Nexus agency	Liaison Coordinator	75 min
Interviewee 3 (Int3)	Company	Innovation Manager	60 min
Interviewee 4 (Int4)	Company	Brand Manager	84 min
Interviewee 5 (Int5)	Researcher	Professor and Consultant	78 min
Interviewee 6 (Int6)	Researcher	Full Professor and Researcher	73 min
Interviewee 7 (Int7)	Researcher	Full Professor and Researcher	81 min

Data collection and method of analysis

The data was collected through semi-structured interviews and all of them were made with computer-assisted telephonic tools – VoIP software. The interviews were transcribed and then coded based on the research. Two of the authors read, examined, and coded all transcripts in parallel to lower the level of bias and give more reliability to the coding process. After this task all authors agreed that there were no great inconsistencies in identifying and coding the mechanisms and jointly perform a categorization of the mechanisms. The coding and categorization process consisted of six steps that were combined with other methods (Bryman & Bell, 2007) . In this case, as there were integration mechanisms obtained from the literature review, it was possible to interpret the segments and the labels to fit their main concepts in one of the pre-established categories and subsequently assign them one or more of the chosen nomenclature. In particular, during steps 1 to 4 of the coding process, a loop was constantly revised as follows: it was done individually, then proving it with the other author´s work, and finally it was done jointly between the three authors. This method also helped to explore the relationships between categories and to reconcile different points of view.

Results and Discussion

During the data coding we identified 6 categories that did not fit in any of the categories of our theoretical framework. However, these new categories were not present in all of the interviews, in comparison to most of the other 21 categories. After the identification of all the potential categories we summarized them through a data display and analysis approach (Saunders et al., 2003). After several iterations to develop a visual form that represented the data in the simplest and most complete way possible, the result is the matrix in figure 2. It summarizes the integration mechanisms, their corresponding codes, the number of mentions in the interviews, and the organizational context (company, nexus agency or university) for each interviewee. Another visible arrangement is the division between “soft” and “hard” mechanisms. We agreed to use this classification as all the categories found fitted into one of these labels. Based on this classification, one of our earliest findings is that 65% of the mechanisms can be labelled as “soft” in comparison to only 35% labelled as “hard”. This finding confirms our assumption that that due to the flexible and non-restrictive nature of OI it is more probable that the subtle and less formal mechanisms are more common in OI practices and projects.

				Interviewees context							
				Com	Nex	Com	Com	Uni	Uni	Uni	
Source	Type	Integration Mechanisms category	Code	Int1	Int2	Int3	Int4	Int5	Int6	Int7	SUM
Theoretical Framework	Hard	Departamentalization	OT-DEP	3	1	0	0	2	1	1	8
		Centralization or decentralization	OT-CENDEC	1	1	1	0	1	0	0	4
		Formalization and standardization	OT-FORSTA	1	5	2	1	2	6	3	20
		Planning	OT-PLAN	2	3	2	0	1	2	2	12
		Output and behaviour control	OT-CON	1	3	0	1	6	2	2	15
		Formal Leadership	RD-FORLEAD	9	4	3	2	4	6	5	33
		Planning and process specification	RD-PLANSPEC	1	4	2	2	4	2	3	18
		Information Technologies	RD-INFOTECH	2	2	2	1	3	1	2	13
		Innovation technology infrastructure	OI-INNOTECH	1	2	2	2	1	3	0	11
		Nexus agency	OI-NEX	2	3	4	0	1	2	2	14
		New organizational identity	OI-ORGID	2	0	0	0	0	0	1	3
									Subtotal		151
	Soft	Lateral or cross-departmental relations	OT-CROSS	11	5	9	3	5	4	6	43
		Informal communication	OT-INFOCOM	8	3	5	7	6	7	2	38
		Socialization	OT-SOC	13	4	7	3	8	3	7	45
		Horizontal Structures	RD-HOR	3	5	1	1	5	0	3	18
		Informal leadership	RD-INFLEAD	0	3	0	3	4	7	3	20
		Innovation Ecosystem	OI-INNOECO	1	2	1	2	2	2	1	11
		Sociable system for knowledge sharing	OI-SOCSYS	4	6	4	6	0	2	4	26
		Visibility tools	OI-VIS	13	2	7	1	2	0	4	29
		Flexibility tools	OI-FLEX	8	6	7	2	4	4	5	36
		Stakeholder involvement	OI-STAKE	6	3	12	6	5	7	7	46
									Subtotal		312
Interviews	Hard	Government incentives	NW-GOV	0	2	0	0	0	3	1	6
	Hard	Strategic prioritization	NW-SPRI	1	0	3	0	0	0	1	5
	Hard	Specific trading controls	NW-TRACON	1	0	0	1	0	0	0	2
	Hard	Compatible Technology Infrastructure	NW -TECINFR	0	0	0	1	0	3	2	6
	Soft	Environmental exchange	NW-ENVEX	1	0	0	0	1	0	1	3
	Soft	Learning curve techniques	NW-LECU	0	1	0	0	1	2	0	4
									Subtotal		26
			Total	95	70	74	45	68	69	68.2	489

Fig. 2. Matrix of results including new categories found in the interviewees.

Considering that most of the integration mechanisms seem to overlap or have very similarly related concepts and examples, it was possible to group them within a concept with a higher order of abstraction, similar to categorizations in other studies (e.g., see the six dimensions in (Brunswicker & Ehrenmann, 2013)). Therefore the result was the creation of five core categories: *social*, *operational*, *technological*, *organizational*, and *environmental*. This is aligned to the idea that good coding in a qualitative data analysis (QDA) process should yield between three and eight final categories (Seidel, 1998). The distribution of the 27 integration mechanisms in the five categories is shown in figure 3. In addition we have also suggested the existence of new mechanisms. These were characterized and labelled as *strategic prioritization*, *government incentives*, *specific trading controls*, *environmental exchange*, and the use of *compatible technology infrastructure*.

Source	Type	Integration Mechanisms categories	Code	Core Category
TF	S	Informal communication	OT-INFOCOM	Social
TF	S	Socialization	OT-SOC	
TF	S	Horizontal Structures	RD-HOR	
TF	S	Informal leadership	RD-INFLEAD	
TF	S	Stakeholder involvement	OI-STAKE	
TF	H	Information Technologies	RD-INFOTECH	Technological
TF	H	Innovation technology infrastructure	OI-INNOTECH	
Int	H	Compatible Technology Infrastructure	NW -TECINFR	
TF	S	Flexibility tools	OI-FLEX	Organizational
TF	H	Departamentalization	OT-DEP	
TF	H	Centralization or decentralization	OT-CENDEC	
TF	H	New organizational identity	OI-ORGID	
TF	S	Lateral or cross-departmental relations	OT-CROSS	
TF	S	Visibility tools	OI-VIS	
Int	H	Strategic prioritization	NW-SPRI	
TF	H	Formal Leadership	RD-FORLEAD	Operational
TF	H	Formalization and standardization	OT-FORSTA	
TF	H	Planning	OT-PLAN	
TF	H	Output and behaviour control	OT-CON	
TF	H	Planning and process specification	RD-PLANSPEC	
Int	S	Learning curve techniques	NW-LECU	
TF	H	Nexus agency	OI-NEX	Environmental
TF	S	Innovation Ecosystem	OI-INNOECO	
TF	S	Sociable system for knowledge sharing	OI-SOCSYS	
Int	H	Government incentives	NW-GOV	
Int	H	Specific trading controls	NW-TRACON	
Int	S	Environmental exchange	NW-ENVEX	

Fig. 3. Cluster of integration mechanisms in five categories.

New integration mechanisms found in Open Innovation Projects

Considering that 21 categories of integration mechanisms obtained from the literature review were confirmed in our analysis, we consider it more relevant to discuss primarily the six new mechanisms that seem to be distinctive of OIPs

- Government Incentives. Several authors have studied the influence of government incentives and tax policies on innovation (see, e.g., Bernstein (1986) or Cantwell & Mudambi (2000)). However, we have not found any evidence that studies relate these incentives as mechanisms for integration. We believe they should be considered as such because if provided with government incentives, the firms may reduce the risks usually associated with R&D activities, which in turn can encourage them to continue with innovation projects.

- Strategic Prioritization. This mechanism is often found in project portfolio management as big firms usually have a trade-off decision between the amount of projects and budget, being forced to give priority to certain projects based on their strategic direction. By pursuing a certain strategic direction, the companies are in a position to concentrate their efforts on the adequate allocation of available resources (Mikkola, 2001). If directed by the company's project prioritization, innovation actions taken could prove to be highly beneficial in terms of gathering resources and competences from various sources, resulting in cooperation on inter-organizational level.

- Specific trading controls. Exclusively the industry interviewees mentioned this integration mechanism. The rationale is that it may affect mainly firms that have to abide by the rules of the market, industry, or region (Scotchmer, 2004). By respecting the same rules and working in similar environments, the Open Innovation actors are aware of all the conditions and circumstances surrounding them and their partners. This could positively affect the harmony they want to achieve in order to innovate.

- Compatible Technology Infrastructure. Nowadays all firms need a basic level of IT infrastructure in order have an ability to integrate their processes. The capability of a common technology infrastructure includes both the technical support and managerial expertise required to sustain and bring out the innovation from the net of combined efforts of all OI actors.

- Environmental exchange. Although there are significant similarities with the 'exchange of managers' practice that fits into the Socialization mechanism (OT-SOC), three interviewees provided us with sufficient arguments to identify this as a new mechanism. The logic behind this is that prolonged exchange of managers should be a type of environmental exchange as the more time managers spend on an exchange period the more they could influence the organizations. Therefore, prolonged stay and consequently environmental exchange within innovation projects may affect the quality and extent of integration achieved.

- Learning curve techniques. Mainly the scholars and the nexus agency mentioned this mechanism, possibly because of their organizations' nature related to knowledge accumulation and distribution. Better knowledge can give more fluidity to the process of integration because less time is needed for coordination of activities and as implied in the interviews, some mid-steps can even be disregarded.

A framework proposal for integration mechanisms in Open Innovation Projects

We followed the suggestion on focusing on an analysis level of OI often disregarded in studies (Vanhaverbeke & Cloodt, 2006), thus we chose the inter-organizational networks level. However, we believe it is important to draw some connections between the other levels of analysis and the new created categories of integration mechanisms. Therefore we propose a multi-organizational framework with wider applicability in the context of inter-organizational networks. By doing this we attempt to provide a structure that supports the application of the new mechanisms classification we identified in the university–industry projects into a more advanced range of innovation actors. Since only one integration mechanism (government incentives) showed a slight tendency to be more prominent in the university setting, we believe that all of them have a generic quality when it comes to their application in other contexts within OI networks. The framework shown in figure 4 illustrates how integration mechanisms could harmonize the different activities and projects of OI actors. These actors were considered based on the different types of collaborations and actors in literature and practice (De Backer & Cervantes, 2008; Neyer et al., 2009; Viskari et al., 2007). The arrows on the left side of the diagram represent the organizations and individuals' association capability as well as the interchangeability of networks involved. The five inner boxes represent the new categories of mechanisms, each one representing that

each mechanism does not overlap with the others. However, all the core categories are linked through the upper arrows to clarify their relationships and possible self-applicability; in this way, the mechanisms can be used all at the same time or independently. The dotted boxes behind the central diagram represent other types of mechanism classifications that could overlap in organizations. This means we acknowledge that the integration mechanisms proposed, in our case for OIPs, will probably overlap with other type of organizational mechanisms (Ouchi, 1978). This framework does not represent the process of how the mechanisms are used in a systematic way but rather it is a conceptualization of the idea of integration as a common grid for OIPs between different innovators. It also supports the notion that integration mechanisms used in OI have to enable interchangeability of networks involved and flexible integration infrastructure that can accommodate various potential participants (Fowles & Clark, 2005).

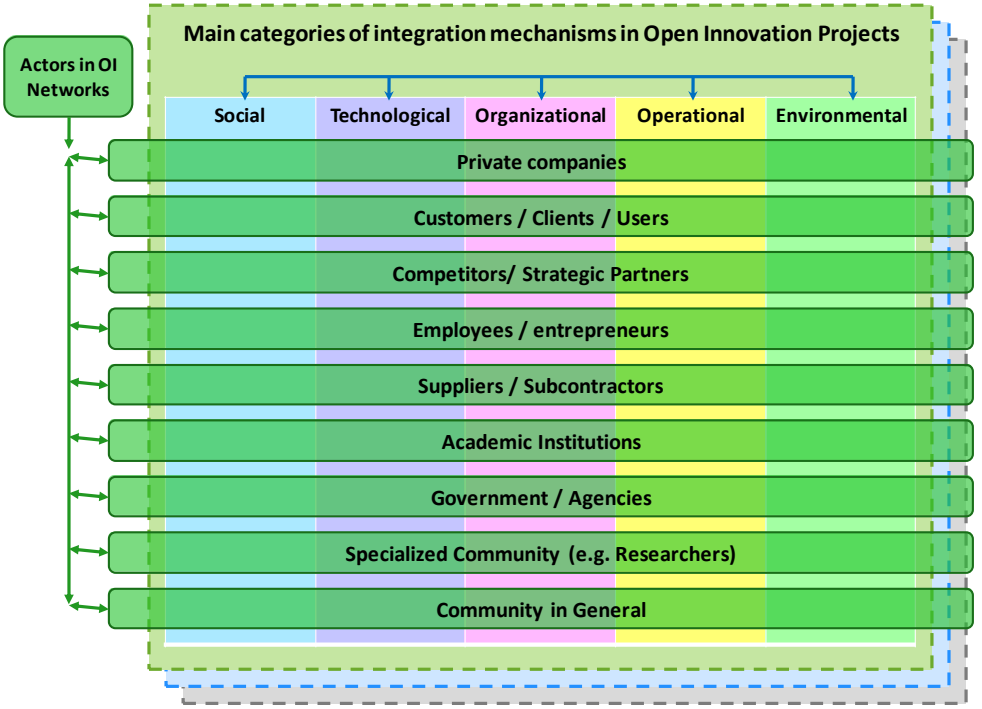

Fig. 4. Proposed conceptual framework with new categories of integration mechanisms and their relation with inter-organizational networks in Open Innovation Projects

Conclusions and future research

We will continue seeing an increasing number of companies trying to implement the concept of open innovation during the next years. Integration mechanisms, in our opinion, have a crucial role in these efforts. Unfortunately there are still not enough studies providing specific integration tools and mechanisms for this field. We believe that our findings helped responding the question of how integration is achieved in OIPs between inter-organizational networks of innovators, specifically in projects between

private companies and universities. This study contribute by: a) confirming an extensive list of integration mechanisms applied in OIPs, including six new mechanisms not found before in common integration theories; b) defining a set of five core categories of integration mechanisms; and c) proposing a skeleton where these categories are connected to form a conceptual framework that contributes in giving more information about integration in OI. We contribute to theory, as this research is one of the first attempts to study and map the integration mechanisms in OI with the support of empirical data. In practice, the idea of "one-size-fits-all" is not probable in OI, thus we provide practitioners with a guide to integration mechanisms, which they can cherry-pick from in order to integrate their OI activities.

Due to the scope of our research question, some relevant topics on the integration dynamics in OI were not studied. Therefore we believe opportunities for future research include: the effect of integration mechanisms on the success of OIPs, study cases of companies and networks struggling with OI to evaluate the mechanisms efficacy, confirming the mechanisms within other actors, industries, and countries, and the relation of the mechanisms with the stages of the OIP life cycle. We also acknowledge that our inventory of mechanisms could be incomplete, as we did not consider some elements such as the influence of the innovation culture of a country or organization, which may be subject to variability in different contexts. In general, although our proposed categories and framework need to be confirmed with more empirical studies, we think it is valid and useful as a map for understanding the means that make integration possible in OIPs and networks. We hope this will encourage other researchers to continue studying the integration dynamics to a greater extent and depth. Based on this study we conclude that in OI it is not sufficient to manage the integration of the innovation process like an individual function but it needs to be done as an integrated chain of processes supported by specific mechanisms.

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Improving the Quality of New Software Products: The Effect of Emotional Labor

Ayşe Günsel[a]

[a]*Kocaeli University, Umuttepe, Kocaeli 41380, Turkey*

Abstract
As both business and technological environments change at an increasing rate, consider emotions and emotional processes as an integral element of organizational life, rather than conceiving the workplace as merely a cold, rational machine. Even though previous research has examined the consequences of emotional labor in general in software development projects in particular; there remains a gap in literature in respect to the influences of emotional labor on software quality. Accordingly, in this paper we examine the relationships among emotional intelligence labor and software quality in terms of operational effectiveness, flexibility and responsiveness using survey data from 62 software development projects. The results reveal positive a relationship between the variety of emotions displayed during the projects, operational effectiveness and flexibility while emotional dissonance is negatively associated with flexibility and responsiveness. Managerial and theoretical implications of the study are discussed.

Keywords: Emotion; Emotional labor; Software Development; Emotional dissonance.

Introduction

In western societies, there has always been a tendency to disregard emotions as they are deemed irrational and dysfunctional and are incorporated in models as disturbing factors (Arvey et al. 1998; Ashforth and Humphrey, 1995; Muchinsky, 2000). Particularly western societies supported the concept that the ideal 'professional' is primarily rational and controls emotions. Emotions were thought to be inappropriate in organizations (Mumby and Putnam, 1992) as they are rather assumed to be the "expressive arenas of life, as opposed to the instrumental goal orientation of the business world" (Tran, 1998). However, today`s globalized and dynamic business environments, challenge organizations by increased competition and technological developments, exponential innovations and the acceleration of various discontinuous change processes, which in turn affect feelings and relate to emotional issues. In this vein researchers are beginning to consider emotions and emotional processes as an integral element of organizational life, rather than conceiving the workplace as merely a cold, rational machine (Fineman, 2000; Giardini and Frese, 2004; Schreyögg and Sydow, 2001; Küpers and Weibler, 2008).

Given this reality and significance, understanding organizations in the context of the 'real world' – with all the associated constraints, pressing needs and conflicts – requires studying the role of emotions and emotional dynamics, such as emotional labor, emotional intelligence or emotional capability, more systematically. Since the seminal studies of Hochschild (1983), the concept of "emotional labor" is given a great deal of attention in the organizational theory and behavior literature (Domagalski, 1999; Fineman, 1993, Akgun et al., 2009). Emotional labor refers to the effort required to create and maintain a desired

emotional demeanor (Hochschild, 1983); a core component of which is the regulation of emotions (James, 1989).

For organizations, departments and work groups, it is an imperative to promote such socially desired emotions that will help create and maintain effective, efficient and productive functioning in a sustainable way, as well as regulating and managing problematic emotions (Küpers and Weibler 2008). Emotional labor is of particular importance to new product development teams in general, software development teams in particular based on the fact that the key to improve software development process' productivity and software quality is to focus on human aspects instead of technical ones (Graziotin et al., 2014). The quality of the new software product cannot be viewed as the outcome of mere individual attempts; it requires collective actions and intensive teamwork to be successfully completed (Lin et al., 2011). Any single team member who works in isolation will be at a disadvantage compared to a team of individuals who can utilize the entirety of the team members' contributions (Qiu and Peschek, 2012). Here it should be underlined that, social interactions during the software development projects elicit many emotions (Reus and Liu, 2004). Thus a team's capacity to instill or control the emotions of people through organizational processes to achieve a desired end or to perform a particular task or value activity represent valuable 'resources' for team success (Akgün, et al.2010; Gunsel and Acikgoz 2013). In this vein emotions and emotional issues has started to receive attention in software development era. For instance Rutner et al. (2008), examined emotional dissonance of IT professionals and found that the dissonance has a strongest and consistent relationship with work exhaustion and job satisfaction. Akgün et al (2010) investigated the role of emotional capability within software development teams and provided empirical evidence in support of the relationship between emotional capability of software development teams and project outputs. Günsel and Acıkgöz (2013) provided new insight about the role of team flexibility and emotional intelligence on software project on new product development speed, market success and software functionality. Graziotin et al. (2014), emphasized the link between the affective states of the software developers and their ultimate performance.

While the role of emotions in causing, moderating or mediating events and interactions in software development projects (e.g., Rutner et al. 2008; Akgun et al.,2010; Gunsel and Acıkgöz 2013; Graziotin et al., 2014) have received a considerable attention in previous research, the empirical examinations of how emotions and emotional labor impact team interaction and effectiveness are scarce. Our present study aims to fill the research gap by theoretically and empirically examining the consequences of emotional labor within the context of software development teams. Specifically, we examine a key issue: (1) What is the relationship between emotional labor and the quality of new software product?

The remainder of the article is organized as follows. Section 2 provides a review of the related literature, thus establishing a clear theoretical ground and describes the hypotheses of the research, whilst section 3 presents the empirical results which test the validity of our hypotheses. In the section 4 the discussion of the findings is provided

Literature Review And Hypotheses

The following literature review is intended to provide a theoretical base for the role and importance of emotional labor or software development projects. As a challenging problem solving and decision making process, software development includes considerations related to customer requirements, time, competition, quality issues, and a vision of the future (Açıkgoz et al., 2014). Faced with the complexity of

software process (including discovery, development, testing and launch) organizations recognize the power of a project-based approach and implement project management applications (Hillson, 2004). Software development, as a specific product development area, is inherently a group process, which requires the concerted efforts of all team members (Qiu, et al., 2009). Even the software development projects involve both cognitive and technical dimensions; the success of such projects in terms of time, cost and quality, also seems to be closely related to emotional issues. Thus the review begins with an overview of the concept of emotional labor; furthermore the dimensions of emotional labor are discussed. This is followed by a hypothesis development part, providing more details and discussions about the link between emotional labor and software quality within the context of software development projects.

2.1.Emotional Labor

Since the seminal studies of Hochschild (1983) on the "emotional labor" and Fineman (1993) on the "emotions in organizations", the term "emotion," has attached a great deal of attention in the organizational theory and behavior literature (Domagalski, 1999; Fineman, 1993; Akgun et al., 2009). Emotions are related with those "feelings" (Akgün et al., 2009) that comprise an immediate, automatic, and sometimes uncontrollable effect on human behavior and performance (Ostell, 1996). Emotions are also conceptualised as an organized response system that transforms physiological, perceptual, experiential, and cognitive changes into sound experiences of moods and feelings (Mayer et al., 2000). No doubt emotions are common to all human beings in any time and place including the work; from moment of frustration or joy, grief of fear, to an enduring sense of dissatisfaction or commitment, the experience of work is saturated with feeling (Petrides and Furnham, 2003) In this vein, students of organization theory and behavior emphasize that emotions are part of the organizational life and permeate the workplace, as the organizations are composed of the people, and people have emotions (see, Ashforth and Humphrey, 1995; Domagalski, 1999).

The term "emotional labor", as the sum of efforts required to create and maintain a desired emotional demeanor, is first coined by Hochschild (1979, 1983). Hochschild claims that service agents carry out emotional labor when they express socially desired emotions as part of their job role. The most familiar example to emotional labor is "service with a smile" throughout which waiters and other service workers act welcoming and friendly toward customers and clients (Pugh, 2001). There are three main conceptualizations of emotional labor in OB literature, Each of them assuming that emotions are being managed at work in order to meet the display rules stated by the organization and suggest either individual or organizational outcomes of emotional labor (Grandey, 2000). First, Hochschild (1983) claims the term *emotional labor* refer to "the management of feeling to create a publicly observable facial and bodily display" (p. 7). Hochschild's work takes its roots from the dramaturgical perspective of customer interactions.

Following Hochschild, Ashforth and Humphrey (1993) put forward a definition of emotional labor as the act of displaying appropriate emotions, with the goal to engage in a form of impression management for the organization. While Hochschild states that "organizations developed feeling rules that specified the emotions that employees should feel; Ashforth and Humphrey (1993) insists on calling these organizational rules as "display rules" due to their link to observable behaviors (emotional expressions) rather than to unseen internal feelings. Ashforth and Humphrey (1993) and other scholars who used the term "display rules" recognize that, employees need to shape their internal emotional status appropriately to display appropriate emotions. In a sense, in contrast with Hochschild's (1983) perspective, this new definition was more concerned with emotional labor as an observable behavior than as a management of

feelings, emphasizing the relationship between these observable expressions and task effectiveness or performance (Grandey, 2000).

Finally Morris and Feldman (1996), based on an interactionist approach, conceptualize emotional labor as "the effort, planning, and control needed to express organizationally desired emotion during interpersonal transactions" (p. 987). These authors consider emotional labor to be composed of four main dimensions: (a) frequency of interactions, (b) attentiveness (intensity of emotions, duration of interaction), (c) variety of emotions required, and (d) emotional dissonance. Emotional dissonance was formerly underlined by Hochschild (1983) as a state wherein the emotions expressed are discrepant from the emotions felt. Surface and deep acting, addressed both by Hochschild (1983) and Ashforth and Humphrey (1993), are regarded as a sub component within the dimension of attentiveness. Emotional dissonance, which refers to a the conflict between norms of emotional display and an employee's felt emotion is considered to have negative outcomes such as job dissatisfaction and emotional exhaustion.

2.2. Emotional Labor and Software Quality

The term "quality" refers to degree of how well any product satisfies its customers' requirements (Nidumolu 1995). The ISO/IEC 9126-1 standards (2001) underlines the key quality factors for software products: functionality (the capability to provide functions which meet stated and implied needs), reliability (the capability to maintain its level of performance under stated conditions), usability (the capability to be understood, learned, and used by users), efficiency (the capability to provide appropriate performance relative to the amount of resources used), maintainability (the capability to be modified through corrections, improvements, and adaptations), and portability (the capability to be transferred from one platform to another). In parallel to this, Acıkgoz et al (2013) recategorised software quality into three factors as follows: (i) operational efficiency (functionality and efficiency), (ii) flexibility (maintainability and portability), and (iii) responsiveness (reliability and usability).

The software development process is related to customer requirements, time pressure, and quality issues. In this direction, it is crucial to understand what is necessary to produce high quality software products successfully -within a given time frame and budget- in order to meet customer requirements (Akgün et al. 2010; Günsel and Açıkgöz 2013). Human aspects – individual team members and their interactions over processes and tools- play an important role in the execution of software development process and the quality of resulting products (Colomo-Palacios et al., 2010; Graziotin et al., 2014). Software development as a knowledge intensive work group activity is closely dependent upon how team members work together toward a common goal (Qiu and Peschek, 2012). Especially, the literature indicates that the success of software projects depends on the interaction of knowledge and skills, which essentially a process that requires cross functional integration and intense social interactions among team members (Nicholson and Sahay, 2004; Hoegl and Parboteeah, 2007). In other words the members and the interactions among them on the project are good enough, they can use almost any process and accomplish their assignment and produce new software products of quality; otherwise no process will repair their inadequacy (Highsmith and Cockburn, 2001). Thus it is crucial to examine the human aspects that lies beneath the positive environment and effective social relationships that are necessary to produce high quality software products successfully (Akgün et al. 2007; Günsel and Açıkgöz 2013).

Hostess and sales clerks are expected to be cheerful, police officers are expected to be authoritative, while the nurses to be compassionate. Even though no one has studied display rules and emotional labor in

software development context yet as to our knowledge, one can infer emotional display expectations from the very nature of the software development projects. For example, as team members, software developers need to show concern for their team mates within a cross functionally composed team, rather than just technical, functions. Technically focused members who convey an attitude of indifference toward software product members from different backgrounds with differing talents such as artists, designers (Markus and Benjamin 1996). While systems development often involves conflict (Barki and Hartwick 2001), software developers may feel they should not display anger when conflict arises. IT professionals and project leaders may be expected to display neutrality when making work assignments or sternness when dealing with underperforming subordinates. These examples illustrate just a few possible software display rule expectations (Rutner et al., 2008). Accordingly we expect the members of software development teams to perform emotional labor to produce high quality software products successfully – within a given time frame and budget – in order to meet customer requirements. Particularly when the members more frequently interact with each other (e.g. frequency of interactions), discuss their ideas and different perspectives to come to a common ground, in a positive manner, (b) attentiveness (intensity of emotions, duration of interaction), (c) show their feeling without a fear of reprisal (e.g. variety of emotions); they easily communicate and collaborate. As a result, software development teams, composed of members that perform emotional labor, can easily go beyond the uncertainties about customer expectations, business needs, and environmental changes. In this vein, we argue that a) frequency of interaction, b) attentiveness, c) variety of emotions within in a software development team can positively contribute to developing superior software products in order to meet stated and implied needs, adapt to instable business and environmental needs, and generate user-friendly products. Accordingly;

H1: Emotional labor: frequency of interaction, is positively related to software quality in terms of 1a) operational efficiency, 1b) flexibility, and 1c) responsiveness.
H2: Emotional labor: attentiveness is positively related to software quality in terms of 2a) operational efficiency, 2b) flexibility, and 2c) responsiveness.
H3: Emotional labor: variety of emotions is positively related to software quality in terms of 3a) operational efficiency, 3b) flexibility, and 3c) responsiveness.

However, emotional dissonance - the conflict between norms of emotional display and members felt emotion- seems to differ than the other dimensions of the emotional labor. No doubt software development is a complicated process that involves convergence of the ideas and thoughts of different members–technical ones and artistic ones- from different backgrounds and specialization areas in a collaborative manner. Members, may need to suppress the display of anger or irritation due to the professional requirements, may feel lonely and marginalized from the team. Any marginalized – or at least feels to be so- single team member who works in isolation will be at a disadvantage compared to a team of individuals who can utilize the entirety of the team members' contributions (Qiu and Peschek 2012). Thus, the imposition of team related requirements upon personal expressions may create negative reactions in team members which ultimately may harness the cross functional integration and team collaboration. Indeed the previous studies abound of evidence for the negative outcomes of emotional dissonance. For instance Morris and Feldman (1997) discover that emotional dissonance relates positively to work exhaustion and negatively to job satisfaction; whereas they find other emotional labor dimensions (e.g., inter action frequency and duration) do not. Likewise, Lewig and Dollard (2003) come to the conclusion emotional dissonance predicts exhaustion and satisfaction, while other dimensions do not. Even Dijk and Brown, (2006) claim that conflicting empirical findings in studies assessing the relationship between emotional labor and negative job outcomes are partly due to the lack of clarity regarding the conceptualization and measurement of emotional dissonance. Accordingly:

H4: Emotional labor: emotional dissonance is negatively related to software quality in terms of 4a) operational efficiency, 4b) flexibility, and 4c) responsiveness.

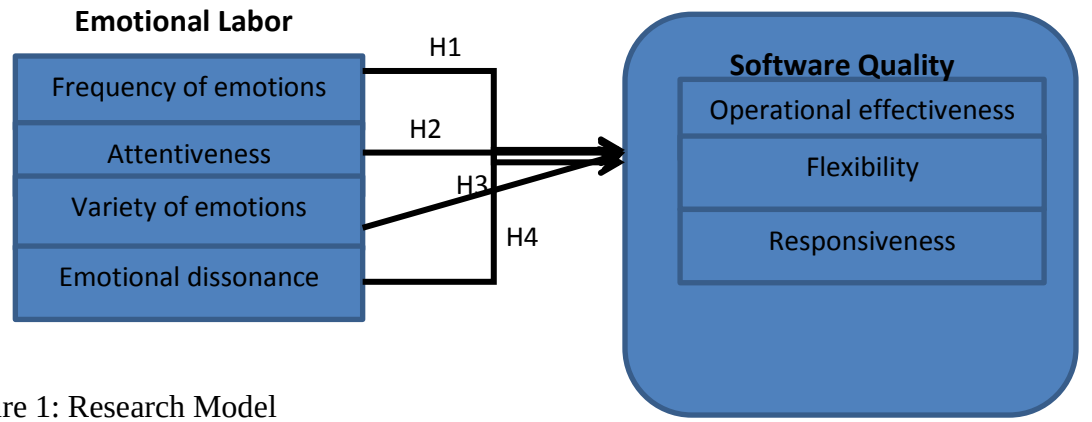

Figure 1: Research Model

3. Methodology

3.1.Measures and Sample

To test the above hypotheses, multi-item scales adopted from prior studies for the measurement of constructs were used. Each construct was measured using 5-point Likert scales ranging from "strongly disagree" (1) to "strongly agree" (5). However, project team size, as a control variable, question was assessed with ratio scale. For emotional labor as a four dimensional construct, we modified the emotional labor scale from the study of Morris and Feldman (1996) to team setting. Regarding the software quality in terms of operational effectiveness, flexibility and responsiveness, we adopted Açıkgöz et al`s (2013) software quality scale who derived these items from Nidumolu (1995).

The initial sample was obtained from 99 firms, which were either directly operating in the software development industry or had a software development department, based on records supplied by the Istanbul Chamber of Commerce. Initially, the managers of these firms were contacted by telephone so that we could explain the aim of our study. Specifically, the respondents were informed that they should be the software engineers/developers who were the most knowledgeable about their software development projects. Of the 99 firms contacted 52 agreed to participate in this study out of which 37 firms completed our questionnaire (for a response rate of 71%). A total of 62 questionnaires were returned (several firms participated in our study with more than one respondent but each respondent were asked to evaluate one unique project). In terms of organizational sampling distribution, 78% of the

projects were from information and communication technology organizations, 14% of them were from business service organizations, and 8% of the projects were related to financial service organizations.

3.2. Measurement Validation

We used the partial least squares (PLSsmart 2.0) approach to path modeling to estimate the measurement and structural parameters in our structural equation model (SEM). We evaluated reliability by means of composite scale reliability (CR) and average variance extracted (AVE). For all measures except frequency of interaction dimension of emotional labour, PLS-based CR is well above the cut-off value of .70, and AVE exceeds the .50 cut-off value. In addition, we evaluated convergent validity by inspecting the standardized loadings of the measures on their respective constructs and found that all measures again except frequency of interaction exhibit standardized loadings that exceed .60. In order to understand why this construct -frequency of interaction- doesnt`t represent statistically significant results; one may look beyond the nature of the software development teams. Unlike new product development, the development of software often involves a variety of team members who work at different times and in different places and have high levels of individual sovereignty. As a result, interactions may not come to pass as we experience in traditional organizations or teams. For instance software developers may be communicating largely through emails and they access the software product at the time being developed and take over their role or share data in dramatically easier ways through a cloud system. In this vein, we dropped this dimension –fully rejecting H1- and reconfigured the research model (figure 2).

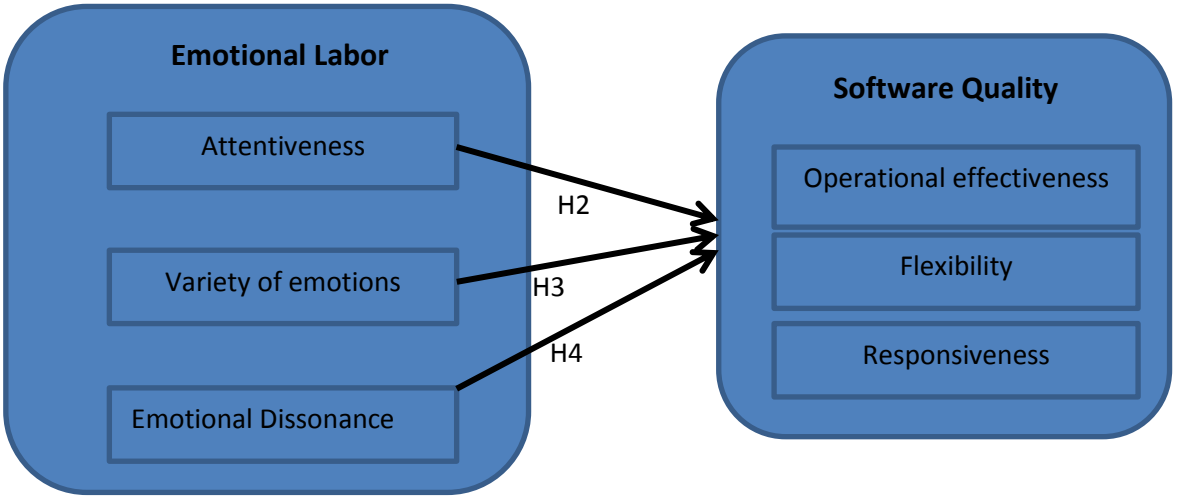

Figure 2. Reconfigured research model

We next assessed the discriminant validity of the measures. As suggested by Fornell and Larcker (1981), the AVE for each construct was greater than the squared latent factor correlations between pairs of constructs for the new model (see, Table 1).

Table 1. CR, AVE and correlations

	C.R.	AVE	1	2	3	4	5	6	7
Frequency	.51	.49							
Attentiveness	.94	.72	.64**						
Variety	.72	.60	.71**	.70**					
Dissonance	.96	.87	-.54**	-.62**	-.54**				
Op. effectiveness	.97	.89	.44**	.28	.45**	-.31*			
Flexibility	.97	.89	.46**	.55**	.52**	-.57**	.65**		
Responsiveness	.97	.89	.45*	.54**	.43**	-.54*	.69**	.65**	

$^{*}p < .05$, $^{**}p < .01$

3.3. Hypothesis Testing

We used PLS path modeling which allows for explicit estimation of latent variable (LV) scores, to estimate the main effects in our model (see Figure 2). We used PLSsmart 2.0and Bootstrapping resampling method to test their statistical significance. This procedure entailed generating 500 sub-samples of cases randomly selected, with replacement, from the original data. Path coefficients were then generated for each randomly selected subsample. *T*-statistics were calculated for all coefficients, based on their stability across the subsamples, indicating which links were statistically significant.

As shown in Table 3, the results illustrate that our hypotheses –in the revised model- are largely confirmed. We found that variety of emotions is positively associated with operational efficiency and (β = . , $p < .01$) and flexibility (β = .xx, $p < .01$, largely supporting H3. Next, our results demonstrated that –as we expected- emotional dissonance is negatively associated with flexibility (β = . , $p < .01$) and responsiveness (β = . , $p < .1$), largely supporting H4. Further, interestingly we could not found any statistical association between attentiveness and any dimensions of software quality, not supporting H2.

Finally, the model presented in figure 2 -three dimensional emotional labor construct- explain 22% of variance ($R^2 = .22$) in operational effectiveness, 40% of flexibility ($R^2 = .40$), and 30% of responsiveness ($R^2 = .30$) in quality of new software products.

Table 2: Path analyses (SEM)

Path	β	
Attentiveness→Op. efficiency	-.18	
Attentiveness→Flexibility	.12	H1 not supported
Attentiveness→Responsiveness	.16	
Variety of emo.→Op. efficiency	.48***	
Variety of emo.→Flexibility	.26***	H2 partly supported
Variety of emo.→Responsiveness	.15	
Emotional dis.→Op. efficiency	-.19	

Emotional dis.→Flexibility	-.35***	
Emotional dis.→Responsiveness	-.32*	H3 partly supported

Indigenous Construct	**R^2**
Operational efficiency	.22
Flexibility	.40
Responsiveness	.30

*$p < .1$, **$p < .05$, ***$p < .01$

4. Conclusion

In this study, we tried to offer a contribution to project management literature by presenting a model for researchers and managers and project leaders to understand potential interrelationships among emotional labor and the software quality. The results of this paper reveal several findings that have important implications for both research and practice.

First, we started our way through a four dimensional emotional labor construct, composed of frequency of interaction, attentiveness, variety of emotions displayed and emotional dissonance, as Morris and Feldman (1997) suggested. However our findings showed that frequency of interaction scale, which is mainly developed and used for organizational settings were not proper for software development context. This inconsistency may be attributed to the very nature of the software development projects whose members may work in widely different locations, such as America and India, and time zones unlike traditional organizational and team settings, emphasizing a virtual work environment. Thus we reconstructed our model with a three dimensional emotional labor construct composed of attentiveness, variety of emotions displayed and emotional dissonance.

Second, we empirically demonstrated the role of attentiveness –the first dimension of emotional labor- on software quality. Interestingly the findings showed no significant association between attentiveness and any facet of software quality. Attentiveness refers to the intensity and duration of the social interaction among the members. As pointed out before, software development projects highlights a specific type of team work involving members with high levels of autonomy, working at different time zones and in different places. The intensity and extent of mutual emotional interactions may not be so significant for this very nature of software development projects. Another explanation for this unsupported relationship is that attentiveness may be more likely to influence the quality of new software product via other emotional labor dynamics due to the high correlation between them. For instance one dynamic may be triggering the other.

Third, we examined the effects of the variety of the emotions on software quality. The findings revealed strong relationships between the variety of emotions displayed within a software project and the operational efficiency and flexibility. This suggests that when the team members perform greater effort to exhibit and orient their surface and deeper feelings to create and maintain a desired goal without the fear of reprisal; in this more collaborative and interactive team environment they can produce new software products that meets or extends the expectations towards functionality, efficiency, maintainability and portability.

Finally we searched for the consequences of emotional dissonance – the final dimension of emotional labor- on software quality. The findings showed that emotional dissonance was negatively associated with the flexibility and responsiveness within software development projects. When the members embrace a conflict between the team norms of emotional display, emotional expectations and their real feelings and emotions, they turn in upon themselves. Dissocialised members are less likely to collaborate and make contribution to team goals. So such software development teams will be at a disadvantage compared to a team of members who can utilize the entirety of the team members' contributions. Therefore, they may fail to meet the quality expectations towards maintainability, portability, reliability and usability

The findings of this study cannot be taken as definite evidence because several limitations to the study results deserve commentary. First, the sample size was relatively small (n = 62), and the research used data obtained from a single informant for a given project. However, since Turkey is a developing country with an immature software industry, it was challenging to gain access to software development teams. Therefore, readers should be cautious in generalizing the results; a larger sample may provide a better representation of the population of software development teams.

Although we found no evidence of significant common method bias, use of multiple informants from the same project could have further triangulated the results and increased the reliability and validity of informant reports. While the use of a small number of software development teams would make it easier to obtain data from multiple respondents, field studies of an immature software industry with a small number of teams make it difficult to collect data from multiple informants. Therefore, we rejected the idea of soliciting multiple informants because of the risk of substantially decreasing response rate.

The generalizability of the sample is another limitation of this study. The study was conducted in a specific national context, Turkey, so readers should be cautious in generalizing the results to different cultural contexts.

Despite these limitations, this study provides important implications from theoretical and practical perspectives. This study indicates that emotional variety displayed during the project has direct and positive influences operational efficiency and flexibility of the new software product. In addition, emotional dissonance is found to be negatively related flexibility and responsiveness facets of the software quality.

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The Relationship between Emotional Intelligence of Managers, Innovative Corporate Culture and Employee Performance

Erkut Altındağ[a] ,Yeliz Kösedağı[a]

[a,b] *Beykent University, İstanbul, Turkey*

Abstract

The main aim of this study is to emphasize the importance of constructing an innovative institution culture within the company and having managers with high level of emotional intelligence for institutions. By doing this, the study aims to study the effects of these factors on employees. With the study conducted, the effects of an innovative culture institution and working with emotionally intelligent managers on the performance of the employees are analyzed. A 41-item survey is given to the employees. 305 of the surveys in total have been assessed. Their validity and reliability have been checked via SPSS 17, and then the results have been evaluated by using the methods of factor analysis, correlation analysis and regression analysis. As a result, it has been determined that there is a meaningful relationship among emotional intelligence, innovative institution culture and the performance of the employees. Thus, it can be stated that it is necessary for a company to create an innovative institution culture and to have managers who have high level of emotional intelligence in order to increase the employees' performance at work.

Key Words: Emotional Intelligence, Innovative Corporate Culture, Employee Performance

Introduction

As companies continue to survive in today's competitive business world, it is required that they have the qualified managers and employees, and they try to keep these employees in the company. Also, raising the success of a qualified manager to the next level depends on the emotional abilities in addition to the cognitive intelligence. In addition to emotional intelligence, it is also important that companies open to the innovations, and develop their products and services, as they compete with other firms in the market. For this, managers with higher emotional intelligence should create innovative corporate culture approach in the company, and ensure that all employees adopt this approach. As people become successful and happy in their private and professional lives, being seen that cognitive intelligence is not enough itself has caused an increase of importance of the emotional intelligence concept. Besides, today, as companies can maintain their existence, and be competitive with other companies, they should be open to innovation. It can be by embracing and supporting the innovations by the employees. At this point, it is great important that firms build the innovative corporate culture. The main purpose of this study is to

research if the emotional intelligence of managers and innovative corporate culture has a performance impact on employees.

Literature Review And Hypotheses

2.1. Emotional Intelligence

As the concept of the emotional intelligence can be understood, first of all, it is necessary to examine the concept of intelligence and emotion. First use of the concept of intelligence has gone back to Aristotle. The first classification related to the intelligence was done by Thorndike in 1920. Thorndike examined the intelligence in three dimensions in his work named "Permanent Mistakes in Psychological Evaluation". These are social intelligence, abstract intelligence and mechanical intelligence. Social intelligence is a dimension of intelligence which is associated that human being adapts to the social life. It includes the ability to understand and manage people. The abstract intelligence is a dimension of intelligence which is associated with concepts and principles and, which enables these concepts to be used in solving problems. Abilities and behaviors related to use of tools and objects describe the mechanical intelligence. (Yaşlıoglu and others 2013, 193).

- According to Sternberg, the intelligence is mental abilities that are necessary to select the environment, to form it and to comply with it. According to this definition, the intelligence is not only reactive, but also proactive. In addition to the individual adaptation, it is important to select and form the environment. Many people with creative and practical intelligence are people who are capable of lasting effects on those around, and change the environment for both themselves and other people (Sirem 2009,4).
- The word of Emotion is derived from the latin word “motere”. Meaning is to move. When “-e” prefix is added to this word, it means to move away. It refers each emotion turns to a movement (Goleman 2013, 32).
- According to Mayer and Salovey who revealed the emotional intelligence first (1990), the emotion is “adaptive organized responses based on physiological, cognitive and motivation, including experiential psychological system” (Çakar and Arbak 2004, 27). According to Daniel Goleman, the emotion is also “the tendency of a feeling and certain specific thoughts of this feeling, and psychological and biological states, and a series of movements” (Goleman 2013, 373).
- According to Konrad and Hendl, emotions are “aspirational, but they act with cognitive functions, because they are not independent dimensions"(Konrad and Hendl 2001, 22). Feldman described the emotion as factors having both physiological and cognitive bases and, affecting the behavior. Also Sherer collected the most important functions of emotions in three main groups; to prepare individual to activate, to shape the future behaviors, and to assist the organization of social relations (Çakar and Arbak 2004, 27).
- Firstly, the emotional intelligence was defined by Dr. Peter Salovey from Yale University and Dr. John D. Mayer from New Hampshire University in 1990. According to these authors, the emotional intelligence has emerged as understanding of one’s own and others' feelings, emotions, the feature of control, and the emotional reasoning ability. According to Salovey and Mayer, there are three dimensions of emotional intelligence: Evaluation Emotion Evaluation, Emotion Regulation, and Ability to Use the Emotions as Intelligence (Gürbüz and Yüksel 2008, 176). Concept of emotional intelligence has been used to describe the emotional attributes such as " empathizing, expression andcomprehension of emotions, contolling temperament, ability to adapt, admiration, solving interpersonal problems, persistence, compassion, and respect” (Yesilyaprak 2001,140).

- According to Cooper and Sawaf, the emotional intelligence is the ability to use, feel and understand effectively the power and quick perception of emotions, human energy information and their relationships as a source of its influence (Cooper and Sawaf 1997, 12). In 1997, Reuven Baron, who created the first emotional intelligence test, " Bar-on Emotional Intelligence Questionnaire", described the emotional intelligence as the ability to understand oneself and others, to establish the relationship with people, to adapt the sudden events that occurred, to overcome problems, and to be more successful against the environmental demands (Shelly and Brown 2004, 10). Baron has examined the emotional intelligence in five sections as personal, interpersonal, adaptability, stress management and general mood. Also these five sections are divided into sub-dimensions in its own. (Sahin and others 2009, 246). These sub-dimensions, and abilities forming them are presented in table 1:

Table 1.Emotional Intelligence Dimensions and Sub- Dimensions in Bar-on Model

Dimensions	**Sub-Dimensions**
Personal Awareness	Independence, Self-Realization, Stability, Self-Esteem, Emotional Sense of Self
Interpersonal Relations	Social Responsibility, Interpersonal Relations, Empathy
Adaptation of Terms and Environment	Flexibility, Realism, Problem Solving
Stress Management	Stress Tolerance, Impulse Control
General Mood	Happiness, Optimism

Reference: Mumcuoglu, Ö. (2002). Turkish Language Equivalency, Reliability and Validity Study of Bar-on Emotional Intelligence Test. Unpublished Master Thesis, Marmara University, Institute of Education Sciences. Istanbul.

Salovey and Mayer has defined that the emotional intelligence is a type of social intelligence, and is an ability to feel others' feelings and emotions, to inspect, to separate them from each other and use these information as a guide in thoughts and behaviors (Jordan and others 2001, 195). According to another definition, the emotional intelligence includes sensory abilities such as telling emotions with the correct expression, ability to integrate emotions to cognitive processes, ability to understand emotions and their effects on a variety of situations. (Law and others 2004, 485). Moreover, the ability to perceive emotions is important, because an individual can fully and accurately perceive and interpret its own emotions, it can be better prepared when reacting to the situations, which there are emotional interactions (Akın 2010, 24).

2.2. Innovative Corporate Culture

Innovation is derived from "in" and "novus" and "in-novatus" words that meaning is renewal, making new, and changing. According to the Turkish Language Society Dictionary, it means "*1. a situation that is new or a feature that something is new. 2. changing the things considered obsolete, harmful or insufficient to new, useful and sufficient ones, regeneration, 3. Innovation.* Innovation has also defined as the development of more advanced, higher quality, more functional new products, production processes, organization, and management practices by starting from existing knowledge (Turkish Language Society 2014).

According to Professor Joseph Schumpeter, who taught at Harvard University, in simplest terms, the innovation has defined as establishing a new production function. Innovation includes activities of creation a new organization in industry, such as the inventing a new product, the developing a new production method, establishing a new market, creating new resources for supply of raw materials, and creating monopolies (Schumpeter 1939, 84).

Certo has defined the innovation as *"use and development of new techniques and new methods in working conditions in the production of goods and services*" (Certo 2005, 519). According to Jones, innovation is described as the development new product in both service and business industries and, making new developments in production and business systems (Jones 2001, 404). Drucker has described the innovation as "*useful information allowing different information and abilities of employees convert efficiently*". Innovation is one of the tools of entrepreneurship. Also, innovation is a science that can be improved by learning and practicing (Sarıçay 2012, 17). Moreover, there are authors, who describing the innovation as product innovation (Griffin and Page 1996, 481).

Radical innovation is generally a kind of innovation that is performed by scientists, is a very high need for new information, and describes the new one for the world or institution. They occur at the end of the lasting studies, and a high-cost process. As they have been brought to life in line with scientific advances rather than the market needs, the most important feature is the high risk of failure. In addition, as radical innovation would create a new market, there are risks which market analysis is not allowed to be done, and the market occurring may be too small to meet the innovation investment, or they do not adequately adapt the innovation (Christensen, 1997, 276). However, power of organizations that can create new product, a new industry and a new market, maintain their economic sustainability and give direction to economy poses a major competitive advantage. Radical innovations also become the starting point of incremental innovations (Coşkunkurt 2013, 45).

Barker has defined an innovative culture as "*a rich mix of expertise and experience that will bring to new ideas, processes and products by opening the window of the mind*" (Barker 2011, 72).

Some causes such as the process requirements, incompatibilities, unexpected developments, changes in the industry and market, demographic changes, changes in perception, new information arising inside or outside the organization have forced the organization to make innovation (Drucker 1985, 30). Innovative corporate culture achieves competitive advantage by responding quickly changes, as it is prepared for changes (Jaskyte and Dressler 2005, 8).

There are different kinds of classifications of innovation types as well as various definitions of the concept of innovation. Thusman and Nadler (1986) divided the innovation into two basic categories as product and process innovations. Zaltman (1973) mentioned three types of innovation as programmable innovations, final and helpful innovations and radical innovations. Damanpour has been made triple classification as managerial and technical innovations, radical and slow-paced innovations and product-process innovations in the light of the work done for innovation. According to the literature, it seems that the most common classification type is a product, process, radical, and progressive innovations (Sarıçay 2012, 20).

According to Ping Ling, the corporate culture is that the beliefs, values, thoughts and emotions are adopted, shared by employees, and included in common perception area. It is the whole range of values and the philosophy, which its existence is felt by employees, makes the existence of company meaningful, and unites all employees under the same umbrella (Kapucu 2012, 29).

Corporate culture can be defined as a whole of the basic thinking methods, values and norms affecting behaviors and actions of everyone in the company. As important variables that determine the corporate culture, it may be taken into account the personal profiles of entrepreneurs and managers, management style, communication style used in organization, willingness of entrepreneurs and managers for transfer of power, opportunities granted to lower managers for innovating (Tokmak 2008, 96).

Corporate Culture is located in the heart of innovation. Corporate Culture affects the corporate processes such as communication, problem solving, decision-making in the organization, and behavioral processes such as learning and motivation. The elements of corporate culture are strategic vision and mission, customer focus, the importance of achieving the objectives, management processes, needs and goals of employees, relations between employees, and leadership. Organizational culture elements of them affecting the innovation are shown in table 2 (Tokmak 2008, 97):

Table 2. Organizational Culture Elements and Applications Affecting Innovation

Organizational Culture Factors Affecting Innovation				
Strategy	**Structure**	**Support Mechanisms**	**Applications Promoting Innovation**	**Communication**
* Business vision, mission and goals which innovation is emphasised	*Flexibility - Freedom for Employees -Autonomy - Enpowerment * Participation in Decision *Cross- functional teams and interaction environment between groups	* Reward system encouraging innovation * Support of sources - Time - Information Technologies - Creative Employees	* Welcome occurrence of errors *Promoting the wealth of ideas * Learning culture having continuity * Encouraging risk-taking * Competitiveness * Support of changing * Support of conflict	* Establishment and support of versatile, formal/informal communication channels for open communication

Reference: Tokmak, İ. (2008), **Effect of Strategic Human Resource Management on Innovation Ability and A Study on Electronic Industry,** PhD Thesis, Sakarya University, Institute of Social Sciences, Sakarya

2.3. Employee Performance

Performance can be described as an effective effort performed for reaching a goal, or a success of fulfilling a job effectively, of execution and completion. Performance is a quantitative and qualitative expression, where the person, group or business doing the work can reach for intended destination related to this work (Baş and Artar 1990, 13). Performance is a concept describing how a person can use its own potential or real knowledge, skills and abilities in order to able to reach its own goals or expectations. It is the percentage of using the capacity of people in order to complete a work successfully in a certain period of time (Yıldız and others 2008, 240).

- Performance evaluation is a formal management system which businesses have created in order to evaluate the performance quality of employees (Grote 2002, 1).
- Performance evaluations are activities made for measuring what extent employees do their jobs (Mathis and Jackson 1991, 288).

The purpose of performance evaluation is to improve the performance of employee, and to give administrative decisions such as wages, promotion, and dismissal, according to the results of performance evaluation. In order to improve the performance of employee, first of all, it is necessary to recognize staff, to distinguish between successful and unsuccessful staff (Pınar 2012, 26).

In addition to this purposes, to provide feedback to employees related to their performance, to discuss dismissal or their downsizing strategies, to create and determine goals, to determine the purposes of business and the development needs, to improve the performance of whole businesses, to provide guidance to insufficient employees are also among the purposes of performance evaluation (Grote 2001, 5).

- It helps to identify themselves and remedy their deficiencies.
- Employees learn the expectations in the framework of job descriptions of their boss.
- It can be ensured that employees see their business successes so that they achieve the job satisfaction.
- The results of performance evaluation prepare person to make new breakthroughs and new quests.

In this study, the Following Hypothesis will be evaluated:

H_1.Emotional intelligence has a direct and positive impact on employee performance.
H_2. Innovative corporate culture has a direct and positive impact on employee performance.

Methodology

The purpose, scope and limits of study, methods used throughout the study, the data obtained from study, and the evaluation of them, reliability analysis of study scale, factor analysis, correlation and regression analysis are discussed individually in this section. In this thesis study, by means of questionnaires applied to employees of the company, it has been measured if emotional intelligence and innovative corporate culture have an impact on the performance of employee. Questionnaires were made for employees of company via e-mail and the internet. Method of questionnaire was used as a method of data collection during the study. A total of 305 questionnaires were evaluated. Questionnaire forms were prepared and applied in responding to questionnaire, according to 7 point Likert scale. Options related to evaluation of the responses in the questionnaire are as follows: (1) Completely disagree, (2) Mostly disagree, (3) Partially disagree, (4) Neither agree, nor disagree, (5) Partially agree, (6) Mostly agree, (7) Completely agree, are represented. It has been thought that 7 point Likert scale would give more reliable results compared to 5 point and 10 point Likert scale.

Table 3. Variables and Number of Questions

Variables	Number of Questions
Emotional Intelligence	14
Innovative Corporate Culture	10
Employee Performance	12
Total Number of Questions	36

Variables and number of questions used in the study are shown in table 3. In the section related to the emotional intelligence, it was utilized from the models of MSCEIT, EQ-I and ECI (Demir 2009, 140). For the innovative corporate culture, it has been benefited from Altındag's doctoral thesis (Altındag 2011, 88). Also, it has been benefited from Gürkanlar's master's thesis for the Employee Performance section (Gürkanlar 2010, 110). In addition to the said questions, there are questions containing demographic information about managers in the questionnaire. Information about business and people who filling out the form were obtained with these specially prepared questions. There are nine demographic questions in the questionnaire in total. However, the total number of questions has become 45 within the scope of the questionnaire. The required information for the study has also collected from other provinces, mostly in Istanbul by applying questionnaire method via e-mail and internet. With the questionnaire conducted, it was tried to measure the emotional intelligence of managers and innovative corporate culture's effects on the performance of the employee.

Although the scales used in the research model have been taken from previous scientific studies, reliability analysis of scale has an important place within the scope of our study. Reliability is stable result resulting from repeating the measurement.

Table 4. Reliability Analysis of Variables

Cronbach Alpha (α) Values	Number of Variables
,929	36

For the purpose of testing the reliability of all study scale, firstly Cronbach Alfa value of the variables replaced in the scale was examined. As shown in Table 4, alpha coefficient in the overall reliability analysis including the variables of all factors are determined as 0,929. This number is well above the 0,700 that is the threshold. This result shows that the questions of questionnaire are clearly understood by employees and it has internal consistency (Nakip 2013). Nevertheless, each factor has been included in this analysis in its own in order to go to the exploratory factor analysis that will be the next level in statistical analysis without leaving any room for doubt.

Table 5. Reliability Analysis of Variables

Variables	Number of Questions	Croanbach Alfa (α) Values
Emotional Intelligence	14	,861
Innovative Corporate Culture	9	,864
Employee Performance	11	,936

Emotional intelligence factor is divided into three sub-factors in itself. KMO values are also ranged from 0,935 to 0, 864. As seen in the table 4.14, this value is a ratio that is almost perfect.

Table 6. Kaiser-Meyer-Olkin Validity Values

Criteria	Description
$1.00 \leq KMO \leq 0.90$	Perfect
$0.90 \leq KMO \leq 0.80$	Good
$0.80 \leq KMO \leq 0.70$	Medium
$0.70 \leq KMO \leq 0.60$	Low
$0.60 \leq KMO \leq \ldots..$	Poor

Finally, all variables belonging to the performance of the employee that is dependent variable of the study are grouped under a single factor. KMO value of the employee performance factor has been determined as 0,935. Point to be considered is that first-numbered question has been removed from the analysis in this structure occurring as one factor, as only first-numbered question remain alone with a factor with high load. The reason is the idea that the factors consisting of one or two questions would have a negative impact on the results of study, and would be interpreted incorrectly. The factor analysis of dependent variable and all components of correlation analysis that would be applied in the next step have become ready. In order to determine the direction, degree or power of relations between two variables, the most commonly used statistical method is correlation analysis. This analysis revealing linear relationships may not be significant in a non-linear way. The correlation coefficient shows that a variable change describes how much change may occur in another variable. The correlation showing the mutual relations may be searched between a dependent and an independent variable, or, may be searched between two dependent and two independent variables, because it does not show cause and effect relationship. The correlation coefficient is a ratio, and has a value between -1 and +1 (Nakip 2013, 348-349). Positive values represent a direct linear relationship. Negative values represent an inverse linear relationship. If this coefficient becomes (0), it shows that there is no a linear relationship between variables included in the study (Altındag 2011, 106).

Table 7. Correlation Analysis of Variables

	Sensuality	Empathy	Awareness	Innovation Orientation	Radical Innovation	Emotional Intelligence	Innovative Corporate Culture	Employee Performance
Sensuality	1	,278**	,523**	,315**	,226**	,912**	,405**	,504**
		0	0	0	0	0	0	0
	303	303	303	303	303	303	303	303
Empathy	,278**	1	,381**	,259**	,144*	,589**	,334**	,321**
	0		0	0	0,012	0	0	0
	303	303	303	303	303	303	303	303
Awareness	,523**	,381**	1	,723**	,118*	,738**	,712**	,692**
	0	0		0	0,04	0	0	0
	303	303	303	303	303	303	303	303
Innovation Orientation	,315**	,259**	,723**	1	,132*	,485**	,921**	,418**
	0	0	0		0,022	0	0	0
	303	303	303	303	303	303	303	303
Radical Innovation	,226**	,144*	,118*	,132*	1	,230**	,483**	,164**
	0	0,012	0,04	0,022		0	0	0,004
	303	303	303	303	303	303	303	303
Emotional Intelligence	,912**	,589**	,738**	,485**	,230**	1	,567**	,626**
	0	0	0	0	0		0	0
	303	303	303	303	303	303	303	303
Innovative Corporate Culture	,405**	,334**	,712**	,921**	,483**	,567**	1	,461**
	0	0	0	0	0	0		0
	303	303	303	303	303	303	303	303
Employee Performance	,504**	,321**	,692**	,418**	,164**	,626**	,461**	1
	0	0	0	0	0,004	0	0	
	303	303	303	303	303	303	303	303

** Correlation is significant at the 0, 01 level. *Correlation is significant at the 0, 05 level.

Within the analysis of correlation, both sub-dimension of emotional intelligence and innovative corporate culture factors and all higher dimensions including all variables have been included in the analysis. First, when sub-factors of emotional intelligence have been examined, it has been seen that the sensuality factor has a mid-level relationship with innovative corporate factor and employee performance. Basically, the correlation level between sensuality level and the employee performance has been determined as 0, 504. One of the most remarkable situations drawing attention in the analysis is that there is a relation as 0,912 between the sensuality factor and the emotional intelligence, which is a higher factor connected with sensuality factor. The same situation is between the innovation orientation factor and the innovative corporate culture that is the top factor. It has been seen that there is a relation as 0,921 between innovative orientation and innovative corporate culture. It is called multiple correlation problems in

statistics in this situation. If the correlation ratio is 0,850, or higher, two factors may want to measure the same thing. And it brings doubt of a design flaw in the questionnaire. However, it has not been found any multi-correlation. Under this thesis, it may be shown as a proof which it has been measured correctly and an ideal scale design has been made.

In the same way, when we look the factors of empathy and awareness, it is observed that there is a linear relationship between employee performance and them. Empathy factor is related to an employee performance in the level of 0, 321, and awareness factor is related to the level of 0, 692. In the emotional intelligence factor that includes all emotional intelligence questions, this number has been identified as 0, 626. In other words, there is a positive and linear relationship between the emotional intelligence and employee performance.

In the next step, the regression analysis was applied to data set. Regression analysis is an analysis method used for measuring the relationship between two or more variables. If it is made an analysis by using a single variable, it is called a single variable regression; if it is made an analysis by using more variables, it is called a multivariate regression analysis.

Table 8. Regression Analysis Model 1

Model		Non- Standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Standard Error	Beta		
1	(Constant)	1,961	0,247		7,93	0
	Sensuality	0,145	0,044	0,164	3,301	0,001
	Empathy	0,032	0,036	0,042	0,893	0,372
	Awareness	0,6	0,059	0,694	10,117	0,000
	Innovation Orientation	-0,115	0,212	-0,158	-0,542	0,588
	Radikal Yenilikçilik	0,048	0,11	0,057	0,441	0,659
	Innovative Culture	0,004	0,346	0,004	0,013	0,99
	R^2	0,521	Corrected R^2	0,512	F:	53,761

Dependent Variable: Employee Performance

First of all, all sub-factors of emotional intelligence and innovative corporate culture and innovative corporate culture as a top factor have been evaluated. In the analysis including a total of 5 sub-independent variables, a top-independent variable, and a dependent variable, the findings emerging have shown that sensuality, awareness, innovative orientation factors have had an impact on the employee performance. 52,1% of the changes in employee performance is explained by three independent variables. It has been shown that innovative corporate culture has not affected the employee performance as a top factor. When we look Beta values, it is seen that the highest rate is in awareness factor with 0, 694. In the model, which F value is 53, 761, the error rate of significant independent variables is below 5%. When evaluating in the regression analysis, the most important point to be considered is certainty (determination) coefficient. In this model, this coefficient, that is in the level of 0, 521, is about two times of the average considered in the field of social sciences.

Table 9. Regression Analysis Model 2

Model		Non- Standardized Coefficiants		Standardized Coefficients	t	Sig.
		B	Standart Hata	Beta		
1	(Constant)	1,961	0,246		7,963	0
	Sensuality	0,145	0,043	0,165	3,391	0,001
	Empathy	0,032	0,034	0,042	0,954	0,341
	Awareness	0,6	0,058	0,694	10,371	0,000
	Innovation Orientation	-0,112	0,043	-0,154	-2,623	0,009
	Radical Innovation	0,05	0,035	0,059	1,417	0,157
	R^2	0,521	Corrected R^2	0,513	F	64,731

Dependent Variable: Employee Performance

In this regression analysis model, all sub-factors of emotional intelligence and innovative corporate culture have been evaluated. In the analysis including total five independent variables, and one dependent variable, findings emerging have shown that sensuality, awareness, and innovation orientation factors have had an impact on employee performance. 52.1% of changes in employee performance is explained by these three independent variables. When we look Beta values, it is seen that the highest rate is in awareness factor with 0, 694. In the model, which F value is 64, 731, the error rate of significant independent variables is below 5%. When evaluating in the regression analysis, the most important point to be considered is certainty (determination) coefficient. In this model, this coefficient, that is in the level of 0, 521, is about two times of the average considered in the field of social sciences. Another of 47,9 % that has an impact on employee performance, but can not be explained is due to the different factors other than independent variables used in this study model. In the future studies, other factors such as wages, human relations, the physical environment should be included.

Table 10. Regression Analysis Model 3

Model		Non- Standardized Coefficiants		Standardized Coefficiants	t	Sig.
		B	Standard Error	Beta		
1	(Constant)	2,009	0,264		7,603	0
	Emotional Intelligence	0,572	0,057	0,537	9,959	0,000

	Innovative Culture	0,157	0,054	0,157	2,907	0,004
	R^2	0,408	Corrected R^2	0,404	F	103,a

Dependent Variable: Employee Performance

In order that the findings arising under the study could be interpreted literally and correctly, some additional analysis has been considered appropriate. An additional regression analysis has been performed in order to be able to explore the effect of shading that may arise. Previously, all variables with their all sub-factors included in the regression analysis have taken its place in the new analysis as single top factor in the study. In other words, emotional intelligence and innovative corporate culture have replaced in the study without dividing into sub-factors. The results show that both factors affect the employee performance directly and positively, unless they are divided into sub-titles. The explanation ratio of two independent variables for employee performance that is dependent variable has been stated as 40.8%. According to previous table, the cause of the rate reduction is to have become more meaningful for employees, when sub-factors of emotional intelligence and innovative corporate culture have been individually examined in detail. If we go deeper in the analysis, the results are more successful. If a superficial analysis is performed, the determination coefficient decreases. Even if the innovative corporate culture has an impact on employee performance with beta coefficient 0,157 in this analysis, the main important impact comes from emotional intelligence with beta coefficient 0,537. In companies where the emotional intelligence is given importance, employees are aware of this situation, empathy and mutual relations are intensive and familiar, employee performance is affected directly and positively. This finding has been proven in both correlation and multiple regression models.

Conclusion

In this study, which it has been examined that the emotional intelligence and innovative corporate culture have had an impact on employee performance, the results are quite significant for managers and academics. Emotional intelligence level, which managers in organizations had, affects directly the employee performance, because a manager, who has a sense of empathy, and can assess the behavior of employees analytically, minimizes the problems within the organization. A manager mediates the establishment of more communication and cooperation between employees, and the creation of the spirit of teamwork. Employees work without exposing stress and pressure in the companies where conflict is low; mild climate is felt. Thus, their performances increase as well as their business performances gain momentum. If managers understand the feelings of employees, tell the employees that the emotions are a management strategy, not an error element in the organization, do not give a deficit even the moments of crisis, they improve the working quality of employees, and also allow them to progress in the areas of their professional expertise. In the same way, if employees realize their feeling as they gain more experience, and also if they are able to think differently, it will have a positive impact on the success of their working lives. Their abilities to comply with the organization's policies and procedures, to be able to perform the new tasks given, to be able to get in touch with the other people working correctly are parallel with their own emotional intelligence. Within the scope of the study scale, it has been understood that only factors, which employees think positively and about people, and fully make decisions with their own feelings, have been ineffective on employee performance. In other words,

employees do not base on only emotions other than rational logic. Emotions are only a support strategy used for organization; especially they allow to be made an optimal decision in the moment of crisis.

In innovative corporate culture, other independent variable, only one of two sub-factors (innovation orientation factor) has a positive impact on employee performance. As is known, Giving importance to innovation by organizations is a must, not an option in today's conditions. Nevertheless, in the non-institutionalized organizations, especially in the family business, it seems to be a resistance to innovation. The main reason for this resistance is the sense of fear feeling for unknown things. If employees can not predict what they do in the new organizational structure, and if there are fear of losing their power, the risk of system change that they are familiar, it will cause that the sense of unease is more sharply felt in organizational climate. Using too much technological knowledge in the production and services has a high cost factor for many companies, because it is required to high engineering techniques. However, when the competition becomes a part of it and the innovation becomes a must in order to survive in the market, new resources are provided and the necessary processes are improved to ensure the required change. New products and services should provide higher returns than other competitors and they should not be imitated. Findings emerging in conclusion of the study have shown that new product of a company mainly has provided higher returns compared to the old ones. In other words, the traditional manufacturing approach has been replaced by modern marketing approach. Products and services that are high-qualified, can not be imitated, include advanced technology and can become accessible for everyone directly have impact on not only companies, but also staff's working performance in these organizations by increasing the motivation of employees.

While the innovative corporate culture has been taken together with the emotional intelligence, the results have shown that each of the two concepts can not be fully implemented, or can not be fully tried to be avoided. When a comprehensive factor analysis of both factors has been examined, it has been observed that sensuality and awareness that are two dimensions of the emotional intelligence, and also the single dimension of innovative corporate culture (innovation orientation) have had a direct impact on employee performance. Other two factors that have no effect (empathy and radical innovation) constitute approximately half of the questions of both scales. In other words, managers and employees know and understand what the emotional intelligence is, but they are avoid from doing application in order not to move away from rational thinking. Also in the innovative corporate culture, attention is being paid to innovation; however, they have a tendency to maintain the current position due to the resistance to change. This is also a paradoxical loop. For businesses in Turkey, in order to protect the existing and available resources, culture of avoidance to innovate and to take risks is a tradition that is transmitted not only in organizations, but also in families to their children. The results of analysis have shown that employees and managers with high emotional intelligence could easily handle these processes, in the case of effective management of change management and innovation.

Some companies assign their managers from their own employees. This situation has some advantages such as being closely acquainted with manager's organizational culture, climate, financial and human structure of organization, besides having some disadvantages. After completing a certain year of working, due to the company's career planning, it may create negative situation for the company, if employees are only promoted according to only their technical knowledge, the year when they work and the experience that they have without considering the emotional intelligence levels and qualifications of employees. Managers with low emotional intelligence are insufficient in creating awareness and emotions about involving in the organizational culture for employees. Therefore, employees should be subjected not only the scales of technical knowledge and skills, but also various personality inventory scales and emotional intelligence evaluation of managers in promotion within the organization.

The most important limitation of this study is that the mass of sample identified has been insufficient on a global scale. In the future, it is advised that academics, who will study in this area, should reach a wider sample group. In addition, it has been found that a part of the employees who filled in the questionnaire have been suspicious of the questions and answered a few questions with concern.

The most important weakness of questionnaires methods in the social sciences is that the researches change something by mistake while trying to measure it. To eliminate this error from the beginning, scales and questionnaire should be prepared in a systematic way.

H1: Emotional intelligence has a direct and positive impact on employee performance.

When emotional intelligence factor that has been examined by the first 14 questions of the questionnaire is evaluated with employee performance that has been examined by 25 to 36 questions, it has been concluded that the emotional intelligence has had a significant impact on employee performance according to factor analysis, correlation analysis and regression analysis. Thus, Hypothesis H.1 has been accepted. As expected, managers with high emotional intelligence have had a direct and positive impact on employees in companies. The result has been in the expected direction with the hypothesis.

H2. Innovative corporate culture has a direct and positive impact on employee performance.

When innovative corporate culture factor that has been examined by the 15-24 questions of the questionnaire is evaluated with employee performance that has been examined by 25- 36 questions, it has been concluded that the innovative corporate culture has had a significant impact on employee performance according to factor analysis, correlation analysis and regression analysis. Thus, Hypothesis H.2 has been accepted. As expected, innovative corporate culture has had a direct and positive impact on employee performance in companies. The result has been in the expected direction with the hypothesis.

When two independent variables are only considered as top factor, it has an impact on the employee performance. Therefore, two main hypotheses were supported. However, when detailed analysis is performed with the sub-factors, it seems that two independent variables are partially supported.

According to many studies, it has been seen that the emotional intelligence is a competency that could be learned and developed unlike the cognitive intelligence. Some studies may be performed within the organization for the development of the emotional intelligence. Training programs, social events may be arranged within the organization. In addition, awareness can be revealed related to the level of emotional intelligence by getting training from personal development consulting firms offering services related to this area. From the perspective of managers, the company must apply to new strategic trends and must seamlessly make them appropriate for the organization in order to adapt to global and technological developments. At this stage, the most important task that falls to the managers is to weaken the resistance against to changes and innovations within the organization. To achieve this, the emotional intelligence of managers should be used as a tool. The shareholders being aware that (owners of capital) are looking for people, who could lead the employees in the organization for the procurement of professional manager, could empathize with them and could offer an objective which they could devote their lives. These people are professional employees who are with high emotional intelligence and could use this intelligence in an optimal way. Today, as well as being knowledge workers, emotions are evaluated as an art that can be used effectively in the management science. Here, for the organization, gaining employees, who will be able to perform this art must be the most basic goal of all businesses.

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Assessment of Multidimensional Job Satisfaction Instrument

Murat Özpehlivan[a], A. Zafer Acar[b]

[a-b]*Okan University, Istanbul, 34722, Turkey*

Abstract

According to the literature, job satisfaction concept has been attracting the attention of researchers and executives because of its influence on individuals' behaviour. The effects of job satisfaction on the different organizational behaviour concepts have been tested and proven in myriad researches but using different methods and measurement instrument including various dimensions show us that there is no certain consensus of measuring at least basic components of this concept. This study aims to fill this gap through conceptualizing, measuring the concept on basic and necessary factors and developing a multidimensional job satisfaction measurement instrument by considering cultural affect. The questionnaires that using only by translating from another countries or cultures and if their cultural differences are not taken into account then obtained results may not give us accurate values and damages the validity of the scales. We established a scale incorporating six dimensions of job satisfaction. 699 data were then collected from Turkey and Russia's well-known businessmen associations in textile field and analysed through confirmatory factor analysis to assess validity and reliability. As a result, we have attempted to contribute to business executives and academics by providing a multidimensional job satisfaction scale.

Keywords: job satisfaction, development, validation, measurement instrument, satisfaction.

1. Introduction

There have been many researches on the concept of job satisfaction, its components and their affects on various concepts related with organizational behaviour (Bennett, 1997; Cano & Miller, 1992; Hagedoorn et al., 1999; Savery, 1996; Wright & Kim, 2004). These various concepts and the affect of job satisfaction on them were examined and tested for the purpose of contributing a solution to the organizational issues. Especially for the development of academic, business and organizational management field, studies are focused on this subject having importance for all determines as well as individuals.

Researchers have been tested the relationship among job satisfaction, organizational commitment, organizational communication, work performance and life satisfaction (Lum et al., 1998; Pettit et al., 1997; Shore & Martin;1989; Iverson et al., 2000). Although many studies have been made on job satisfaction concept, we discovered that there are many differences on the dimensions of the scales and no measurement instrument covers all components of job satisfaction we describe here. Existing studies were conducted independently and used various measurement methods. Additionally current scales are used on this concept have generally been used only by translating to their own languages in many countries and in different cultures. Thus, using these scales without considering cultural differences may damage the validity of the

scales. Furthermore, due to outward expansion of developing and growing organizations, a new dimension named "external environment" added to the instrument and tested. Therefore, the goal of this study is to fill this gap through the conceptualizing and development of a job satisfaction construct and testing its validity and reliability for paving the way of performing more detailed tests for the future researches.

In this research, we applied the standard methodology for the development of measurement scales in social sciences (Churchill, 1979; Llusar & Zornoza, 2002) for test constructing of measurement instrument. Component factors and key variables for the construct are identified through an extensive literature review. In general, the procedure that allows one to move from the concept to its measurement requires a four-stage process: literary definition, identifying of dimensions, selection of observed indicators, and synthesis of indicators or elaboration of indexes. Factor and reliability analysis of our test research are performed using SPSS 17.00 and confirmatory factor analysis (CFA) are performed using AMOS 20.0 to examine the construct and identify the model fitness.

In this respect, this article has arranged by using five sections. A literature review focusing on job satisfaction concept follows this section. The main dimensions of the job satisfaction and causations are defined. In a third section, the applied methodology for the construction of the measurement instrument of job satisfaction is described. This section is followed by the evaluation of the measurement instrument via CFA and an examination of the reliability and validity of the scale. Finally, the conclusions are set out, together with some recommendations and advices for future research.

2. Literature Review

2.1 Job Satisfaction

Job satisfaction has attracted the attention of researchers and executives because of the influence on an individual's behaviour in the organizations (Spector, 1997; Ivanevich & Matteson, 2002; Locke, 1976; Oshagbemi, 1999; Wright & Kim, 2004; Smith et al, 1969; Taylor, 1911; Churchill et al, 1974). Job satisfaction is the most widely researched concepts in the field of industrial/organizational psychology, social psychology and organizational behaviour literature (Parnell and Crandall, 2003; Alotaibi, 2001; Hackman & Oldham, 1974). This concept is necessary on behalf of business achieve for providing sustainability in organizational development and staff productivity for organizations (Siegel and Lane, 1974; Mullins, 1996). Due to this aspect, the concept of job satisfaction is one of the important issues for researchers and organization executives.

Job satisfaction is a combination of individual's positive emotions against his/her work (Erdoğan, 1996). We can mention that individual likes his/her job and has positive values towards his/her job if having high degree job satisfaction. Locke (1976) and Oshagbemi (1999) defining job satisfaction as positive feelings and emotional attitudes against work and Vroom (1964) added to this definition that the working harmony provided from the job itself. Individual's positive attitude to the job proves that he/she has job satisfaction and vice versa shows that low degree job satisfaction or no satisfaction. According to Robbins, Judge and Sanghi (2004), job satisfaction is individual's positive feelings about his/her job and its characteristic structure. In this sense, all components of the job are effective against the formation of job satisfaction. Knoop (1995) describes job satisfaction as general attitude towards job and its sub-dimensions.

So far, hundreds of definitions have been made about concept of job satisfaction. Vroom (1964) linked job satisfaction with the individual's role in workplace and defining job satisfaction as affective orientations on the part of individuals toward work roles that they are presently occupying. Hackman and Oldham (1974) focused on individual's satisfaction and defined job satisfaction as employee's pleasure obtained from work.

Davis (1982) thought about the concept as double-sided and described job satisfaction as individual's satisfaction or dissatisfaction with the work. Feldman (1985) associated job satisfaction with positive emotions and defined job satisfaction as the amount of overall positive affect (or feelings) that individuals have toward their jobs. When we say that an individual has high job satisfaction, we mean that the individual generally likes and values the job highly and feels positively toward it. Spector (1997) took the job as a whole and described job satisfaction as simply how people feel about their jobs and different aspects of their jobs. It is the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs.

2.1.1 Job Satisfaction Dimensions

Even if job satisfaction may be considered as a single concept, when it is evaluated in terms of individual's satisfaction, then will be seen the different sub-dimensions. Individuals' different levels of job satisfaction from the different characteristic of the job or dissatisfaction case generally cause departmental evaluation of job satisfaction that individual gains from the job. All of these various factors under some conditions, more or less affecting job satisfaction (Mullins, 1996; Oshagbemi, 1999; Luthans, 1973; Hackman & Oldham, 1974).

In this study, the classification of the job satisfaction components is divided into categories as in the preliminary studies made for identification of the job satisfaction concept. After scanning related literature, we have conducted interviews and meetings with corporate executives and supervisors to decide upon the sub-dimensions of job satisfaction. In the results of this information based on literature scanning and meetings with the executives, we modified the dimensions of job satisfaction. After the modifications, we decided to use ***management skills, co-workers, job and working conditions, promotion, pay*** and ***external environment*** in our study. The dimensions of the job satisfaction are described below.

Ensuring the satisfaction of employees in the organization is one of the most important tasks for management of the organization. In this way, employees may pose maximum efficiency and output, and this will contribute to the progress of the organization. Individuals are mostly more satisfied when they feel the support of organization managers and their business competence (Tietjen ve Myers, 1998; Mullins, 1996; Wright & Kim, 2004). Management style impacts employee satisfaction by different ways. One of these is the participation of workers in the organization's decision-making process in every sense. Participating in the decisions is positively contributing necessity of respect and recognition of individual. Individual, that can't afford it in this way will go to other organizations and different environments to get these necessities. The employees that can participate in the organization decisions and have an effect on it will have positive emotions towards their jobs and their job satisfaction degree will increase (Erdil VD.; 2004; Hackman & Oldham, 1974; Luthans, 1973; Oshagbemi, 1999). Today's business world that individuals come to the forefront, relationship between supervisors and employees has great importance. Individual that satisfied with his/her supervisor in technical and humanitarian aspects will have a positive approach to the job and will be satisfied with the work. There are considered two main management skills that evaluate supervisors, technically and in terms of human relations (Weiss at al, 1967; Smith at al, 1969; Spector, 1985). As a result, satisfaction from supervisors are evaluated technically and in terms of human relations in this study and combined as ***management skills***.

According to Davis (2004), the most important evidence of deterioration of working condition is decreasing of job satisfaction. The employees that unhappy from the conditions offered them by the organization have low-level satisfaction from their job. In the opposite case, they have a positive view towards their job and their productivity is increased. As a result of job dissatisfaction observed strikes, work slowdown, disciplinary issues and performance problems. By inheriting advantage of some features of non-formal groups, the creation of autonomous work groups as work design technic in modern working conditions and by doing this tried to have organizational effectiveness and employee satisfaction (Kaplan,

2011; Wright & Kim, 2004; Luthans, 1973; Churchill et al, 1974). Individuals spend most of their life in the work place. They care about the physical and specific conditions of their work (Price & Mueller, 1986). The work they do generally shapes their lives. Hereby, working conditions dimension was combined with job itself in this study and formed a new dimension that named ***job and working conditions***.

Individuals work in today's business world have to be connected to the different institutions that affecting organizational activities from out of the organization. This communication and interaction case shows direct relationship with the individual's job attitude and may affect employee satisfaction. Cribbin (1972) when he explained the job satisfaction concept, he mentioned that job satisfaction is the relaxing and calming feeling that an individual trying to achieve from job itself, managers, working groups and internal - external environment. It is seen that external environment that individual is obligated to be contacted has an importance to the individual's job satisfaction. In the 2000s, in a study of Shellenbarger, the external environment that command and control of excessive is seen very hard and individual has to be contacted by them may be the reason of long-term disbelief, infidelity and job dissatisfaction problems (Lund, 2003). Especially in this century, because of the globalized world and increasingly competitive environment, executives need to manage their organizations more professional and more rational (Price & Mueller, 1986; Oshagbemi, 1999; Churchill et al, 1974). This case obliges to organizations and its members to be in touch and cooperate with many external identities such as consultants, advisors, lawyers, health officers, educators, partner suppliers, big buyers. All these elements are factors that affecting job satisfaction. We defined these factors as ***external environment*** dimension and used in this research.

It is aimed by using pay and compensation management, traditionally get individuals attract, retain them in the work and minimize their dissatisfaction from the job (Bayraktar, 2002; Churchill et al, 1974). Pay factor is the individual's income that they get from their work for what they do. Pay management shows the relationship between its determination, structure and work values. It includes determining of working conditions, pay limits, and certain values of this component (Ataay, 1990; Hackman & Oldham, 1974; Mullins, 1996). Employees comparing their wages with the other employees and also compare the efforts with others. If the rate they expect is less than they get then they will be dissatisfied with their job, or if it is higher than they will be satisfied (Luthans, 1973; Johns, 1996; Wright & Kim, 2004). According to Spector (1997), one of the most popular factors affecting job satisfaction is pay and compensations. In terms of individual's social requirements should be fulfilled, economic and financial dimension of the job considered highly important (Price & Mueller, 1986). Wages as equivalent of labour is a factor that assessed and compared with others. As one of the most important components of job satisfaction concept, ***pay*** dimension is used in this study.

Promotion of is an effective factor and has significant impact on the process of an individual's job satisfaction and one of the key elements in the development of it (Luthans, 1973). It is seen that individuals that do not have any expectation of being promoted are more satisfied than the employees that waiting to be promoted and effort for this. It is expected and seen that this promotion expectation is positively affecting individual's performance but negatively affection individual job satisfaction (Bassett, 1994; Oshagbemi, 1999; Churchill et al, 1974). Individuals, after a long period of experience, business knowledge and skills, they hope and wish to have better conditions and to be promoted in their work (Price & Mueller, 1986). By using the promotion mechanism and as a result of it they got positive developments on their life and social status, they are being more satisfied. Organizations, by using advancement facilities, aim to increase individuals' motivation and job satisfaction. Employee status achieved by promoting is not used only in the work field, also used in their private life. In this study, ***promotion*** that has importance for both management levels and employees is used as one of the job satisfaction components.

According to George and Jones (2005), co-workers are effective on especially individuals that just started to the work in the organization. New employees are unfamiliar with the rules of formal and non-formal

principles in the organization. In this sense, their colleagues are effective in this adaptation process. Colleagues and co-workers have an effect on job satisfaction. Technical and social support and to be sufficient in the business field may be affective on individual's job satisfaction. The employees that supporting each other and work timely, accurate by considering group rules and to be in this group may be considered positive and improve job satisfaction level of the individual (Erdoğan, 1996; Mullins, 1996, Wright & Kim, 2004; Hackman & Oldham, 1974; Churchill et al, 1974). According to Spector (1997), behaviour by an employee intended to help co-workers with the organization, outside the employees' specific assigned tasks or above or beyond the call of duty as well as technical competency, the work group can be a strong source of job satisfaction (Price & Mueller, 1986). Individuals as a social being, especially in organizations must work together and collaborate on some specific issues. While they are communicating and interacting with others, they become satisfied or dissatisfied with their personality traits and behaviours. Therefore, given the importance of an individual's job satisfaction co-workers dimension is used in this study.

In this study, we incorporated six dimensions of the job satisfaction concept to develop a single multidimensional measurement instrument. Although the job satisfaction construct is conceptualized as consisting six distinct components, the covariance among the items can be accounted for by a single job satisfaction factor. Therefore, these six sub-dimensions should be merged in a single job satisfaction construct. While describing the concept of job satisfaction, the internal and external functions of the organizations and its members should work together in accordance to achieve individual's satisfaction for all organizational and individual benefits.

3. Methodology

3.1 Research Goal

In this study, we aimed to develop a job satisfaction measurement scale that is not affected by cultural factors and to test its reliability and validity.

3.2 Item selection, Data Collection and Sample Characteristics

The scale development procedure was conducted in six sections: (1) literary definition of the concept; (2) identification of the concept; (3) generation of items; (4) reduction of the scale; (5) data collection; (6) testing of the scale. After defining the job satisfaction concept, we conceptualized six dimensions of job satisfaction through interviews with academics interested in organizational behaviour and 25 corporate executives, each having an MBA degree and ten years' minimum experience. In the items generation section, the items related to job satisfaction used recent studies (Weis et al., 1967; Baycan, 1985; Smith et al., 1969; Ergin, 1997; Spector, 1985, Yelboğa, 2009; Hackman & Oldham, 1974). These were combined in the draft questionnaire through a comprehensive literature review. All questions were subjected to the "translate, reverse translate" procedure by the experts of both languages (Brislin, 1970). The draft questionnaire form was reviewed and the numbers of variables were reduced by interviews with the same academics and corporate executives. Furthermore, we discussed possible semantic shifts and awkwardness of expression with the executives participating in the preliminary test section of our study, to determine any semantic shift or bad expression. Consequently, 5 items measuring external environment occurring one dimension and 25 items included in five dimensions were generated from the literature. A Likert-type of scale was used and the choices for each item were as follows: 1=*strongly disagree*, 2= *disagree*, 3=*neutral*, 4=*agree*, 5=*strongly agree*.

As a research universe it is chosen Turkey's and Russia's Textile Supplying Sector firms. Zipper producers that lower arm of this sector were chosen sector's biggest players by contacting Turkey's leading association in the field of textile sector, Turkish Clothing Findings and Trimmings Association, and as a selection method we used random sampling. In Russian side, because of the fact that there are less firms operating in this area and producing zipper and its materials, we checked the market deeply and contacted with all of them.

In this context, 394 questionnaires that mostly filled by using face to face and handing out methods to the companies were obtained from Turkey, 300 surveys were sent to 4 companies and received 175 of them and by using online system, 219 surveys were received from 8 organizations. In Russia side, totally received 363 surveys, 200 were sent and 97 questionnaires received from 2 companies and by using online system, 266 surveys were received from 8 organizations. On the basis of these results, the rate of return from Turkey is %58.3 and the ratio from Russia is %48.5. Because of some questionnaires that were not sent just filled by using online system by clicking a link, it is impossible to talk about the returning ratio of those surveys.

After the detecting of questionnaires that were filled by hand, we examined and noticed some data storage or not appropriate filling, we removed 17 surveys form from Turkey and 41 from Russia and finally we obtained 377 surveys from Turkey and 322 from Russia. Firstly we entered all the data that received from surveys to the SPSS.17 program for creating a data set. And surveys that were filled using online system were transferred automatically from the path because of the fact that Google system prepares all data, as we need to be form for analysing. We have not seen any statistical significance among the eliminated surveys and used surveys on the subject of company age, firm sizes and averages.

According to the results obtained from data collecting %81.9 of the respondents from Turkey was male and %18.1 was female. In Russia the ratios are %35.7 male and %63.3 female.

3.3. Analyses for Measurement Validity and Reliability

In order to assess the construct validity and the reliability of the scale developed in this article, the following analyses suggested by Bagozzi and Phillips (1982) were considered: factor analysis, reliability, unidimensionality, convergent validity, and discriminant validity.

Content validity is a method related to the expressions that constitute the scale. Content validity based on judgments about the sampling adequacy of test content. Judgments of the sampling adequacy of test content can be thought of as one means of establishing the scientific soundness of a measure. These judgments indicate the degree to which the content domains of a test are represented by the items of the test they thereby establish the fit between the definition of a measurement operation and the actual operation that is devised (Cronbach, 1971). Consensus among experts indicates these items cover the objects of our study and the matters to be measured, indicating the content validity of the scale. Reliability indicates that the measures are free of any random errors and measure the construct in a consistent manner. Unidimensionality, one of the most basic assumptions in the measurement theory, is the degree to which items represent one and only one underlying latent variable (Garver & Mentzer, 1999). Convergent validity concerns the extent of consistency between applications made by distinct methods for the same purpose (Rao, Solis, & Raghunathan, 1999; Llusar & Zornoza, 2002). Discriminant validity indicates that the dimensions of concept should distinctly and independently differs from each other (Bagozzi & Phillips, 1991). In other words, the construct should yield different results when measuring different variables.

In order to create a job satisfaction scale survey form, we added all 30 variables to the analyses. Looking first to the validity of the scale, Cronbach's alpha coefficient had seen as high as 0.944. The dimensionalities

of the 30 items were analysed using varimax factor analysis and at the end of varimax rotation, six factors had eigen-values greater than one. In the data reduction procedure those variables having a factor load of 0.500 and above were taken into account. Six basic components of job satisfaction were obtained as a result of PCA. Thereafter, we aimed to test structural validity of the scale and according to results of exploratory factor analysis by using 30 variables that were predicted job satisfaction scale we obtained 6 components of job satisfaction. As a result of the exploratory factor analysis, findings of the factor loadings were obtained among 0.591 - 0.798 range. It shows the validity of one-dimensionality of the factorial components because of the fact that they loaded to the predicted factors by using 30 variables and in the condition of using 1 as eigenvalues.

After the results of explanatory factorial analysis, In order to verify the data were obtained from the 699 surveys, they are analysed by using Maximum Likelihood estimation. According to the Kolmogorov-Smirnov test results that are necessary for using the estimation for testing the normality of distribution, t_{min} value of each variable was above than 4.070. This finding proves the normal distribution of the scale in 0.001 possibilities.

After this stage, test results that obtained after analysing the model fit were as followsThese findings observed the harmony of predicted model and revealed model. Regression weights that show the factor loadings on the variables are between 0.662-0.848. These numbers are sufficient in statistical science. To mention about the convergence validity, despite the views that these numbers should be greater than 0.700, it is not fully accepted by researchers. After investigation the error variance, no existing variables with a high error variance were observed.

TABLE 1 Model Fitness Values of Primary Confirmatory Factor Analyses

x^2/df	GFI	NFI	IFI	TLI	CFI	RMSEA
4.492	0.850	0.873	0.898	0.886	0.898	0.071

After the primary confirmatory factor analysis model, for testing if factorial components are suitable to the upper job satisfaction factorial structure, it is performed structural equation modelling with secondary level confirmatory factorial analyse. According to the results, six factors that composed in the primary factor analyse are merged in the secondary factor analyse also. 30 variables and 6 components properly seated to the job satisfaction structural factor. Factor loadings are close to each other (0.635 to 0.860) and values are obtained pretty high. The findings are statistically significant ($p<0.001$). As it can be seen in Table-2, model fitness values are in enough value and very close to the primary confirmatory factor analysis. Therefore, the scale-forming 6 factorial components have been determined the factors of overall size of the job satisfaction. In addition, there is statistically significance correlation among all components of job satisfaction.

TABLE 2 Model Fitness Values of Secondary Confirmatory Factor Analyses

x^2/df	GFI	NFI	IFI	TLI	CFI	RMSEA
4.851	0.839	0.860	0.885	0.875	0.885	0.074

The comparison of model fitness coefficients that obtained during our study, having very close values of initial and final model coefficients results shows the fitness of the obtained model to the initial model. The small differences occurred among the model fit coefficients are due to differences between the freedom coefficients of scale models. By testing internal validity of job satisfaction components, correlation

coefficients between the variables and validity coefficients in condition if variables omitted, internal validity of the model that was obtained in the secondary level factor analysis and the correlation between adjusted variables were between 0.562 – 0.726. The model's internal validity of coefficients is found as a=0.845. Thus, it is once again demonstrated the existence of the convergence validity of the structural model of job satisfaction. Integrated validity coefficient (Werts et al, 1974) that is proposed evaluating together with the Cronbach's alpha coefficient during the scale validity process is calculated as p_c=0.989 and it was quite higher value than recommended threshold value 0.70 (Bagozzi and Yi, 1988).

When model fit indexes belongs to the final model that obtained from testing progress and internal validity of coefficients evaluated together, fixed correlation coefficients of each dimension were greater than 0.30, alpha values despite 0.60 are seen sufficient (Churchill, 1979) for the first practical research recommended generally for the reliability were greater than 0.70 (Nunnally, 1978), and none of the multiple correlation coefficients values disrupted the model. The values obtained from this research are above than acceptable level of recommended values by Price and Mueller (1986). The integrated internal reliability coefficient value (a=0.845) and unified validity coefficient value (p_c =0.989) are supporting the acceptance of the obtained scale as job satisfaction scale.

4. Results and Discussion

This article focused on the development of a multidimensional measurement instrument for the job satisfaction concept. We have scanned the methods in literature and discussed by researchers and academics for testing construct validity and the reliability of a job satisfaction construct. At each step in the research, techniques and acceptable standards were discussed and all methods are considered. In the process of developing a multidimensional scale of job satisfaction the dimensions were selected in harmony of the experienced executives and academics. This selection was made by interviews with the academics interested in organizational behaviour and executives of the 25 firms each having a MBA degree and a minimum of ten years of experience. Variables generated by using items related to job satisfaction concept and its components were used independently in advance and empirically tested. For checking the validity of the variables we used factor analyses in the research model. Principal component analysis of all components was applied, and it was found that all of the items loaded in groups to separate dimensions.

Furthermore, most of the researchers focused on only specific job satisfaction dimensions that generated and presented to the researchers by well-known measurement instruments. It is one of the restrictive factors that the dimensions of job satisfaction are considered and used only from these sources. And also some of these instruments have too many dimensions and some have very few. It shows that there is no measurement tool that can be used and accepted by the majority of researchers. In our study we also aimed to achieve a questionnaire that can be easily used by researchers and added a new dimension (external environment) that has great importance in this globalized world. This new dimension will be a considerable signal of individual’s satisfaction especially for the corporations in the international scale. Additionally measuring concept and its components without considering cultural affect may not be very rational. In addition, sampling and considering Turkish and Russian organizations together in the research shows us the availability of using this scale for two countries in terms of internal consistency. The results obtained from this research are considered statistically significant. However we recommend to the researchers that planning to study on the job satisfaction field may use and test the reliability and validity of this scale. One of our goals for the future is to develop a job satisfaction scale that including all sub-dimensions of this concept that has been used in the literature. In addition, obtained results from this research contain enlightening information for the textile industry and producer firms and give ideas about the relationship they are establishing with their employees. Therefore, this study, its results and final survey may help measuring job satisfaction and its dimensions for Turkish and foreign firms in Turkey.

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An Empirical investigation of the relationship between Emotional Intelligence, Transactional and Transformational Leadership Styles in banking sector

Arindam Chatterjee [a], Atik Kulakli [b], a*********

[a b] *American University of the Middle East, Egaila 15453, Kuwait*

Abstract

Leadership theory and research have not adequately considered how leader's emotions influence their effectiveness. While there exists a significant amount of research on leadership, literature is comparatively thin on the relationship between leadership and emotional intelligence. A better understanding of emotional intelligence and its relationship to leadership style can address the existing gaps in literature and provide a more informed link between theory and practice. This study attempts to broaden the knowledge base of Human Resource Development through the investigation of emotional intelligence and leadership style. The total sample of 381 employees participated in the study. The findings of this study suggest that the ability perspective of emotional intelligence does not have any relationship with perceptions of leadership style. This finding is contrary to what one would expect from reviewing the literature and the associated citations. Mixed reliability results obtained within the correlations among the items, pointing to some potential construct validity problems served as a possible explanation for no significant correlations found between the undertaken dimensions.

Keywords: Emotional Intelligence, Transformational Leadership, Transactional Leadership

1.Introduction

Many organizations today need to change rapidly to maintain their competitive edge. Rapid change requires that an organization has employees and leaders, who are adaptive, work effectively, constantly improve systems and processes, are customer focused, and who share the need to make a profit. The continuous environment of turmoil and change has been coined the "permanent white waters" of modern life (Vaill, 1996). Leadership is a key element in driving and managing these "white waters".

********* Corresponding author. Tel: +965-222 51 400 (Ext.1540)
E-mail address: arindam.chatterjee@aum.edu.kw; arindam.hrdm@gmail.com

One only needs to look at the recent corporate scandals such as Enron and World.Com and a corporate success such as Dell Computer to see that leadership makes a difference. Effective leaders are those that get results within timeframes that are considered appropriate for their industries and stakeholders (Goleman, 2000). Examples include Chrysler Corporation and their recovery under Lee Iacocca, Gillette under the leadership of Colman Mockler and Kimberly-Clark during the years of Darwin Smith's tenure (Collins, J., 2001). Great leaders move us. They ignite our passion and inspire the best in us. When we try to explain why they are so effective, we speak of strategy, vision, or powerful ideas. But the reality is much more primal: Great leadership works through the emotions (Goleman, Boyatzis, McKee, 2002, p. 3). Emotional Intelligence has been identified, through the popular press and some researchers as that critical element needed for effective leadership. Goleman (1998b, p. 94) has said that, "the most effective leaders are alike in one crucial way; they all have a high degree of what has come to be known as emotional intelligence." Others have said, "By now, most executives have accepted that emotional intelligence is as critical as IQ to an individual's effectiveness" (Druskat & Wolff, 2001, p.81). Though there are significantly lot of studies done separately in the area of leadership and emotional intelligence but the linkage between two variables is not widely tested. This study attempts to fill this elusive dimension.

2.Literature Review and Hypotheses

2.1Literature Review

Beginning in the 1980's, many of the conceptions of leadership recognized the importance of emotions as a basis of influence (Yukl, 1998). It is those emotional, value-based aspects of leadership that are believed to influence the achievements of groups and organizations. Much of this leadership research, with its recognition on the importance of emotion, concentrated on the characteristics and effects of charismatic and transformational leadership (Bass, 1985; Kanungo, 1998; Tichy & Devanna, 1990).

Burns (1978) developed the original idea of transformational leadership. He defined it as a process in which "leaders and followers raise one another to higher levels of morality and motivation" (p. 20). This definition was further refined by Bass (1985) who looked at the theory as two distinct types of leadership processes, the first being transactional leadership and the second being transformational leadership. Though he defined these leadership processes as distinct, Bass did recognize that the same leader might use both types of leadership at different times in different situations. It was transformational leaders however, who would influence followers by arousing strong emotions and identification with the leader (Yukl, 1998).

Numerous studies have examined the correlation between emotional intelligence, transformational and transactional leadership styles (e.g., Avolio & Howell, 1992; Yammarino & Bass, 1990). A meta-analysis of results from 39 studies found that three transformational leadership behaviors (charisma, individualized consideration, intellectual stimulation) were related to emotional intelligence in most studies (Lowe, Kroeck & Sivasubramaniam, 1996). The transformational leadership behaviours correlated more strongly with emotional intelligence than did the transactional leadership behaviours. Utilizing the connection of emotion and leadership, Sosik and Megerian (1999) studied the relationship between transformational leadership behaviour, emotional intelligence and leader effectiveness. They collected data from 63 managers who responded about their transformational leadership behaviour and emotional intelligence, 192 subordinates who rated their manager's transformational leadership behaviour and performance outcomes and 63 superiors who rated managerial performance. They found that categorizations of self-awareness were correlated between emotional intelligence of leadership and leadership behaviour. Subordinate ratings of transformational leadership behavior were positively related to those leaders

categorized as self-aware. They concluded "managers who maintain self-awareness (self-other rating agreement) possess more aspects of emotional intelligence and are rated as more effective by both superiors and subordinates than those who are not self-aware" (Sosik & Megerian, 1999, p. 386). This study explained the influence of several aspects of emotional intelligence on leadership styles.

The topic of emotional intelligence and its impact on organizations and its leaders, grew largely through the popular publications of Goleman's (1995) book titled Emotional Intelligence and his subsequent book Working with Emotional Intelligence (Goleman, 1998b). The interest in emotional intelligence continues today. The scholarly study of emotional intelligence began in the early 1990's when Salovey and Mayer (1990) first defined it. Since that early inception, there continues to be refinement, debate and dialogue around the topic of emotional intelligence in the research community. The foundation of the study of emotional intelligence began in the early workings of the study of emotion and the study of intelligence. The initial research around the topic of emotion was in the sociological and psychological domains. Sociologically, the early researchers looked at such areas as emotional labor (Hochschild 1979; 1983), emotional contagion (Rafaeli & Sutton, 1987), feeling rules (Goffman, 1969), and emotion and rationality (Fineman, 1993; 1999). Additionally, within the psychological realm, the areas of emotion and motivation (Pinder, 1998), empathy (Mehrabian & Epstein, 1972), mood (Mayer & Bremer, 1985), and emotion (Plutchik, 1984) were all researched.

The research around intelligence was also rich and diverse. Numerous definitions of intelligence emerged. Thorndike (1920) divided intelligent activity into three components: social intelligence, concrete intelligence, and abstract intelligence. Others defined intelligence as "the aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment" (Wechsler, 1958, p. 10) or as a "finite set of independent abilities operating as a complex system" (Detterman, 1986, p. 57). These two topics (intelligence and emotion) of research were undertaken independently until the early 1990's when 'emotional intelligence' was first defined (Salovey & Mayer, 1990). This was initially described as a "type of social intelligence that involves the ability to monitor one's own and others emotions, to discriminate among them, and to use the information to guide one's thinking and actions" (Salovey & Mayer, 1990, p. 189). The connection of emotion to intelligence was made through the social intelligence construct. Social intelligence was first defined as "the ability to understand and manage men and women, boys and girls – to act wisely in human relations" (Thorndike, 1920, p. 228). A slightly different approach viewed social intelligence within the more general theory of intelligence as "the mental processes and structures used to attain contextual success" (Sternberg, 1985, p. 330). The definition of multiple intelligences however (Gardner, 1983), provided the connection for Salovey and Mayer. Gardner defined the interpersonal and intrapersonal intelligences as: "Interpersonal intelligence is the ability to understand other people: what motivates them, how they work, how to work cooperatively with them. Intrapersonal Intelligence is a correlative ability turned inward. It is a capacity to form an accurate, veridical model of oneself and to be able to use that model to operate effectively in life"(p. 25). Emotional intelligence is described as involving abilities that may be categorized into five domains: (a) self-awareness, (b) managing emotions, (c) motivating oneself, (d) empathy, and (e) handling relationships. It was this foundation that provided the impetus for the emotional intelligence work throughout the 1990's (Salovey & Mayer, 1990).

"Leadership theory and research have not adequately considered how leader's moods and emotions influence their effectiveness" (George, 2000, p.1028). This study aims to get at part of that question. A great deal of research has been conducted surrounding many theories that have led to a better understanding of leadership. But understanding how and why leaders have (or fail to have) positive influences on their followers is still a compelling question for researchers (George, 2000). Feelings and moods have been shown to influence the judgments people make, attributions for success and failure and

inductive and deductive reasoning. It is likely then, that feelings play an important role in leadership. These emotion/mood capabilities have been addressed by emotional intelligence. Emotional intelligence describes that ability to join emotions and reasoning, using emotions to facilitate reasoning and reasoning intelligently about them (Mayer & Salovey, 1997). Several researchers have begun to evaluate this role of emotional intelligence and leadership.

Practitioners have incorporated the concept of emotional intelligence into performance management systems and training and development programs as the result of the influence of the popular press and consultants. At this point in time, practices related to embracing emotional intelligence appear to be far ahead of what is actually known from the research and theory. Researchers in the field of human resource development have also looked at the role of emotions and emotional intelligence (Bryant, 2000; Callahan Fabian, 1999; Callahan & McCollum, 2002; Drodge & Murphy, 2002; Jordan & Troth, 2002; Landen, 2002; Leeamornsiri & Schwindt, 2002;Opengart, 2003; Opengart & Bierma, 2002; Short & Yorks, 2002; Turnball, 2002; Weinberger, 2002a, 2002b; Wells & Callahan, 2002). The question asked by many of these authors is what role is emotions and/or emotional intelligence playing in the organization through change efforts, leadership effectiveness, training and organizational performance. Studies of leadership, its effectiveness and overall impact on improving performance are important to advancing the understanding in the field of human resource development and its role in advancing the strategic capability of organizations.

2.2. Development of Hypotheses

The purpose of this study is to investigate the relationships between emotional intelligence and leadership style. Based upon the literature review, hypotheses were proposed based upon set of relationships between the variables and subsequently put to test.

H1: There is a significant and positive correlation ($p<.05$) between perceiving emotions and transformational leadership styles as perceived by subordinates.

H2: There is a significant and positive correlation ($p<.05$) between facilitating thought and transformational leadership styles as perceived by subordinates.

H3: There is a significant and positive correlation ($p<.05$) between understanding emotions and transformational leadership styles as perceived by subordinates.

H4: There is a significant and positive correlation ($p<.05$) between managing emotions and transformational leadership styles as perceived by subordinates.

H5: There is no significant correlation between perceiving emotions and transactional leadership style as perceived by subordinates.

H6: There is no significant correlation between facilitating thought and transactional leadership style as perceived by subordinates.

H7: There is no significant correlation between understanding emotions and transactional leadership style as perceived by subordinates.

H8: There is no significant correlation between managing emotions and transactional leadership style as perceived by subordinates

Methodology

a. Research Goal

The objective of this study is to empirically investigate the relationship between emotional intelligence, leadership style and perceived leadership effectiveness.

b. Research Design

Two commercially available survey instruments were administered. One instrument was the Mayer Salovey Caruso Emotional Intelligence Test (MSCEIT) (Mayer, Salovey, & Caruso, 2002). The MSCEIT is based on the work of Mayer, Salovey and Caruso (2002) and presents the most recent revision of the original instrument, the MEIS and is the only version that is available for professional use. This is a new instrument, with few studies testing its reported validity and reliability metrics. The MSCEIT (Mayer, Salovey & Caruso, 2002) has reported full-scale reliability of .91, with area reliabilities of .90 (experiential emotional intelligence) and .85 (strategic emotional intelligence). The MSCEIT is an outcome of the first instrument the MEIS (Mayer, Salovey & Caruso, 1999), which consists of a four-branch model of emotional intelligence measured through 12 subscales. This instrument reported five scores in the areas of: (a) perceiving emotions, (b) facilitating emotions, (c) understanding emotions, (d) managing emotions, and (e) overall emotional intelligence. The emotional intelligence scores can be calculated according to general consensus (what most people say) and/or according to the criterion of expert consensus (what the experts say). The four branch score reliabilities ranged from .74 to .89.The MSCEIT is 141 items long, less than one third the length of its original predecessor the MEIS. The MSCEIT offers a means to measure emotional intelligence on objective ability-based data that are not overly subject to response bias (Mayer, Salovey & Caruso, 2002).

The second instrument was, the Multifactor Leadership Questionnaire (MLQ5x) (Bass & Avolio, 2000). This instrument measured the variables of transformational and transactional leadership style. There were generally adequate reliabilities (Cronbach's alpha) ranging from $\alpha = .63$ to $\alpha = .92$. Estimates of internal consistency were above $\alpha = .70$ for all scales except for active management by exception (Bass & Avolio).

c. Sample and Data Collection

Seven public sector banks, along with their different branches based in Allahabad city (India) were selected for this study. The total sample of 451 employees participated in the study; among them 151 were the managers and 300 were the subordinates working under them. Starting at the top of the organization and working down within the hierarchy, managers who have more than three direct reports were identified. These managers included executives and branch managers of the company, managers across all functions of the organization and supervisors in customer service. From the company's human resource records, the 151 managers were made up of 27 females and 124 males.

The administration of the questionnaire was carried out in two phases. First phase consisted of MSCEIT (Mayer, Salovey and Caruso, 2002), administered on 151 managers out of total number of 451 employees, to evaluate their level of emotional intelligence. 138 completed surveys were received, 3 managers refused to participate and 10 managers did not respond. A response rate of 93.3% occurred with the management group in first phase.

In second phase the MLQ5x (Bass & Avolio, 2000) was administered on the remaining 300 subordinates, working under the managers. 243 completed surveys were returned. The response rate in second stage was 81%. Overall response rate including both the stages was found 84.47%.

Data Analysis and Results

The following section provides the analysis and results of the proposed hypotheses to examine the relationship between emotional intelligence and leadership styles.

Hypothesis Testing

Based on the literature, directional research H1 to H4 stated a significant and positive correlation ($p<.05$) between the four branches of emotional intelligence and transformational leadership (as perceived by subordinates). See Table 1 for the results. All four research hypotheses were not supported.

Table 1. Correlation of Emotional Intelligence and Transformational Leadership Dimensions

		Mean	Std. Dev (N=381)	Transformational Leadership	1	2	3	4
	Transformational Leadership	2.78	.609	1.0				
1	Branch 1: Perceiving Emotions	99.16	15.13	-.30	1.00			
2	Branch 2: Facilitating Thought	97.11	13.71	.118	.348**	1.00		
3	Branch 3: Understanding Emotions	95.38	9.82	.043	.236**	.328**	1.00	
4	Branch 4: Managing Emotions	96.05	8.38	.101	.262**	.395**	.185**	1.00
	EI Total	95.17	11.57	.078	.755**	.744**	.613**	.591**

* p < .05, ** p < .01

No significant correlation for the entire comparison between various dimensions of emotional intelligence and transformational leadership was obtained. All means and standard deviations for both the subordinate responses on the MLQ5x (Bass & Avolio, 2000) and the managers responses on the MSCEIT (Mayer, Salovey & Caruso, 2002) were within the range expected from the normed sample of each respective instrument.

For (H1): There was a negative (r = -.030), non-significant correlation (p< .05) between perceiving emotions, as measured by the MSCEIT and transformational leadership styles as perceived by subordinates.

For (H2): There was a positive (r = .118), non-significant correlation (p< .05) between facilitating thought, as measured by the MSCEIT and transformational leaders styles as perceived by subordinates.

For (H3): There was a positive (r= .043), non-significant correlation (p< .05) between understanding emotions as measured by the MSCEIT and transformational leadership styles as perceived by subordinates.

For (H4): There was a positive (r = .101), non-significant correlation (p< .05) between managing emotions as measured by the MSCEIT and transformational leadership styles as perceived by subordinates. These findings are completely contrary to what the prevailing literature would have suggested. The relationship between emotional intelligence and transactional leadership style was explored through the next set of hypotheses.

Looking further into the relationships between emotional intelligence and transactional leadership, the null hypotheses (H5-H8) were stated. Table 2 shows the results from the data analyses regarding H5 to H8.

Table 2.Correlation of Emotional Intelligence and Transactional Leadership Dimensions

		Mean	Std. Dev (N=381)	Transactional Leadership	1	2	3	4
	Transactional Leadership	2.64	.627	1.00				
1	Branch 1: Perceiving Emotions	99.16	15.13	-.079	1.00			
2	Branch 2: Facilitating Thought	97.11	13.71	.143	.348**	1.00		
3	Branch 3: Understanding Emotions	95.38	9.82	-.024	.236**	.328**	1.00	
4	Branch 4: Managing Emotions	96.05	8.38	.085	.262**	.395**	.185**	1.00
	EI Total	95.17	11.57	.038	.755**	.744**	.613**	.591**

* p < .05, ** p < .01

Due to minimal literature in the area of transactional leadership and emotional intelligence, transactional leadership had not been identified as having a base in emotions. Hence the Hypotheses H5 to H8 were presented as null hypotheses.

For (H5): There was a negative (r = -.079), non-significant correlation between perceiving emotions as measured by the MSCEIT and the transactional leadership dimension as perceived by subordinates.

For (H6): There was a positive (r = .143), non-significant correlation between facilitating thought as measured by the MSCEIT and transactional leadership dimension as perceived by subordinates.

For (H7): There was a negative (r = -.024), non¬-significant correlation between understanding emotions as measured by the MSCEIT and the transactional leadership dimension as perceived by subordinates.

For (H8): There was a positive (r = .085), non-significant correlation between managing emotions as measured by the MSCEIT and the transactional leadership dimension as perceived by subordinates.

All the null hypotheses were not rejected. Similar to the transformational leadership dimensions, all means and standard deviations on the managers responses on the MLQ5x (Bass & Avolio, 2000) were within the expected range.

Discussions

Transformational Leadership and Emotional Intelligence

When comparing the data within the dimensions of emotional intelligence and components of transformational leadership (H1-H4), no significant relationships were found, which led to a finding of no support for the first set of directional hypotheses (H1-H4). The results of this study differed from those reported by Sosik and Megerian (1999). They evaluated the relationships of emotional intelligence, transformational leadership and leadership effectiveness, and found that managers who were rated more effective leaders by their subordinates possessed more aspects of emotional intelligence. Sosik and Megerian used a trait-based perspective of emotional intelligence, whereas in this study, the author limited the view of emotional intelligence to an ability perspective. Buford (2001), also using a mixed model perspective of emotional intelligence found a relationship between emotional intelligence and transformational leadership. Little relationship, however, has been found between the self-reported leadership practices of nurses and their emotional intelligence (Vitello-Ciciu, 2001) as reported by the MSCEIT (Mayer, Salovey & Caruso, 2002) and no support was found for the effect of emotional intelligence as a predictor of leadership success of top executives (Collins, V.L., 2001). The findings of this study suggest that the ability perspective of emotional intelligence does not have any relationship to perceptions of transformational leadership style. This finding is contrary to what one would expect from reviewing the test manual for the MSCEIT v2.0 (Mayer, Salovey, Caruso, 2002) and the associated citations. A further explanation for these findings could be that the MSCEIT, still in its infancy is not effectively capturing the significant differences in emotional intelligence from one individual to the next. Mixed reliability results were obtained within the correlations among items on the MSCEIT, pointing to some potential construct validity problems and this could be another possible explanation for no significant correlations found on some of the dimensions. Within the perceiving emotions branch of the MSCEIT, the item reliabilities were (split ½) .91. Therefore, a claim of weak instrumentation cannot explain the entire lack of significance found for the hypotheses H1, H2, H3 and H4.

Transactional Leadership and Emotional Intelligence

A comparison of the perceived transactional leadership styles of the public sector bank managers and their emotional intelligence showed no significant relationships, as was hypothesized (H5-H8). The primary purpose for the hypotheses of no relationships was due to the lack of research support in this area. This study contributes to filling that literature void. Similar to the findings for the transformational leadership dimensions, the transactional leadership dimension had no significant relationships to any of the components of emotional intelligence. Two conclusions could be made: (1) No relationships exist between emotional intelligence and transactional leadership, therefore, the importance of emotional intelligence in day-to-day leadership is grossly exaggerated; or (2) some limitations of the MSCEIT (Mayer, Salovey & Caruso, 2002), with the low reliabilities do not allow for these conclusions at this time and further development is warranted.

Conclusion

The research hypotheses addressed in this study were related to the relationship between the emotional intelligence of managers and the perceptions those managers' leadership style and various outcomes of leadership as held by their subordinates. The populations studied were the employees of seven public sector banks along with their different branches based in Allahabad city. The results of the study, relate to the employees who participated in this study. This presents a limitation as to the generalizability of the implications for the study; therefore, it is inappropriate to draw general implications for practice based on the results of this single study. Further replication of this type of study and empirical verification would

determine the significance of the recommendations beyond the boundaries of the company.

This study focused the view of emotional intelligence to an ability perspective, one that could be measured using a performance-based instrument - the MSCEIT (Mayer, Salovey & Caruso, 2002). Within this perspective, the lack of significant relationships between the various components of leadership style and emotional intelligence is important to the organizations wanting to improve performance. Organizational efforts may be expelled in the wrong areas (that of improving emotional intelligence) and could be used in other areas to provide more significant contributions to the organizations management team.

Though this study's results should not be broadly generalized, they are still important to consider for today's practitioners. It appears that many of the benefits espoused regarding emotional intelligence to an individual's leadership success and effectiveness still need to be empirically confirmed. This study showed that those relationships between emotional intelligence and leadership style do not exist. Hence, further research is needed in the areas of this construct and associated measurement tools before this author would support its use in practice.

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Entrepreneurship

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The influence of overconfidence on entrepreneur's decisions

Fakhrutdinova Elena[a], Kolesnikova Julia[b]††††††††, Yurieva Oksana[c], Fakhrutdinov Ruslan[c]

[a] *Kazan Federal University, Vishnevskogo 24-907, Kazan, 420043, Russia*
[b] *Kazan Federal University, Chetaeva 54-39, Kazan, 420124, Russia*
[c] *Kazan Federal University, Kremlyovskaya,6/20, Kazan, 420008, Russia*

Abstract

Based on the previous research in this paper we analyzed the influence of overconfidence on entrepreneur's decision. It is well known that an entrepreneur is the main engine of the modern economy, so it is crucial to understand entrepreneur's behavior and its determinants. Overconfidence has some crucial impacts on entrepreneur's decisions. We found out that overconfidence leads to the excessive market entry, lower profits and as a result high failure rates. We also deduced that the level of confidence differs across the countries, what in turn leads to the various entry rates and different amount of nascent entrepreneurs in these countries. However overconfidence is not always a bad feature, in some cases it enhances the chance of succeeding. We arrived to the conclusion that overconfidence is helpful in the process of starting a business, but later it always has a negative impact, since it hampers the development of the venture. The initial overconfidence may make it harder to identify changes and respond to them. Optimism seems to be a unique feature, which is beneficial at all the stages of business formation and operation. So in order to be successful an entrepreneur needs always to be optimistic about the actions he takes but not too confident in the outcomes.

Keywords: Overconfidence; entrepreneur; entrepreneurial overconfidence.

1.Introduction

An entrepreneur is usually regarded as someone special, different from others. According to Edward P. Lazear an entrepreneur is the single most important player in a modern economy. So we think that it is important to understand in what way entrepreneurs differ from others, what unique traits and features they have and the most important why they think differently. In our work we will cover a very interesting and important topic – overconfidence of entrepreneurs and its influence on entrepreneurial decisions.

Entrepreneur's overconfidence is usually explored in the connection to the decision to start business. However, overconfidence also influences the entrepreneur's behaviors after the founding of the venture, such as forecasting (Hogarth and Makridakis, 1981) and negotiation (Bazerman and Neale, 1982). Overconfidence probably affects not only how entrepreneurs found their ventures but also how they behave in their capacities as managers of those ventures (Daniel P. Forbes, 2005). So understanding the reasons for overconfidence can

†††††††† Corresponding author. Tel.: +79196900666.
E-mail address: hulia_k@mail.ru.

elaborate the entrepreneur's behavior. All in all it is interesting to research and understand in what way overconfidence affects entrepreneurial behavior and especially decision making.

So the main question we will try to answer is: How overconfidence influences entrepreneur's decisions?

2. Excessive market entry

There are many ways in which overconfidence affects entrepreneur's decisions and behavior and in this part we will consider the most important ones. So we will investigate the way overconfidence affects market entry and difference in overconfidence and business start-ups among countries. In addition we will explore the effect of overconfidence on the different stages of business.

A lot of empirical studies show that mostly all new businesses fail within a few years.

Timothy Dunne et al. (1988), using plant-level data from the U.S. Census of Manufacturing spanning 1963-1982, showed that 61.5% of all entrants exited within five years and 79.6% exited within ten years.

We will consider two articles in order to see the way overconfidence influences market entry and to what consequences it leads, one article was written by Camerer and Lovallo and the other one by Koellinger et al.

1. Colin Camerer and Dan Lovallo explore whether overconfidence is the reason for the often business failure. To test this hypothesis they conducted an experiment (market entry game). N players choose simultaneously, and with out communicating, whether to enter a market or not. The market "capacity" is a preannounced number, c. Payoffs depend on a subject's rank (relative to other entrants); ranks depend on either a chance device (individual ranked by a random drawing), or on a subject's skill (ranked according to his relative performance on a skill or trivia task); and subjects forecast the number of entrants in each period.

Table 1 shows how payoffs depend on subject's rank and on the market capacity c.

Table 1. Rank-Based Payoffs (Camerer and Lovallo, 1999).

	Payoff for successful entrants as a function of "c"			
Rank	**2**	**4**	**6**	**8**
1	33	20	14	11
2	17	15	12	10
3		10	10	8
4		5	7	7
5			5	6
6			2	4
7				3
8				2

All entrants ranking below the top c lose 10$. Subjects' ranks were not determined until the end of the experiment, after they made all their entry decisions in both the skill and random conditions. Before the experiment, Colin Camerer and Dan Lovallo recruited subjects using either standard recruiting instructions or "self-selection" instructions. In the self-selection condition (reference group neglect), subjects were asked if they would like to volunteer for an experiment in which performance on sports or current events trivia would determine their payoff, and people who were very good might earn a considerable sum of money. In their experiment Camerer and Lovallo held two sequences of 12 rounds for each condition (for the random rank and for the skill rank).

Table 2 lists the total amount of money earned by all subjects per round in each experimental session, by rank condition.

Table 2. Industry profit by round (Camerer and Lovallo, 1999).

Profit for random-rank condition														
		Rounds												
Experiment #	n	1	2	3	4	5	6	7	8	9	10	11	12	Total
1	12	50	50	20	30	40	30	20	50	30	40	20	40	420
2	14	0	-10	10	20	-10	10	20	10	0	0	30	20	100
3	16	10	10	50	20	40	10	20	30	4020	40	30	20	330
4	16	0	10	10	20	10	-10	0	10	20	10	0	20	100
5	16	20	10	10	100	0	0	30	20	-10	0	0	0	90
6	16	30	20	10	0	-10	30	20	10	10	30	10	20	180
7	14	10	20	40	20	30	40	-30	40	10	0	0	20	200
8	14	20	10	0	30	30	0	10	10	20	10	20	40	200
Profit for skill-rank condition														
		Rounds												
Experiment #	n	1	2	3	4	5	6	7	8	9	10	11	12	Total
1	12	50	0	20	10	30	10	20	10	40	10	10	30	240
2	14	0	-10	10	20	-10	10	20	10	0	0	30	20	100
3	16	10	20	10	20	0	10	20	10	10	30	20	10	180
4	16	0	0	20	20	10	-10	10	-10	-10	10	-20	0	0
5	16	-30	-20	-20	-10	-40	0	-30	0	-30	-10	-20	0	-220
6	16	10	-40	-20	-30	-10	-20	-10	-20	-20	-10	0	0	-180
7	14	-40	-10	-10	0	-20	0	-40	0	0	0	-10	0	-140
8	14	10	-10	-10	-10	-20	0	-20	0	-20	10	-20	-20	-130

The main question Camerer and Lovallo wanted to answer is whether there is more entry (and lower industry profit) when people are betting on their own relative skill rather than on a random device. They found out that the answer is "Yes": In the majority of the random-rank rounds (74/96 or 77 percent) industry profit is strictly positive and total profit is negative only six times (6 percent). Average industry profit across rounds is $16.87. In contrast, in the skill-rank rounds industry profit is strictly positive in only 37 rounds (40 percent) and negative in 41 (42 percent). Average profit across the skill-rank rounds is -$1.56. The next question they were interested in is whether reference group neglect produces a larger skill-random entry differential in the experiments with self- selected subjects. They discovered that the answer appeared to be "Yes." In sessions without self-selection (1 - 4), the average per-period industry profit is $19.79 and $10.83 for the random and skill conditions, respectively- a difference of $9.14, or about one extra entrant in the skill- based rounds. In sessions with self-selection (5-8) profits is $13.96 in the random condition and - $13.13 in the skill condition, which results in an entry differential of $27.10- about three times as large as in the sessions without self-selection. Reference group neglect clearly makes the overconfidence effect stronger. (Camerer and Lovallo, 1999)

The results of their experiment also showed that the number of entrants forecasted in each period by subjects was quite good. This fact is important because it means subjects are not generally irrational in processing information and they do not overenter because they underforecast the amount of competition, they are just overconfident about their relative skill (Camerer and Lovallo, 1999).

When subjects' post-entry payoffs are based on their own abilities, individuals tend to overestimate their chances of relative success and enter more frequently (compared to a condition in which payoffs do not depend on skill). So the experiment supported the hypothesis that overconfidence might lead to the excess market entry.

2. Koellinger et al (2007), state that high failure rates and low returns to investment might suggest that too many people are entering the market as entrepreneurs. Using large samples obtained by population surveys across 18 countries, they study which variables are significantly associated with the start of a business. Their results indicate that some countries show relatively high start-up rates because their inhabitants are more overconfident than in other countries.

The definition of overconfidence they use is: overestimation of one's own abilities relative to others and they measure this using the suskill variable. The suskill variable represents the belief of an entrepreneur in his own

skills needed to start a successful business. In order to obtain this variable individuals were asked if they considered their skills to be sufficient to launch a business.

3. Methodology

3.1.Data Collection

For their research Koellinger et al (2007) used data from the Global Entrepreneurship Monitor (GEM). Respondents were asked several questions that indicate whether or not they're overconfident. The data was collected in 29 countries during June and July 2001 with a minimum of 2000 observations in the countries totaling to about 74.000 completed interviews

3.2. Analyses and Results

Table 3 shows the share of entrepreneurs among the population of the different countries. A distinction has been made between nascent-, new-, and established entrepreneurs. Nascent entrepreneurs are individuals who are in the process of starting a business. New Zealand and India show the highest level of nascent entrepreneurs.

Table 3. Unweighted ratios for the dependent variables in 18 countries (Koellinger et al., 2007).

Country	Nascent entrepreneurs in %	New entrepreneurs in %	Established entrepreneurs in %	Ratio established/ nascent entrepreneurs	Ratio established/ new entrepreneurs	N
NZ – New Zealand	8.9	6.2	7.4	0.8	1.2	1960
IN - India	8.6	3.4	6.9	0.8	2.0	2011
HU – Hungary	7.6	3.7	5.6	0.7	1.5	2000
AR –Argentina	7.5	2.5	3.3	0.4	1.3	1992
KR - South Korea	7.0	6.8	9.6	1.4	1.4	2008
IT – Italy	6.6	1.7	2.8	0.4	1.6	1973
US – United States	6.5	2.9	5.5	0.8	1.9	2954
CA – Canada	6.1	3.2	3.3	0.5	1.0	1939
PL – Poland	5.0	2.2	3.9	0.8	1.8	2000
D – Germany	4.2	1.9	3.5	0.8	1.8	7058
SG - Singapore	4.0	2.1	3.0	0.8	1.4	2004
DK – Denmark	3.7	2.3	5.2	1.4	2.3	2022
P – Portugal	3.6	3.2	4.4	1.2	1.4	2000
FIN – Finland	3.2	1.9	6.2	1.9	3.3	2001
S – Sweden	3.2	1.9	5.4	1.7	2.8	2056
RU – Russia	3.0	3.0	1.1	0.4	0.4	2012
JP – Japan	2.3	0.7	5.3	2.3	7.6	2000
IL - Israel	0.6	3.4	1.1	1.7	0.3	2055
Total	5.0	2.8	4.5	1.1	1.6	42,045

Table 4 shows the results of the survey to measure overconfidence conducted in the different countries. As is noticeable New Zealand and Hungary exhibit the highest level of suskill. It is reported that in these countries entrepreneurs tend to be overconfident leading to low returns to investment and a high level of business start-ups. While Japan reports the lowest level of suskill it does not capture the actual level because Japanese people tend to be quite modest when they are referring to their own abilities.

Table 4. Sufficient skill perceptions by country, 2001 (Koellinger et al., 2007).

Country	Suskill in % of respondents saying "yes"
NZ – New Zealand	61
HU – Hungary	56
AR –Argentina	55
US – United States	55
CA – Canada	50
IN – India	44
PL – Poland	42
SG – Singapore	42
D – Germany	37
DK – Denmark	34
P – Portugal	34
FIN – Finland	31
IT – Italy	31
IL – Israel	30
RU – Russia	30
KR – South Korea	27
S - Sweden	24
JP - Japan	11
Total	38

Koellinger et al (2007) show results that confirm general findings that entrepreneurs are more overconfident than non-entrepreneurs. Entrepreneurial behavior can be labeled as overconfidence because entrepreneurs overestimate their own abilities as was measured by the suskill variable. They find that countries that exhibit high levels of suskill have more start-ups than because the individuals are more overconfident.

So both articles, by Camerer and Lovallo and Koellinger et al., arrive to the same conclusion that overconfidence leads to the excessive market entry, lower profits and as a result high failure rates.

Overconfidence in different stages of business

Overconfidence has been seen as the reason for reckless behavior that leads to success or failure. What influence does overconfidence have on different phases of the business of an entrepreneur? Will his confidence be beneficial in most situations or will it be a burden? Some researches have found that overconfidence has a positive impact on an entrepreneur since it makes him more persistence (Fakhrutdinova et al., 2013), others have found the opposite effect, overconfidence leads an entrepreneur to make poor decisions (Hayward and Hambrick, 1997).

Actually overconfidence is not the only trait, which affects entrepreneurial decisions. Rose Trevelyan compares optimism, promotion focus, overconfidence and prevention focus and explores their influence on the different stages of business.

Optimism and promotion focus

Optimists are individuals who tend to hold on positive expectations for the future. (Scheier et al, 1994) Trevelyan states that optimism also makes people being more committed to the venture. The promotion focus is what drives the individual to undertake actions, which will help him, achieve his goals. It makes these individuals efficient and more likely to be successful (Trevelyan, 2008). The difference between optimism and promotion focus, is that promotion focused individuals are more likely to be better at generating ideas and are more open to changing a course of action by switching to a new idea or activity. These two traits are believed to

be strongly associated with each other, since they have on overall the same foundation, namely a positive view on outcomes.

Overconfidence and prevention focus

Being too optimistic or confident is found to be contra productive. Individuals, who are overconfident, tend to ignore the risks or hold on to their original successful strategies when the environment has changed. For most entrepreneurs overconfidence is their greatest enemy. (Whyte et al, 1997) The prevention focus looks how to prevent unfavorable situations and minimize loss. It is very unlikely for an overconfident entrepreneur to have a prevention focus since they are quite the opposite.

Optimism and overconfidence

Both of them are entrepreneurial traits but have completely different influence on the individual. The optimism promotes action, resilience and commitment. Overconfidence promotes decision-making shortcuts, frame blindness and an inability to adapt. Optimists always think positively, they can find good things even in bad circumstances, optimistic people believe that they will be successful, however, they don't always overestimate their chances of success. An optimistic person is not obligatory overconfident. Furthermore, optimism is a personality trait whereas overconfidence is more situation based. (Lounsbury et al., 2004, Griffin and Varey, 1996)

Table 5 (Trevelyan, 2008).

	Items	Range	Mean	SD	Cronbach alpha
Optimism	6	1-5	4.08	0.567	0.736
ESE	22	1-5	4.09	0.342	0.861
Promotion	6	1-5	3.98	0.535	0.504
Prevention	5	1-5	3.17	0.799	0.799

Table 5 shows the results of the association between the traits and entrepreneurship. ESE stands for 'Entrepreneurs Self-efficacy' and is taken as a measure for self-confidence. The high score for it is consistent with prior research performed by Markman et al., 2005, stating that entrepreneurs have a higher level of confidence than general managers. When we look at table 6, we see the association between the variables using the Pearson two-tailed correlation analysis.

Table 6 (Trevelyan, 2008).

	1	2	3	4
1. Optimism	1.00			
2. ESE	0.088	1.00		
3. Promotion	0.332*	0.206	1.00	
4. Prevention	0.029	0.008	0.008	1.00

Note: *Significant at the 0.01 level

Optimism and promotion focus are very significant correlated; someone who is optimistic is also very likely to have the promotion focus. ESE and prevention focus are not correlated as expected. Between Optimism and ESE there is also no association. This means that someone who is generally optimistic does not always have to be overconfident.

The importance and effect of these traits on the new venture development process:

1. Intention to act and identify opportunities

A lot of uncertainty is present in this phase and an entrepreneur must be optimistic and confident, otherwise he will not overcome this.

2. Evaluate opportunities

When an individual is intended to act, it is time to evaluate the opportunities and determine the likelihood of success of the business. As we know overconfidence causes the individual to ignore risks or important information and thus making a less thorough analysis, so overconfidence is contra productive in this stage.

3. Launch the venture

Launching a business is the hardest part. When the venture was just launched, an entrepreneur needs to contact with lots of people (staff, customers and etc.), accomplish tasks he never did before and it is essential for

the entrepreneur to be inspired and inspire others with his actions. Confidence and optimism are needed to overcome uncertainty and the weight of cares.

4. Grow the venture

Since the world we live in is very dynamic and alters rapidly, the entrepreneur has to know how to adapt his venture to the changes. Most firms fail in this matter. An entrepreneur needs to learn, develop and advance continuously in order to be successful. Overconfidence at this stage will have a negative impact, as an overconfident individual is not open to the changes. Optimism, however, has a positive influence since it gives the strength and hope.

5. Consolidate the business

In the last stage an entrepreneur needs to systemize organizational practices and processes, making everything in the venture more efficient and eliminate unnecessary costs. A prevention focus will help a lot, because it directs efforts towards securing the business and promoting stability. Overconfidence will not contribute because it leads the entrepreneur to believe that current situation is fine. A potentially successful strategy is to delegate the part of authority to the group of professional managers, since the ability of one person to manage a business reduces as the firm expands.

Optimism seems to be a unique feature, which is beneficial at all the stages of business formation and operation. Overconfidence is helpful in the process of starting a business, but later it always has a negative impact, since it hampers the development of the venture. So in order to be successful an entrepreneur needs always to be optimistic about the actions he takes but not too confident in the outcomes.

4. Conclusion

Overconfidence leads to the excess market entry, which in turn provokes high failure rates and low returns to investment. It is also crucial to mention that overconfidence differs across countries, what leads to the various entry rates and different amount of nascent entrepreneurs in these states.

Regarding whether overconfidence is helpful for entrepreneurs, it depends on what stage of firm operation entrepreneur is. It is beneficial to be overconfident in the process of establishing business, because it will boost the likelihood of entering the market. However, the world we live in is a dynamic one and market circumstances are likely to change. The initial overconfidence may make it harder to identify these changes and respond to them. So overconfidence tends to be harmful in the later stages. Optimism is a feature, which has a positive influence at all the stages of firm creation and operation.

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Individual and organizational effects of the corporate practices with the mediating role of lean intrapreneurship: differences between public and private sector in Turkey

Tuna Uslu[a], Nimet Eryiğit[b], Duygu Çubuk[c], a*

[a]*Gedik University, Gedik Vocational School, Occupational Health And Safety Program, Istanbul, 34876, Turkey*
[b]*Ordu University, Unye Economics And Administrative Sciences, Ordu, 52300, Turkey*
[c]*Beykent University, Vocational School, Printing and Broadcasting Technologies, Istanbul, 34398, Turkey*

Abstract

In our century the most important institutional infrastructural tools (IIT) of the companies are knowledge management (KM), occupational health and safety (OHS), quality management (QM) and standardization. Beforehands OHS practices were just aiming to recover the results of the risks after they had occured; but nowadays a proactive approach is applied, in which precautions are taken and also the psychological and social mood of the employees, ergonomics, work load, workplace conditions and managerial applications are taken into consideration. The relationship between all these IIT and a new concept which is lean start-up, that means to deliver the most simple and pure product or service to the customer is not known yet. Besides; in between IIT, of which are influential on the intrapreneurship of the employees are needed to be understood. In this study we discuss the effects of these IIT on the employee performance and organizational effectiveness with the mediating role of lean intrapreneurship.

Keywords: Occupational health and safety, Knowledge management, Quality management, Lean start-up, Organizational effectiveness

1. Introduction

In the organizations the knowledge management (KM), quality management (QM) and organizational health and safety (OHS) have organizational outcomes in addition to the positive impacts on human resources of the companies. By QM and other managerial techniques IIT create an entrepreneural organizational environment and effectiveness. The aim of this study is to understand the difference in public and private sectors in Turkey, in terms of the individualistic performance perception and organizational effectiveness of IIT with the mediating role of lean intrapreneurship (LI).

2.The Impacts Of IIT On The Employees

Safety climate is described as the personal perceptions on the policies, procedures and actions aiming to establish the workplace safety or the safety perceptions of the employees in the working environment (Clarke, 2010). Also the accreditation standards and international process models have different impacts on the companies and employees (Uslu et al., 2010). Lean approach has been applied in order to enhance the optimization and processes in production management for a long time. Lean start-up is opposed to the traditional models as focusing on the individuals, which establishes a process model from the customer to the source (Ries, 2011). So the last point of the process is if the IIT is proper for the model or not.

* Corresponding author. Tel. + 90-216-595-2185 fax. +90-216-595-2155
E-mail address: tuna.uslu@gedik.edu.tr

2.1.Institutional Standards And QM

Quality is the capacity of the products and services in providing the needs and expectations of the customers. This concept is emerged as a production concept; but turned out to be a management philosphy nowadays. Quality is described in the service sector as 'the degree of excellence or convenience to the standards of the variant parts of the service system'.

In our century one of the most important life sources of the companies who aim to be institutionalized is quality. So the sustainable existence of the companies depends on their production of qualified goods and services (Yılmaz, 2007). In this respect quality improvement process has a lot of positive results in organizational and individual level.

Besides organizational outcomes such as producing more products and services, increasing productivity, reducing absences and quitting work, and strengthening the relationships between departments and sections, QM also has individual outcomes such as perceived performance, increasing self-confidence, fair distribution of the rewards, employees feeling better about themselves and having more authority. Also, during the quality improvement process, the employee participation in the decision making process helps them boost their motivation towards their work, causes them to get stronger and take charge. Human is the basic unit of the quality concept. Appreciating his value, trusting him, taking care of his needs, being at the top of the needs hierarchy, and his happiness; briefly, being a "quality human being" in fact form the basic objective of the quality philosophy. Amongst the predecessors of this transformation, comes the structural applications of the institution, meaning when the viewpoint of the board of directors could be explained to the employees and when this could be properly managed, we can then talk about a continuous quality improvement and quality human beings as individuals. Because of this reason, quality objectives are hung in places that the employees can easily see, quality circles are formed, and the employees become a part of these processes.

2.2.The Impact Of KM On Employees

KM has created lots of changes in both company lives and our daily lives. We have new models for inside and outside organizational communication by the development of KM. With the established KM system in the companies, the employees feel empowered and achieve their individualistic and organizational goals better. KM also provides interactive communicative skills, simplified organizational learning processes, increased business life quality and self control on the work-private life equilibrium. So the traditional walls leave themselves to the collaborative business culture and positive results are created on employees. In the companies, in order to establish an influential KM management system, the managers should understand the emphasis of the social interaction, communication and institutionalization (Nonaka and Takeuchi, 1995). While Drucker (1993) saw the information system as the only way that would lead the company's to success, Nonaka and Takeuchi (1995) claimed that to continuously create innovations would be possible by creating a database on inner and outer information concepts.

Barutcugil (2002) defines KM as creating the information, keeping it on hand, sharing, and developing. Also, in order to acquire the organizational objectives in a better way, the author sees knowledge management as a new discipline that helps present, share and apply the information to all the agents (to the individuals, teams and the whole organization) collectively and systematically. Thus, the author includes information communication concept and its applications in the management process.

KM, informatics and information technology have made strong changes in the work life just like in every aspect of life. The rapid development of information and communication technologies have been changing the organizational structure, business and work methods, manager and employee profile, and in general work life, and have been bringing out new models particularly in communication in inside and outside the organization.

Through the KM systems, and informatics, the employees, who have been adequately informed of the institution's strategy, general performance, and other units' work, feel stronger and reach their individual and organizational objectives. Sharing information and increasing cooperation, employees with more authority and autonomy, mutual communication opportunities, eased down organizational learning processes, increasing quality of work life and the balance of work-private life with the employees switching to their own autonomy, the destruction of traditional walls, and the formation of the sharing and cooperation culture with have positive impacts on the employees.

As can be seen, interaction that forms as a result of sharing every single type of information, expectation, emotion and thought has both social and organizational functions. These functions can be classified as education and development, unified, innovation, persuasion, guidance, communication, coordination and conflict management (Saal and Knight, 1988; Ozcaglayan, 1998). In order to bring the business to the target quality and for the decision making mechanism to work in a healthier way, the institution should relay all the information regarding job description and processes (Uslu and Demirel, 2003). The information being relayed to all the employees to make business more competitive is provided by an effective communication model with a feedback mechanism and infrastructure (Uslu and Demirel, 2003). In the KM activities, communication methods, techniques, and channels are heavily utilized, and because of this reason, in your writing, it is emphasized that the communication aspect has a stronger influence than the management aspect of KM (Capar, 2002), meaning that KM applications especially through communication influences outcomes. As a result of this, in order for the information to be shared in the institutions, managers who understand the importance of social interactions and communication with the employees and an institutional management are needed, because socialization of the individuals in the business is one of the dynamics of the KM (Nonaka ve Takeuchi, 1995).

In the study to analyse the influence of KM on organizational entrepreneurship a significant relationship is found. Except knowledge application; knowledge acquisition, knowledge conversion, knowledge protection, culture, structure and technology has highly significant relationship with organizational entrepreneurship (AbdeAli and Moslemi, 2013). KM is a mean to encourage corporate entrepreneurship in the companies. Knowledge creation is the most determinant part of this process. On the other hand knowledge utilization can't be disregarded as an important factor in knowledge based economy (Soleimani et al., 2013).

2.3.Intrapreneurship and Lean Start-Up

Intrapreneurship can be described as the involvement of the employees in the innovation activities of the firms mentally. Pinchot (1985) expresses the concept as the imagination which takes the responsibility to create innovation. Intrapreneurship depends on the existance of the innovative environment in the firms (Morris and Kurakto, 2002). Intrapreneurs are the employees who have a tendency to be an entrepreneur in the company and can activate their new ideas and methods in the companies in order to increase the management performance (Kirby, 2003).

On the other hand, lean start-up is defined as depending on the information gathered from the customers with a humanitarian view, the methodology of developing effective new business processes, goods and services with minimum resources simply and fastly (Ries, 2011). This methodology consists of three steps which are establishment, measurement and learning. The difference between entrepreneurship and lean start-up is the customer focus in the second one. Because lean start-up is based on the customers' views about the development of the business processes.

A lot of studies mentioned about the comparison between start ups and big companies in business innovation literature. In parallel with resources large companies are expected to be more innovative; whereas a lot of new products and services are created by start ups. According to Ries "lean" word comes from the Toyota Production System in Japan. This means to separate the valuable processes from the waste ones. On the other hand, lean start up idea is different as referring itself to the innovation concept on its own (Ries and Euchner, 2013).

In the study (Sijde et al., 2013) the perception of the conditions in the organization and intrapreneural behaviour are measured. Results highlight that firm size is related with intrapreneurship; large companies tend to have more relative to smaller companies. If organizational conditions support intrapreneurship more, people feel more positive and score more about organizational conditions and intrapreneurship behaviour questions.

In the companies entrepreneurial spirit dimensions are passion, internal ecosystems, organizational climate, internal cooperation, organizational support, management support and availability of rewards and resources (Aned O and Alya O, 2013).

Sigler and Pearson (2000), in their study, determined that an organizational climate that strengthens its employees has a significant effect on individual performance. Institutional support and positive interventions associated with the business appear to have improved performance. (Cameron et al, 2004). For this reason,

institutional applications as mentioned can be assumed to be effective on the employees who work directly and indirectly.

3. Methodology

3.1. Research Goal

The studies about the impacts of IIT on organizations and individuals are limited in the literature and in Turkey. In our survey we used questionnaire method to the convenient sampled 585 employees in Istanbul. A 6-item scale was presented to the respondents that would allow them to conduct evaluations regarding each entry. (1 = never, 6 = all the time). Demographic analysis for the findings, factor and reliability tests and regression analyses were performed with SPSS 18.0 statistical software package. Factor analysis towards findings and progressive intermediary variable tests are carried out by verifying different models. For the purpose of determining the intermediation roles of the intermediary variables, three-step method proposed by Baron and Kenny (1986) was adapted to our research.

Hypotheses:

H1. According to OHS, QM, KM, LI, individual performance and organizational effectiveness, there are significant difference between public and private sector.

H2. There is a strong positive relationship between the OHS, QM, KM, LI, individual performance and organizational effectiveness.

H3. In private sector, LI will function as a variable between the OHS, QM, KM and the organizational effectiveness.

H4. In public and private sector, LI will function as a variable between the OHS, QM, KM and the individual performance.

3.2. Sample and Data Collection

A printed questionairre was created to collect data associated with the variables in the research. These forms were handed to the employees who were selected using the convenience sampling method and were actively involved in the working life. In this way, a total of 585 questionnaires were collected from Istanbul. The questionnaire used in two parts: "Demographic Information Form" (8 items), and the "Corporate Standards Form" made up of 54 expressions, consists of a total of 62 questions.

For other scales associated with institutionalization, JCI Accreditation Standards for (Joint Commission International, 2010), Organizational-Oriented Standards under the "Quality Improvement" (2010: 145-163) and "Knowledge Management" section (2010: 229-245) were the main ingredients used (Uslu and et al, 2010). "Occupational Health and Safety" developed by Choudhry and others' (2007). In measuring the "Lean Intrapreneurship", Ries (2011), Erdem and others' (2011) inventories are used. In constructing the "Perceived Individual Performance" scale, expressions were used that were added to the Williams and Anderson's (1991), Welbourne and others' (1998), Sigler and Pearson's (2000) inventories. In measuring the "Organizational Effectiveness", Staples and Ratnasingham's (1998) items are used.

3.3. Analyses and Results

Demographic characteristics of the sample used in this study are as follows: 42% of female respondents and 58% of males and the mean age was 41. Of 83% bachelor's degree and the remaining 17% portion of the participants were the elementary, middle school and high school graduates The average working time among the participants was approximately 10,5 years in this business, and they have been in working life for an average of 18,5 years.

Factor analysis of the scales is shown in Tables 1 and 2. In order to determine the sub-dimensions of our variables and positive organizational behaviors, with varimax torsion in SPSS, exploratory (descriptive) factor

and internal consistency analyses were performed. Each scale was run through the factor analysis separately, and their reliability was tested with Cronbach's alpha values, and the scales were translated in the following tables. Cronbach's alpha reliability coefficients of the scales were 0.70 and higher, therefore the scales were found to be reliable. Explanatory factor value for individaul work performance which is composed of two factors as perceived role and extra role performance with 15 variables is %68 (Table 2).

Table 1: **LI Factors and Internal Consistency Results**

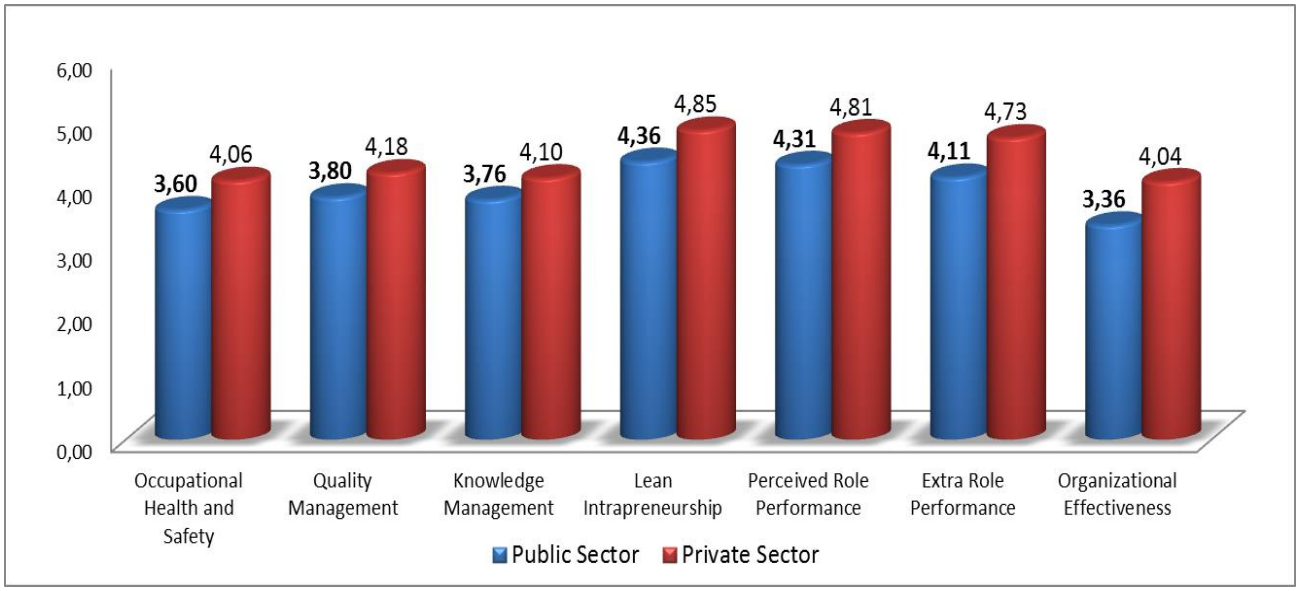
LI	**Item Weight**
Factor 1: LI (Dimension Explanation =%23,106/Cr. Alpha=%82,9)	
I suggest new and innovative methods which bring long term profit for my company.	,730
I look for and find information about the financial performance of our work.	,658
I make constructive suggestions for my company's development and sustainability.	,648
I trust in myself during preparation of the budget increase offer about my working area.	,618
Factor 2: Lean Management (Dimension Explanation =%22,944/Cr. Alpha=%74,6)	
I behave properly about my opinions, plans and actions.	,525
I can design new methods which can solve the problems.	,519
I think about the results and effects during my work.	,500
I observe the effects and results of my behaviours.	,486
I gather as much information as I can in new situations and steps in the actions to be taken.	,486
I update my working style with my experiences.	,398
Factor 3: Support To Working Friends (Dimension Explanation =%13,292/Cr. Alpha=%71,4)	
I make constructive suggestions to my working friends to improve their lives.	,557
I encourage my working friends to try new ways for improving their work efficiency.	,557
N	298
Explanatory Factors (%):	59,342
Kaiser-Meyer-Olkin Value:	,757
Bartlett Value:	,000
Approximate Chi-Square Value:	415,599

Table 2: **Individual Performance Factors and Internal Consistency Results**

Individual Performance	**Item Weight**
Factor 1: Perceived Role Performance (Dimension Explanation =%35,508/Cr. Alpha=%92,7)	
I achieve my unit and team goals.	,795
I am more successful than my competitors in my work.	,790
I achieve my work targets more than my working friends.	,768
My individual influence on the positive results of my work is high.	,763
I achieve high standards with my work quality.	,758
I do the most work with least sources.	,721
I suggest the fastest solutions when a problem occurs.	,715
I realize the responsibilities and tasks which are in my work description.	,704
Factor 2: Extra Role Performance (Dimension Explanation=%32,182/Cr. Alpha=%91,6)	
I find ways to make my company and unit more successful.	,832
I make suggestions to increase my unit's total quality.	,811
I apply the ways to increase the efficiency of my work.	,799
I save my company from potential problems and obstacles.	,752
I create a positive difference in the success of my company.	,740
I am more productive in my work place than usual.	,666
My work performance is influential on the profitability of my company.	,630
N	308
Explanatory Factors (%):	67,690
Kaiser-Meyer-Olkin Value:	,954
Bartlett Value:	,000
Approximate Chi-Square Value:	3311,143

Our first hypothesis is supported with the difference analyses statistically significant with 0,01 in between the variables (Graph 1).

Graph 1: **The Difference Between Private-Public Sectors**



According to Pearson's correlation coefficients, our second hypothesis is also supported (Table 3). A high positive correlation was found between OHS, QM, KM, LI, role performance, extra role performance and organizational effectiveness.

Table 3: **Correlations Between Variables, Variable Averages, Standard Deviations and Their Relationships**

Variables	**Mean**	**St. Dev.**	**1**	**2**	**3**	**4**	**5**	**6**
1. OHS	*3,85*	*1,45*						
2. QM	*4,00*	*1,27*	,78***					
3. KM	*3,95*	*1,18*	,69***	,77***				
4. LI	*4,62*	*,89*	,50***	,52***	,60***			
5. Role Performance	*4,57*	*,93*	,37***	,41***	,46***	,74***		
6. Extra Role Performance	*4,43*	*1,10*	,40***	,42***	,48***	,77***	,79***	
7. Org. Effectiveness	*3,72*	*1,19*	,68***	,72***	,76***	,54***	,51***	,55***

*all correlations are significant at ***p< 0.001, n=569*

Progressive intermediary variable tests towards the individual performance are performed with verification of different models with SPSS (Table 4 and 5).

OHS (model 1), QM (model 2) and KM (model 3) increase the effectiveness of LI. OHS (model 4), QM (model 5) and KM (model 6) also increase the organizational effectiveness. However, when the LI joins the analysis as an independent variable, the effect of OHS (model 7), QM (model 8), KM (model 9) is decreased for private sector. Our third hypothesis was partially supported (table 4).

Table 4: **Impact of OHS, QM, KM on Organizational Effectiveness and Multiple Regression Models created for LI as intermediate variable (*** p <0.00l, ** p <0.01, * p <0.05 significant value, standard errors in parentheses)**

	Dependent Variables								
	LI			Organizational Effectiveness					
	Model 01	**Model 02**	**Model 03**	**Model 04**	**Model 05**	**Model 06**	**Model 07**	**Model 08**	**Model 09**
OHS	.265***	-.106	-.008	.597***	.117	.227**	.546***	.134	.205*

		(.047)	(.102)	(.114)	(.040)	(.083)	(.077)	(.056)	(.097)	(.103)
	QM		.427***	-.123		.683***	.001		.697***	.064
			(.114)	(.170)		(.098)	(.111)		(.117)	(.155)
	KM			.569***			.702***			.731***
				(.115)			(.070)			(.113)
	LI							.189*	.133	-.072
								(.082)	(.078)	(.081)
Adjusted R²		.152	.169	.315	.459	.567	.700	.449	.604	.684
F		31,309	16,587	20,333	220,343	160,177	169,118	67,462	75,602	65,933
Significance		.000	.000	.000	.000	.000	.000	.000	.000	.000
N		170	154	127	260	244	217	164	148	121
Private Sector	OHS	.281***	.081	.078	.541***	.010	.020	.436***	.055	.046
		(.036)	(.070)	(.065)	(.029)	(.047)	(.042)	(.039)	(.059)	(.053)
	QM		.266**	-.156		.684***	.279***		.534***	.251**
			(.077)	(.105)		(.053)	(.068)		(.066)	(.085)
	KM			.518***			.520***			.429***
				(.094)			(.060)			(.083)
	LI							.433***	.293***	.200**
								(.073)	(.066)	(.063)
Adjusted R²		.248	.295	.387	.544	.709	.779	.629	.725	.781
F		62,720	38,198	37,656	356,737	353,777	335,223	155,811	153,731	152,304
Significance		.000	.000	.000	.000	.000	.000	.000	.000	.000
N		188	179	175	299	290	286	184	175	171

****p < 0.001, **p < 0.01 ve *p < 0.05 significance level, standard errors in parantheses*

Respectively, OHS (model 10 and 14), QM (model 11 and 15), KM (model 12 and 16) and LI (model 13 and 17) increase the effectiveness of individual performance dimensions. In public sector, our fourth hypothesis was partially supported (table 5).

Table 5: **Impact of OHS, QM, KM on Individual Performance and Multiple Regression Models created for LI as intermediate variable (*** p <0.00l, ** p <0.01, * p <0.05 significant value, standard errors in parentheses)**

		Dependent Variables							
		Perceived Role Performance				Extra Role Performance			
		Model 10	**Model 11**	**Model 12**	**Model 13**	**Model 14**	**Model 15**	**Model 16**	**Model 17**
Public Sector	OHS	.141**	-.125	-.188	-.234*	.220**	-.141	-.120	-.031
		(.053)	(.115)	(.127)	(.092)	(.063)	(.140)	(.147)	(.095)
	QM		.329*	-.043	.265		.404*	-.327	-.035
			(.130)	(.177)	(.137)		(.158)	(.206)	(.142)
	KM			.537***	-.133			.883***	.106
				(.124)	(.101)			(.145)	(.104)
	LI				.880***				.811***
					(.072)				(.075)
Adjusted R²		.031	.052	.156	.609	.054	.057	.236	.705
F		7,166	5,842	10,274	50,042	12,100	6,404	16,538	76,221
Significance		.008	.003	.000	.000	.001	.002	.000	.000
N		195	179	152	127	195	179	152	127
te Sector	OHS	.242***	.126	.131	.120*	.291***	.155*	.159*	.152*
		(.035)	(.069)	(.069)	(.057)	(.039)	(.078)	(.079)	(.066)

QM		.174* (.077)	-.042 (.114)	-.002 (.092)		.200* (.087)	.037 (.129)	.054 (.105)
KM			.257* (.103)	-.100 (.089)			.191 (.118)	-.185 (.102)
LI				.670*** (.067)				.771*** (.076)
Adjusted R²	.184	.224	.235	.504	.207	.242	.239	.512
F	47,598	29,416	20,728	45,227	54,890	32,466	21,228	46,573
Significance	.000	.000	.000	.000	.000	.000	.000	.000
N	207	198	194	175	207	198	194	175

****p < 0.001, **p < 0.01 ve *p < 0.05 significance level, standard errors in parantheses*

Conclusion

Educational level which is undergraduate and graduate and the men have higher tendency for innovation in the general framework. Private sector practices and private sector employees' perceptions about innovation are higher than public sector employees' in Turkey. OHS, QM and KM of IIT have positive effects on employees' LI motivation and performance. IIT have directly influence the organizational effectiveness and indirectly LI also has a mediating role in this process. But all these influences are less in public sector than private sector in Turkey. We suggest the public sector managers in Turkey, in order to increase their employees' perceived role performance and encourage LI in their organizations; they should use IIT effectively, so they can increase their organizational effectivenss.

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Enterprise Factors as Ambidexterity Antecedents: Contingency Model for Ambidextrous Organizations

Farshin Salehi[a], Ali Yaghtin[b], ‡‡‡‡‡‡‡‡‡*

[a,b] *Sharif University of Technology, Azadi Av., Tehran, Iran*

Abstract

Ambidexterity broadly refers to an organization's ability to pursue two disparate things at the same time. Ambidextrous firms are capable of exploiting existing competencies as well as exploring new opportunities with equal dexterity. If a firm wants to gain these advantages and want to be ambidextrous; some organizational antecedents should support this strategy. Most researches focused on generally the inherent tension of ambidexterity elements or specifically an organizational factor as the antecedent. While according to the principle of strategic alignment, organizational performance is the consequence of fit between two or more factors such as strategy, structure, culture and environment. Therefore antecedents of organizational ambidexterity are investigated and organizational strategy, structures and culture are described as critical promoters of ambidexterity. Moving towards ambidextrous organization requires capable organizations of repeated change management at times of industry transitions that is expected not to be achieved without considering effective interplay of change in these three factors and their paradoxical behaviors.

This research addresses these gaps and presents a management model that seeks the balance of exploitative and explorative features of organizational strategy, structure and culture which is affected by environment. Our review resulted in the development of a management model that can be applied to describe, analyze, diagnose and promote ambidextrous organizations suggests that sustainable success can be achieved only if the organizations continuously balance paradoxical tensions of strategy, structure and culture concurrently.

Key Words: Organizational Ambidexterity, Exploitation, Exploration, Structure, Strategy, Culture.

1. Introduction

Economic downturns, like the current one, emphasize the need to respond to the rapidly changing market brings about challenges that organizations need to overcome in order to survive in the long run as well as fulfil short-term goals. Pursuing both these goals is proven to be a difficult task. In fact, most organizations do not survive in the long run (O'Reilly and Tushman, 2011). According to March (1991) organization activities should be monitored within exploration includes processes captured by conditions such as variation, risk taking, experimentation, flexibility, discovery and innovation, whereas exploitation concerns the terms like refinement, choice, production, efficiency, selection, implementation, and execution. Exploratory forecast and adapt to future trends while exploitative innovation fulfil immediate market needs. Being able to balance these two goals is described as organizational ambidexterity that was first coined by Duncan (1976). Ambidexterity involves the capability to both exploit existing knowledge, assets, and customers/markets for short-term profits and also explore new knowledge, technologies, and customers/markets to enhance long term development (O´Reilly &

* Corresponding author. Tel.: +98-912-800-1082; fax: +98-21-66013310.
E-mail address: farshin.salehi@gmail.com.

Tushman, 2008). Researchers have increasingly come to recognize the importance of balancing seemingly contradictory tensions (Adler et al., 1999; J. S. Brown, J. S. & Duguid, 2001; Katila & Ahuja, 2002).

Several scholars regarded that there is a trade-off between aligning the organization to exploit existing competencies and exploring new ones (Ancona, Goodman, Lawrence, & Tushman, 2001; Floyd & Lane, 2000; Levinthal & March, 1993). Earlier research had often claimed that organizational practices that simultaneously address efficient exploitation and effective exploration may be impossible to achieve (Gibson & Birkinshaw, 2004, Hannan & Freeman, 1977; McGill, Slocum, & Lei, 1992; Miller & Friesen, 1986 Simsek, 2009). In his 1991 article, March conversely argues that successful firms are ambidextrous contributed to a general shift in organizational research from trade-off to paradoxical thinking (Eisenhardt, 2000; Gavetti & Levinthal, 2000; Lewis, 2000).

While early conceptual research on organizational ambidexterity has been expanded to empirical studies on the relationship between organizational ambidexterity and firm performance (Gibson & Birkinshaw, 2004; He & Wong, 2004), how organizations achieve ambidexterity or the antecedents of balancing exploration and exploitation are yet to be understood through further study (Jansen, Bosch & Volberda., 2006; Gibson & Birkinshaw, 2004).

Most of scholars studied ambidexterity and achieving the balance from the viewpoint of structure. Structural ambidexterity achieves the balance through temporal separation (Gupta, Smith and Shalley, 2006; Simsek et al., 2009), while contextual ambidexterity simultaneously explore and exploit within a business unit (Gibson and Birkinshaw, 2004, Simsek et al., 2009). However few researches emphasize ambidexterity from the viewpoint of strategic management (e.g. Lubatkin et al., 2006; Smith and Tushman, 2005) and less is argued that ambidexterity is grounded in the type of organizational culture (Ghoshal and Bartlett, 1994; Gibson and Birkinshaw, 2004; Simsek et al., 2009).

Structure has a considerable impact on the development of organization using its content, dimensional and environmental aspects, it is considered to be one of the factors which enhance the productivity of organization. But as strategy is first formulated in organization and then managers develop structure, appropriate drafting of strategy must not be forgotten in a way that organization can fulfill its main objectives. This necessitates an appropriate culture within the organization that will support the organization in implementing strategies rather than an obstacle to the failure of strategy (Beygi, 2010).

Organizational structure and culture are typically part of strategic decisions of the top management (Lyles and Schwenk, 1992). Studies have also proposed a variety of antecedents, and begun to specify more complex relationships and potential moderating effects (Auh & Menguc, 2005; Jansen, van den Bosch, & Volberda, 2006). Yet most researches focused on generally the inherent tension of ambidexterity elements or specifically an organizational factor as the antecedent. Thus we see a need for an additional assessment of ambidexterity also from a 3dimentional perspective: Organizational strategy, structure and culture. This research addresses these gaps and presents a management model that designs Strategy, Structure and culture as three basic organizational factors paradoxically to achieve ambidextrous organization.

2. Conceptual Framework:

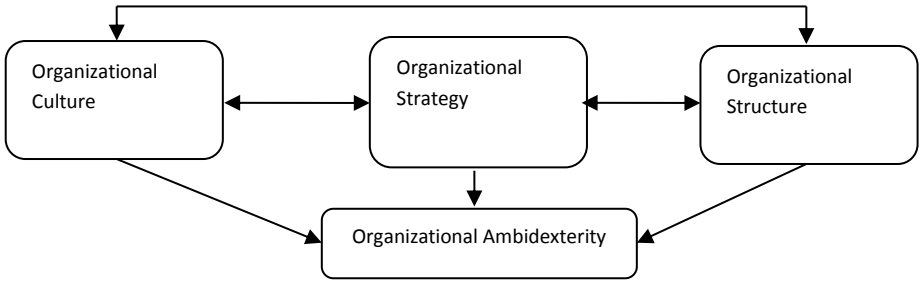

Fig 1. Organizational Ambidexterity Antecedents

3. Mutual Relations between Strategy, Structure and Culture

Strategy refers to direction and scope of an organization over the long-term that achieves advantage for the organization through its configuration of resources within a challenging environment, to achieve its markets, customers or client's acceptance and to fulfill stakeholder expectations (Johnson et al. 2008). Organizational strategy is long-term plan for organization which helps organization achieve its goals in a competitive environment (Benet, 1999). Organizational strategy emphasizes the monitoring and evaluation of external opportunities and threats in light of comparative strengths and weaknesses to generate and implement a new

strategic direction (Hunger and Wheelen, 2007). It is a continuous, iterative process aimed at keeping an organization as a whole appropriately matched to its environment (Certo and Peter, 1991). Certo and Peter further state that organizational environments are constantly changing and organizations must be modified accordingly to ensure that organizational goals can be attained.

Strategy is the force that mediates between the firm and its environment. Firms whose strategy and structure are aligned should be less vulnerable to external changes and internal inefficiencies, and should thus perform better because "the structure provides the necessary systems and processes essential for successful strategy implementation" (Habib and Victor, 1991, p. 589). Chandler studied almost 100 of America's largest firms from 1909 to 1959. He concluded that organization structures follow the growth strategies of firms. In his 1962 groundbreaking work, Chandler showed that a long-term coordinated strategy was necessary to give a company structure, direction, and focus. He says it concisely; structure follows strategy (Chandler, 1962).

Structure, whether formally or informally defined, such as a built structure or a structure of society, has two aspects. It includes, first, the lines of authority and communication between different administrative offices and officers and second, the information and data that flows through the lines if communication and authority (Chandler 1962). The structure can affect the effectiveness of managers through the frequency of information among members, because the frequency of information facilitates knowledge distribution and sharing (Davenport & Prusak, 1998). Organizational structure can be viewed as the way responsibility and power are allocated inside the organization and work procedures are carried out by organizational members (Blau, 1970; Dewar & Werbel, 1979; Germain, 1996; Gerwin & Kolodny, 1992).

Organizational structure models, as a particular configuration of structural dimensions, direct and shape the manner in which organization members perform their tasks in the course of achieving the organization's goals. Since both structure and culture determine the behavior of organization in different ways, it can be assumed that the model of the organizational structure influences organizational culture (Janićijević, 2013). Consequently researchers analyzed culture and structure and their mutual interaction (Wei, Liu, Herndon, 2011; Singh, 2011; Zheng, Yang, McLean, 2010). It is quite possible that the compatibility of the behavior determined by the structural framework in an organization, and the behavior determined by cultural assumptions and values has an impact on strength or weakening of organizational culture. On the other hand, organizational culture realizes its impact on shaping organizational structure through forming the interpretative schemes of the top management, which selects the organizational structure model (James, James, Ashe, 1990).

Therefore the character of different components of management and organization, such as strategy and structure emerges precisely from the way in which employees and management understand organizational reality and behave in it which is organizational culture (Wilderom, Glunk & Maslowski, 2000).

Culture has been identified as a pattern of shared assumptions, beliefs, and expectations that guide members' interpretations and actions by defining appropriate behavior within an organization (Fiol, 1991; O'Reilly & Chatman, 1996). Cultural norms typically form around behaviors that are significant to a group such as how to interact with one another and prioritize objectives (e.g., Bettenhausen & Murninghan, 1991). Organizational culture is a form of collective interpretative scheme shared by the members of an organization, due to which they assign meanings to occurrences, people, and events within and outside of the organization in a similar way and treat them similarly (Schein, 2004; Alvesson, 2002; Martin, 2002).

Many studies have tried to prepare some conceptual models and test the effect of organizational culture (Daulatrum B. Lund, 2003; Mehta and R.Krishnan, 2004; Zabid and Sambasivan, 2004; Naranjo-Valencia et. al., 2011). A noticeable influence of a powerful culture clears up on the subject of strategy implementation that only a few studied emphasize on the effect of culture on strategy implementation (SakuMantere, 2000; Van Der Maas, 2008). This is in line with previous studies which had considered relationships between organizational culture and organization's performance indicators (Fey and Denison, 2003; Pirayeh et.al., 2011; Ouchi, 1981; Lee and Tseng, 2005; Abdul Rashid et.al, 2004; Carnall, 1990; Naranjo-Valencia, 2011; Lopez et.al, 2004; Davenport and Prusak, 1997).

4. Strategy and Ambidextrous Organization

A number of studies have provided arguments on paradoxical phrases assumed for strategy processes, albeit using different terms and mostly without referring to one another.

Table 1: Contradictory Organizational Strategy Tensions

SCHOLAR	**EXPLOITATION STRATEGY**	**EXPLORATION STRATEGY**
Burgelman (1991, 2002)	Variation-Reducing or Induced	Variation Increasing or Autonomous
The induced processes concern initiatives that are within the scope of the organization's current strategy and build on existing knowledge, whereas the autonomous processes concern initiatives that emerge outside the current strategy's scope and involve the creation of new competencies. He suggests that a combination of the two strategic processes may be the most beneficial, even though this means that the organization never completely maximizes its efforts in the current domain.		
Ghemawat and Ricart i Costa (1993)	Static Efficiency	Dynamic Efficiency
Static efficiency concerned about the refinement of existing products, processes, and capabilities. While dynamic efficiency concerned about the development of new ones. They describe the organizational trade-off between these two strategic processes and demonstrate that organizations have a tendency to focus on only one.		
Hamel and Prahalad (1993)	Leverage	Stretch
The need to exploit existing capabilities and the search for new ones is a key strategic challenge for creating competitive advantage.		
Sanchez, Heene, and Thomas (1996)	Competence-Leveraging	Competence Building
Successful firms have the capability of maintaining a mix of competence-leveraging and competence-building activities. Competence leveraging refers to applying existing competences, whereas competence building refers to the development of new capabilities.		
Volberda, Baden-Fuller, and van den Bosch (2001)	Selective	Adaptive
"Renewal journeys" is suggested that combine various aspects of both selective and adaptive strategic actions.		

5. Structure and Ambidextrous Organization

Research on structural antecedents has focused on creating separate organization units and the use of formal and informal coordinating mechanisms to stimulate innovation ambidexterity (Duncan, 1976; Christensen 1997; Tushman and O'Reilly, 1996; Jansen, et al., 2006). Ambidexterity can be defined as a firm's ability to operate complex organizational designs that provide for short-term efficiency and long-term innovation (Tushman & O'Reilly, 1996).

As shown in table 2, Organization theory scholars have long discussed the challenge of using organizational features that make possible both explore as well as exploit (Tushman and O'Reilly 1997, Gibson and Birkinshaw 2004, Siggelkow and Levinthal 2003). Thompson (1967) describes the trade-off between exploitation as efficiency and exploitation as flexibility as a central "paradox of administration" (p. 15).

Scholars first put forward different structural mechanisms to cope with the competing demands facing the organization (Adler, Goldoftas, & Levine, 1999; McDonough & Leifer, 1983; Tushman & O'Reilly, 1996). Conversely, Gibson and Birkinshaw (2004) proposed that ambidexterity arises from a business unit's organizational context.

Table 2: Contradictory Organizational Structure Tensions

SCHOLAR		EXPLOITATION STRUCTURE	EXPLORATION STRUCTURE
Separate Unit	Single Unit		
Burns and Stalker 1961, Duncan 1976, Ford & Ford, 1994; Lawrence & Lorsch, 1967; Lewis, 2000	Adler et al., 1999; Jansen et al., 2005a; Sheremata, 2000; Gibson & Birkinshaw, 2004	Mechanistic	Organic
Mechanistic structures rely on standardization, centralization, and hierarchy which support efficiency, whereas organic structures with their high levels of decentralization and autonomy support flexibility.			

6. Culture and Ambidextrous Organization

Schein (1985) proposed that culture addresses two fundamental issues confronting organizations: the need to adapt to external changes, and the need to provide internal integration. Researchers have disagreed about how various types and cultural behaviors affect performance. Some have viewed cultivating a strong culture in which members agree and feel intensity about norms as a potential path to aligning employees with an organization's strategic priorities (Tushman & O'Reilly, 2002). One the other hand, some have been skeptical of the notion that a strong culture boosts performance, particularly in dynamic environments.

Organizations with a strong culture can induce cognitive and behavioral uniformity among group members (Nemeth & Staw, 1989; Staw, 2009) create clear and coherent values (Chatman & Cha, 2002; Saffold, 1988) and expect that members agree with and care intensely about those values (Jackson, 1966; O'Reilly, 1989) because groups tolerate less deviation as cohesion among members intensifies (Kaplan, Brooks, Shesler, King, & Zaccaro, 2009), even if core values emphasize dissent and creativity (e.g., Flynn & Chatman, 2001; Sutton & Hargadon, 1996). Althoght some researchers have questioned how well strong cultures improve bottom-line performance (Saffold, 1988), a growing body of research and a host of salient examples demonstrate how organizations attain strategic advantages through strong cultures (Collins & Porras, 1994; Gordon & DiTomaso, 1992; O'Reilly & Pfeffer, 2000).

Although strong culture organizations and their associated stability generally enjoy better performance than do weaker culture organizations, strong culture organizations are not as adaptive as may be necessary for their long-term survival, because strong cultures are associated with greater adherence to routines and behavioral uniformity. So they are less effective than weaker culture firms in dynamic environments (Boisnier, A., & Chatman J. A., 2003).

Following table mentions how scholars suggested paradoxical tensions of cultural ambidexterity.

Table 1: Contradictory Organizational Cultural Tensions

SCHOLAR	EXPLOITATION CULTURE	EXPLORATION CULTURE
Tushman & O'Reilly, 1996; Tushman & Smith, 2002	Strong	Flexible
Organizations benefit from simultaneously managing strong, stable cultures while maintaining the flexibility and adaptability necessary to survive the ebbs and flows of turbulent environments		
Boisnier, A., & Chatman J. A., 2002; Schein, 1988; Ashby's (1956)	Dominant Culture	Subculture
Co-existence of subcultures and a dominant culture when dealing with pivotal and peripheral values. Pivotal values are central to an organization's functioning, while Peripheral values are desirable but are not believed by members to be essential. Competition between subcultures enhances the capacity of organizations to adapt to changing conditions. Strong culture firms might become more agile by allowing subcultures to emerge. Organizations with more variety are better equipped to respond to a complex environment. Norm variation, generated by subcultures characterized by creativity, can similarly foster innovation and adaptation to dynamic environments.		
Lewis & Boyer (2007)	Control	Flexible
Culture of flexibility promoted creativity while control helped with execution and arises from adherence to a norm that promotes adaptability.To promote adaptation, the norms that define an organization's culture need to promote flexibility, risk taking, and experimentation within the firm.		
L. Wang & M. Rafiq	Shared Vision	Diversity
Organizational diversity and shared vision are important to achieve either simultaneous or sequential ambidexterity. Shared vision defined as the organizational values that promote organizational members play an active role in creating their own organizational culture, contrary to the traditional top-down approach (Schein, 1985; Gregory, 1983; Wilkins and Ouchi,1983) or the strategic approach to culture, that leaders in an organization create the culture (Pettigrew, 1979).However, Diversity is defined as the extent to which a firm tolerates differences, recognizes, evaluates, and rewards individuals to think originally in a frame-breaking way, which, in turn, contribute to a rich cognitive pool of ideas, experience, and knowledge (Miller and Friesen, 1983; Popper and Lipshitz, 1998).		

7. Management Model of Ambidextrous Organization: HOT CUBE

Most prior literature has focused on relevance of ambidexterity and organizational performance (Adler, Goldoftas and Levine, 1999; Ahuja and Lampert, 2001; Benner and Tushman, 2002; Gibson and Birkinshaw, 2004; He and Wong, 2004; McDonough and Leifer, 1983). In contrast, far less research has traditionally been devoted to how organizations achieve organizational ambidexterity (Adler et al., 1999; Siggelkow & Levinthal, 2003). Recently some studies indicate if a firm wants to gain these advantages and want to be ambidextrous; some organizational antecedents should support this strategy. They have started to investigate the antecedents of

organizational ambidexterity and described organizational structures, behavioral contexts, and leadership processes as promoters of ambidexterity (Burgelman's, 1991; Flynn and Chatman 2001).

However a more holistic view is needed to cover previous one-dimensional studies. Our review resulted in the development of a management model that can be applied to describe, analyze, diagnose and promote ambidextrous organizations.

Ambidextrous organizational designs are composed of an interrelated set of organizational factors. None of organizational factors are dependent and all have bilateral relations. According to the principle of strategic fit or alignment, organizational performance is the consequence of fit between two or more factors such as strategy, structure, technology, culture and environment (Burns and Stalker, 1961). Strategic alignment is rooted in contingency theory, which suggests that there is no one best way of organizing (Miller et al., 1984) and must be fitted into its context in order to enhance firm performance (Bergeron et al., 2004). The contingency relationship that has received the most attention has been the one between organizational strategy and organizational structure, starting with Chandler's (1962) thesis that strategy precedes structure, and followed by a large number of studies in large and small manufacturing and service firms (Galbraith and Nathanson, 1979; Miller 1987; Freel, 2000). However there are situations where changes in structure lead to changes in strategy, even though strategy has been found to be a more important determinant of structure than structure is of strategy (Amburgey and Dacin, 1994).

An aligned organization will be operating effectively if organization cultures and structures appropriately designed in given strategic situations. It considers the degree of alignment that exists between competitive situations, strategy, culture and structure.

Thus it is expected that ambidextrous management model also be designed according to interaction of critical factors of environment, strategy, culture and structure that are domain of other organizational context. Changing one factor affects, sparks or hampers another's changing.

As ambidexterity seeks the balance of exploitative and explorative activities, it is expected not to be achieved without considering effective interplay of change in these three factors. Moving towards ambidextrous organization requires capable organizations of repeated change management at times of industry transitions (Tushman et al., 1996).

Culture is a socially constructed attribute of organizations which serves as the "social glue" binding organizational elements together (Cameron & Ettington, 1988; O'Reilly & Chatman, 1996; Schein, 1996). Changing an institutional culture successfully is difficult and complex, because a deeply imbedded culture tends to evolve only slowly, if at all, and changes to ingrained attitudes and beliefs are often strongly resisted. Research suggests that between 66% and 75% of organizational culture change efforts fail. However Organizations tend to develop and value set over time as they adapt and respond to challenges and changes in the environment (Schein, 1996; Sathe, 1985). Thus, complete culture changes should only be undertaken when absolutely essential and must be relevant in the context of improving overall business performance and consistent with strategic imperatives (Hooijberg & Petrock, 1993; Denison, 1989; Trice & Beyer, 1993; Cameron & Quinn, 1999; Kotter, 1995).

Yet organizational cultures do not change simultaneously with strategy changes. In addition strategy has strict relation with culture. Even strategy changes structure it can be hampered by culture and not implemented correctly.

To be ambidextrous, organizations have to reconcile internal tensions and conflicting demands in their task environments (Figure 2). Some academics identified the roles of organizational structures, cultures, and routines to manage contradictions. According to the literature several authors outline the various organizational antecedents and their paradoxical faces that can be instrumental in finding a balance between the two types of exploratory and exploitatively activities and thus our model considered following paradoxes with their strict interrelation.

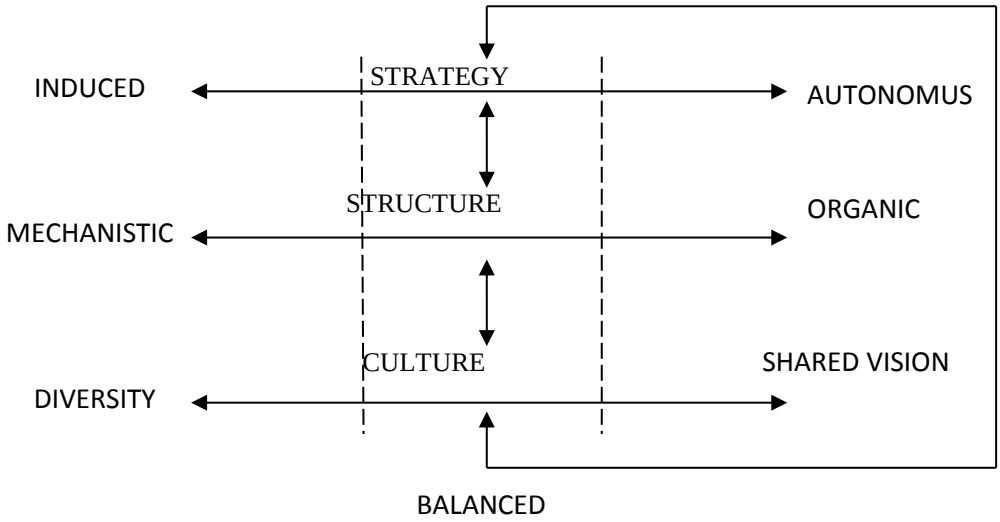

Fig 2. Interrelation of Paradoxical Features of Ambidexterity Antecedents

Composition of paradoxical types of strategy, structure and culture can produce various sorts of organizational with more or less efficiency or flexibility. According to figure 3, each factor assumes as an axes of X, Y and Z. The large cube is fitted these axes which each edge is divided into 3 parts: explorative, exploitative and balanced features. This forms 27 small cubes with a specific characteristic caused from structural, strategic and cultural behaviors. Each organization according to its past, present and future orientations can be more fitted to one of these 27 cubes.

Achieving balanced condition may occur in only one or two factors, yet to be an ambidextrous organization and guarantee business continuity, this model presents the inside cube, showed in red, as the "Hot Cube", which completely has a balanced behavior as it's strategy, structure, and culture is ambidextrous.

The whole cubes are performing in a dynamic environment that changes can shift the organization from one cube to another. However sustainable success can be achieved only if the organization enhances their capabilities to reaches the "HOT CUBE".

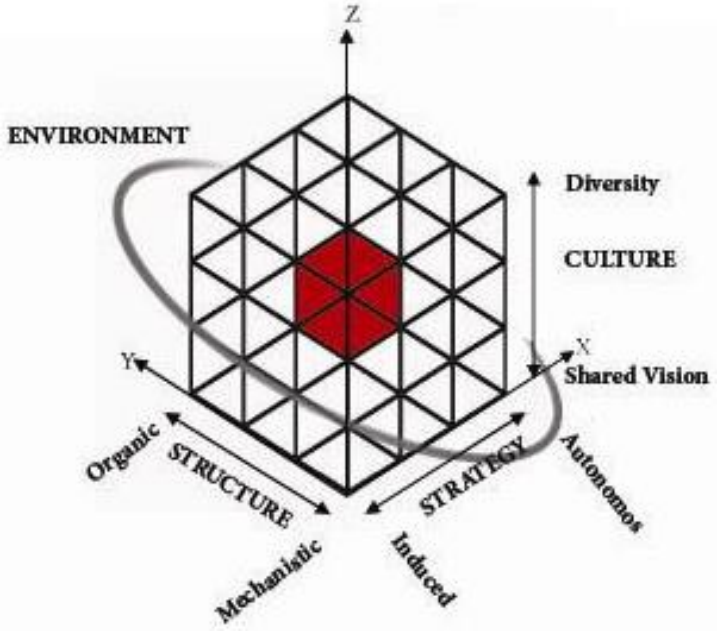

Fig 3. Management Model of Hot Cube

8. Conclusion

According to the principle of strategic alignment, organizational performance is the consequence of fit between two or more factors such as strategy, structure, culture and environment (Burns and Stalker, 1961). Strategic alignment is rooted in contingency theory, which suggests that there is no one best way of organizing (Miller et al., 1984) and must be fitted into its context in order to enhance firm performance.

These three basic organizational factors; strategy, structure and culture, have strong interrelationships. An aligned organization will be operating effectively if organization cultures and structures appropriately designed in given strategic situations. The contingency relationship that has received the most attention suggests strategy precedes structure. On the other hand, Strategy has strict relation with culture, while organizational culture does not change simultaneously with strategy changes. Even strategy changes structure it can be hampered by culture and not implemented correctly.

As ambidexterity seeks the balance of exploitative and explorative activities, it is expected not to be achieved without considering effective alignment of factors such as strategy, structure and culture which is environment. Some academics identified the roles of organizational structures, cultures, and strategy to manage contradictions.

Composition of paradoxical types of strategy, structure and culture can produce various sorts of organizations with more or less efficiency or flexibility. This research proposed a management model to describe, analyze, diagnose and promote organizations toward ambidexterity and suggests that sustainable success can be achieved only if the organizations continuously balance paradoxical tensions of strategy, structure and culture concurrently.

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Understanding Organizational Capabilities And Dynamic Capabilities In The Context of Micro Enterprises: A Research Agenda

G. Gurkan Inan [a], Umit S. Bititci [b], a§§§§§§§§§

[ab] *Heriot-Watt University, Edinburgh, EH14 4AS, UK*

Abstract

Purpose of this study is to understand development of organizational capabilities in micro enterprises. Organizational capabilities underpin companies` competitive advantages as well as their ability to respond internal and external change. Current literature is focused on mainly large enterprises, with some interest on SMEs. However there is little research attempting to understand the applicability of organizational capability theories on micro enterprises. In this paper we propose a research framework and a research agenda for addressing this gap.

Keywords—Micro Enterprises, Organizational Capabilities, Dynamic Capabilities

Introduction

SMEs have important place at all economies in the world, but especially to those in developing countries and, within that broad category, especially in those economies with major employment and income distribution challenges. SMEs are the engine of growth, essential for developing competitive and efficient markets and reduction of poverty particularly in developing countries (Fan, 2003). Small and medium-sized enterprises are contributing to employment growth at a higher rate than larger firms. In the EU economy about 99.9% of the enterprises are SMEs of which 93 % are micro enterprises (European Commission, 2003). Micro companies are also a source of skilled workforce and have an important role in creating competitive industrial base (European Commission, 2003).

Firms need to adapt environmental change to remain successful. When the environment is dynamic or unpredictable, firms are especially challenged to revise their routines (March, 1991). Helfat (1997) suggests that organizational capabilities allow firms to create new products and processes and respond to changing market circumstances. Organizational capability is the ability of a firm to perform a coordinated task, utilizing organizational resources, for the purpose of achieving a particular end result (O`Regan and Ghobadian, 2004). Development of organizational capabilities are well documented in literature for large enterprises (Barney, 1991; Peteraf, 1993; Teece et al., 1997; Amit and Schoemaker, 1993). However there is little research attempting to understand the applicability of organizational capability theories on micro enterprises. In this paper we propose a research framework and a research agenda for addressing this gap.

* Corresponding author. Tel. +44-7429-329461 e-mail: ggi1@hw.ac.uk

SMEs Literature Review

Definition of SMEs

Definition of SMEs is different for each country based on their industrial and economic structure. Revenue, payrolls, total assets of enterprises, number of employee are key indicators used to differentiate micro, small, medium and large enterprises (SMEDP, 2014; USITC, 2014; European Commission, 2014). The most common indicator is number of employees as illustrated in Table-1.

Table - 1 Definition of SMEs by countries

	Medium	***Small***	***Micro***
	Up to	Up to	Up to
USA	500	100	N/A
China	2000	300	N/A
EU	250	50	10
Australia	200	20	5
Turkey	250	50	10
UK	249	49	9

Differences between Large, SME and Micro Enterprises

SMEs have specific characteristics that distinguish them from large corporations and that can of course change across different countries and cultures. According to literature, SMEs are generally independent, multi-tasking, and cash-limited based on personal relationships and informality, as well as actively managed by the owners, highly personalized, largely local in their area of operation and largely dependent on internal sources to finance growth (Vyakarnam et al., 1997; Moore and Manring, 2009; Hudson-Smith and Smith, 2007; Ates et al., 2013).

However, in literature difference between micro enterprises and others are not so well defined. In this study, in order to clarify what makes micro enterprises different than others, we interviewed owners/managers of 16 micro manufacturing enterprises. The results are illustrated in Table 2. For the purpose of this study, micro enterprises are defined as manufacturing firms which have less than 20 employees.

Table – 2 Comparison of Large, SME and Micro enterprises

	Large	***SME***	***Micro***
	from literature		***from primary data***
Leadership	Leaders are more involved with strategic activities	Leaders are more involved with operational activities than strategic activities	Leaders are exclusively involved with operational activities
Management	Participative management	Mixture of empowered supervision and command	Command and control

		and control	
Strategic Planning	Short and long term planning	Short term planning focus on niche strategies	Fire-fighting to survive
Organizational Structure	Hierarchical with several layers of management	Flat with few layers of management	Flat with one layer
System & Procedures	Formal control systems, High degree of standardization	Personal control Some degree of standardization and formalization	No procedures Low degree of standardization and formalization
Human Resources	Training and staff development is planned and is in large scale	Training and staff development is adhoc and small scale	Almost no training and staff development activities
Market and Customer Focus	Formal customer relationship Larger customer base	Formal-Informal customer relationship Limited customer base	Informal customer relationship Very limited customer base
Operational Improvement	Vast knowledge or understanding of operational improvement activities	Limited knowledge or understanding of operational improvement activities	No knowledge or understanding of operational improvement activities
Innovation	Innovation based on R&D	Innovation based on clusters and networking	Innovation based on technological improvement and customer needs
Networking	Extensive external networking Better understanding of support available from local government	Limited external networking Limited knowledge of funding and support available from local government	Very limited external networking No knowledge of funding and support opportunities

Organisational Capabilities

Organizational capabilities are defined as a firm`s capacity to deploy its resources, tangible or intangible, to perform a task or activity to improve performance (Amit and Schoemaker, 1993; Grant, 1991; Teece et al., 1997). Helfat and Peteraf (2003) define organizational capability as 'the ability of an organization to perform a coordinated set of tasks, utilizing organizational resources, for the purpose of achieving a particular end result'. Organizational capabilities are fundamental to firms` ability to solve effectively their organizational problems (Dosi et al., 2000).

Researchers distinguish between different organizational capabilities. Collis (1994) proposed four categories of organizational capabilities. The first 'are those that reflect an ability to perform the basic functional activities of the firm' (Collis, 1994). The second category concerns dynamic improvements to the activities of the firm such as continues improvement activities. The third category is 'to recognize the intrinsic value of other resources or to develop novel strategies before competitors' (Collis, 1994). The fourth category is labelled 'higher order' or 'meta-capabilities', and it relates to learning-to-learn capabilities. Winter (2003) proposes that there are zero level

capabilities, also called operational or ordinary capabilities, which he defines as those that permit the firm to earn a living in the present. Then he explains that there are first-level capabilities which modify and change zero-level capabilities. He also suggests, similarly to Collis (1994), that there are higher order capabilities which operate on the first level capabilities. Table – 3 provides a comparative summary of different categorization of organizational capabilities.

Table – 3. Distinguishing organizational capabilities by different authors

Collis (1994)	**Winter (2003)**	**Zahra et al. (2006)**	**Ambrosini et al. (2009)**
First category capabilities	Zero-level capabilities	Substantive capabilities	Resource base
Second and third category capabilities	First-order capabilities	Dynamic capabilities	Incremental Dynamic capabilities Renewing Dynamic capabilities
Meta capabilities	Higher order capabilities		Regenerative Dynamic capabilities

In this study, we have developed a theoretical framework for organizational capabilities which classifies organizational capabilities into two categories: dynamic and operational. Following section explains this framework.

Foundations

Organizational culture is defined by many authors in literature. Most commonly used definition is "the way we do things around here" (Lundy and Cowling, 1996). Schein (1985) argues that culture consists of three dimensions; assumptions, values and artefacts. Assumptions are widely held, ingrained subconscious views of human nature and social relationships that are taken for granted. Values represent preferences for alternative outcomes as well as means of achieving those outcomes. Artefacts are the more solid or physical representation of culture that includes rituals, slogans, traditions and myths. Organizational culture has been identified as an important influence in the process of capability development (Oliver, 1997). Culture is central to the change process and to the attainment of strategic objectives (Bluedorn and Lundgren, 1993). Culture has vital role to develop other capabilities. Martins and Terblanche (2003) suggest five determinants of organizational culture as: strategy, structure, support mechanism, behaviours that encourages innovation, and communication. Organizational goals and objectives reflect the priorities and values of organizations and as a result may promote or hinder innovation (Arad et al., 1997).

Table – 4 Determinants of organizational culture (Martins and Terblanche, 2003)

Strategy	Structure	Support Mechanisms	Behaviour that encourages innovation	Communication
• Vision and mission • Purposefulness	• Flexibility • Freedom -Autonomy -Empowerment -Decision making • Cooperative teams and groups interaction	• Reward and recognition • Availability of resources -Time -Information technology -Creative people	• Mistake handling • Idea generation • Continuous learning culture • Risk taking • Competitiveness • Support for change • Conflict handling	• Open communication

Organizational learning is defined as a process encompassing the acquisition, distribution, and interpretation of information, together with the development of organizational memory (Bell et al., 2002; Tippins and Sohi, 2003). Organizational learning capability is important to develop other capabilities. Four dimensions are identified for development of learning capability as managerial commitment, system perspective, openness and experimentation, knowledge transfer and integration (Jerez-Gomez et al., 2005). Management should recognize the relevance of learning, thus developing a culture that promotes the acquisition, creation, and transfer of knowledge as fundamental values. (Jerez-Gomez et al., 2005). The organization is considered as a system that is made up of different parts, each with its own function but act in a coordinated manner and it is important to that various individuals, departments, and areas of the firm should have a clear view of the organization's objectives and understand how they can help in their development (Jerez-Gomez et al., 2005). Openness is important to develop and share new ideas and encourage other individuals to share their ideas. Knowledge transfer and integration requires effective communication and knowledge sharing within the organisation.

Zollo and Winter (2002) suggest that learning processes develop over time in two different types of organizational capabilities as operational capabilities and dynamic capabilities.

Operational Capabilities

Winter (2003) defines an operational capability as 'a high-level routine (or collection of routines) that, together with its implementing input flows, confers upon an organization's management a set of decision options for producing significant outputs of a particular type'. Operating capabilities enable the firm to execute its main operating activities (Newey and Zahra, 2009). An operational capability enables a firm to perform an activity on an on-going basis using more or less the same techniques on the same scale to support existing products and services for the same customer population (Helfat and Winter, 2011). Operational capabilities are important to sustain and improve business performance.

Routines of operational capabilities are continues improvement and strategy development and implementation. Improvement capability is defined as the ability to incrementally increase manufacturing performance using existing resources (Swink and Hegarty, 1998). Continuous improvement is defined as a company-wide process of focused and

continuous incremental innovation (Bessant et al., 2001). There are different methodological problem solving approaches such as PDCA (Plan-Do-Check-Act) is developed by Deming and DMAIC (Define-Measure-Analyse-Improve-Control). The PDCA cycle is more than just a tool; it is a concept of continuous improvement processes embedded in the organization's culture (Sokovic et al., 2010). DMAIC is more data driven approach developed for Six Sigma projects (Sokovic et al., 2010).

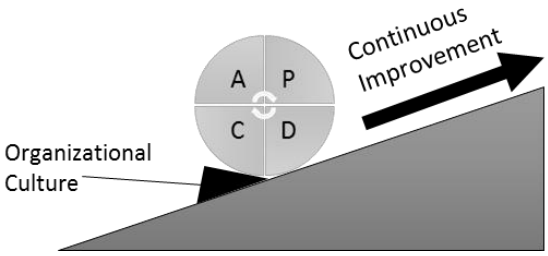

Figure – 1 PDCA cycle in continuous improvement process

There are various definition of strategy in literature. A typical definition of strategy is "the direction and scope of an organization over the long term. It ideally matches its resources to its changing environment, and in particular its markets, customers or clients so as to meet stakeholder expectations" (Johnson and Scholes, 1993). Strategy has important role to develop core capabilities for long term competitive advantages (Kak and Sushil, 2002). Continuous improvement activities should align with strategic goals and objectives (Muda and Hendry, 2003). There are different well established strategy development and deployment approaches in literature. Figure – 2 represent an example of strategy development and implementation process (Feurer and Charbaghi, 1995). A key feature of the literature on strategy formulation and deployment is that smaller firms or small business units of larger firms should have focused clear and concise strategies and that these strategies should be clearly deployed to operational activities of the business.

Operational capabilities, literature comprises many management tools and practices which are implemented at mostly larger firms and adopted to SMEs such as continues improvement (CI), Just-In-Time (JIT), lean production, total quality management (TQM), totally productive management (TPM), customer relationships management (CRM).

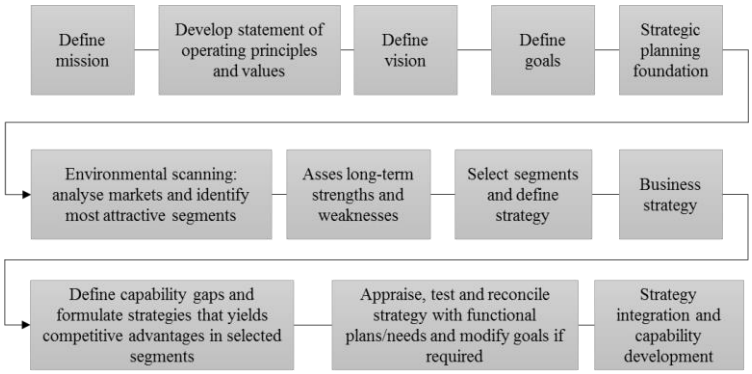

Figure – 2 Strategy development and implementation

Dynamic Capabilities

There are different dynamic capabilities definitions from different authors on their own perspective. Teece et al. (1997) define dynamic capabilities as the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments. The firm's processes that use resources – specifically the processes to integrate, reconfigure, gain and release resources – to match or even create market change. Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resources configurations as market emerge, collide, split, evolve and die (Eisenhardt and Martin, 2000). Dynamic capabilities are essentially change-oriented capabilities that help firms redeploy and reconfigure their resource base to meet evolving customer demands and competitor strategies (Zahra and George, 2002). A newer source of competitive advantage in conceptualizing how firms are able to cope with environmental changes (Lu et al., 2010).

Teece (2007) claims that dynamic capabilities enable firms to gain competitive advantage in rapid (technological) changing markets. They also enable firms to adapt internal and external changes (Zahra and George, 2002). Firms develop capabilities to deal with change.

Dynamic capabilities compromise different routines suggested by different authors. Sensing, Seizing, Leveraging, Transformation and Reconfiguration are routines to develop dynamic capabilities (Teece et al., 1997; Ambrosini and Bowman, 2009). Learning is another type of routine suggested in literature but in our framework learning is placed at foundation level because all kind of capabilities requires learning routines.

Sensing refers to the recognition of market and technological opportunities and the mobilization of requisite resources (Katkalo et al., 2010). Sensing (and shaping) new opportunities are very much a scanning, creation, learning and interpretation activity (Teece, 2009).

Seizing refers to the organizational strategy and infrastructure for making appropriate decisions and absorbing and integrating resources to create and capture value from opportunities (Katkalo et al., 2010). Once a new (technological or market) opportunity is sensed, it must be addressed through new products, processes or services. This almost always requires investments in development and commercialization activity (Teece, 2009).

Transforming refers to the continuous renewal and modification aimed at maintaining competitiveness, as markets and technologies change once again (Katkalo et al., 2010). The successful identification and calibration of technological and market opportunities, the judicious selection of technologies and product attributes, the design of business models, and the commitment of resources to investment opportunities can lead to enterprise growth and profitability. Profitable growth will lead to the augmentation of enterprise-level resources and assets (Teece, 2009).

Reconfiguration refers to the transformation and recombination of assets and resources, e.g. the consolidation of central support functions that often occurs as a result of an acquisition (Ambrosini and Bowman, 2009).

Leveraging involves replicating a process or system that is operating in one business unit into another, or extending a resource by deploying it into a new domain, for instance by applying an existing brand to a new set of products (Ambrosini and Bowman, 2009).

Some of dynamic capabilities in literature are as follow R&D Capability (Easterby-Smith et al., 2009; Teece et al., 1997), Innovation Capability (Easterby-Smith et al., 2009), Product Development Capability (Easterby-Smith et al., 2009; Eisenhardt and Martin, 2000;Teece et al., 1997), Environmental Scanning Capability (Teece et al., 1997), Networking Capability (Easterby-Smith et al., 2009), Alliancing and Acquisition Capability (Teece et al., 1997;

Eisenhardt and Martin, 2000), Imitation/Replication Capability (Zott, 2003), Reconfiguration Capability (Ambrosini et al., 2009) Knowledge Development/ Learning Capability (Teece et al., 1997; Eisenhardt and Martin, 2000), Marketing Capability (Bruni and Verona, 2009; Easterby-Smith et al., 2009).

Relationship between Operational and Dynamic Capabilities

Newey and Zahra (2009) suggest that dynamic capabilities is the ability of the firm to reconfigure operating capabilities and thus allow the organization to adapt and evolve. Dynamic capabilities are used to extend or modify their current resources different ways such as altering operational capabilities (Winter, 2003; Helfat and Winter, 2011) or features of the external environment or ecosystem (Teece, 2007).

Purpose and outcomes of dynamic and operational capabilities are different. However, there is not a certain line between operational and dynamic capabilities because change is always occurring to at least some extent; it cannot be distinguished dynamic from operational capabilities based on whether they support what is perceived as radical versus non-radical change, or new versus existing businesses; and some capabilities can be used for both operational and dynamic purposes (Helfat and Winter, 2011).

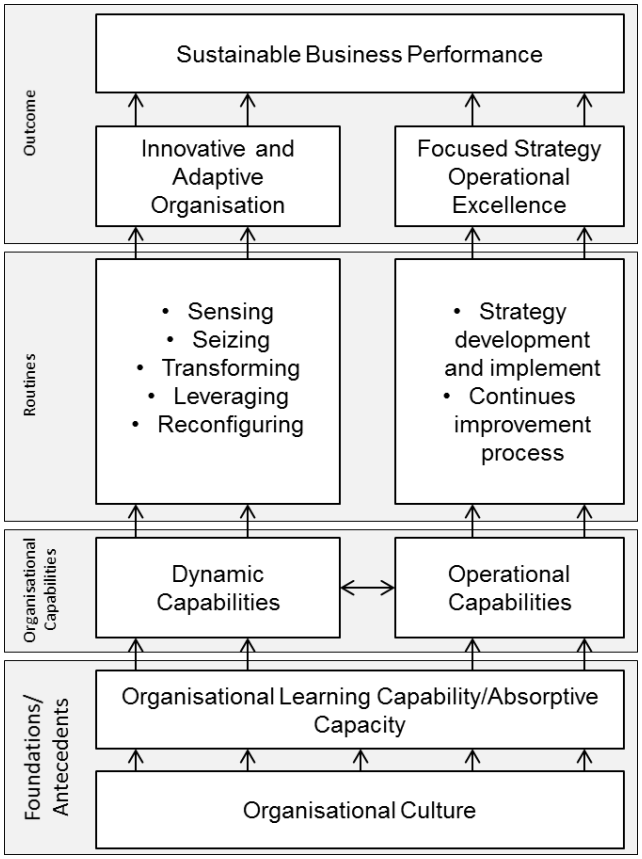

Figure – 3 Theoretical framework

Dynamic Capabilities in the Context of Organisational Capabilities – Case of Micro Enterprises

Literature suggests approaches to develop capabilities for mostly large firms and SMEs but not for micro enterprises. As Penrose (1959) states "we cannot define a caterpillar and then use the same definition for a butterfly". Micro enterprises are different than SMEs and large enterprises. Thus, a tools developed for larger enterprises and/or SMEs cannot be implemented to micro companies without any contextualization. The framework at figure 4 conceptualizes an organizational capability framework for micro enterprises. Firstly, key capabilities are identified from the literature in general (such as for operational capabilities continues improvement, lean production, agile production, JIT, TQM, TPM and CRM). Then these capabilities are conceptualized for micro enterprises based on their differentiating characteristics as discussed earlier.

For example, R&D capability is suggested in literature as one of the core dynamic capabilities (Teece et al., 1997; Teece, 2007). However, a micro enterprises cannot finance R&D activities most of the time. Furthermore, micro companies are much closer to their customer and their innovation activities based on customer needs. They produce innovative products for customer needs. Thus, we prefer to call innovation and product development capability rather than innovation capability.

Learning activities seen as responsibilities of owner in many micro companies. Moreover, owners do not share their knowledge and not open for new ideas comes from employees. Thus, to develop learning capabilities management should support employees for learning, organization should focus on same objectives, owner and managers should be open minded for new ideas, and finally knowledge and experiences should be openly shared within the firm.

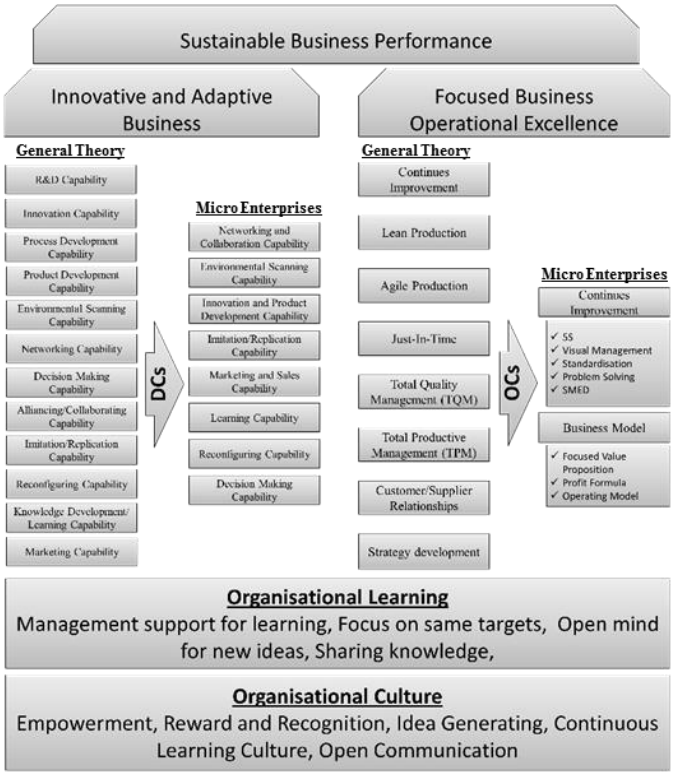

Figure – 4 Developing organizational capabilities of micro enterprises

Culture has important role in capability development process and it's hard to change. Many micro enterprises have command and control culture. Owners control everything in organization, employees do what owners says. This prevent micro companies to develop capabilities such as learning, innovation and continues improvement capabilities. To create better organizational culture we suggest that micro enterprises pay particular attention to empowerment, reward and recognition, idea generating, continues learning and open communication routines.

Research Agenda

Quite clearly there is very little work organizational capabilities theories in micro companies. In this work, though an empirical study we explicated the differences between micro enterprises and others. However, applicability and relevance of organizational capabilities theories to micro companies still remain illusive. There is two key research questions remain to be answered. Assuming that organizational capabilities are relevant micro companies.

RQ1: How organizational capabilities are related with each other in micro enterprises?
RQ2: How organizational capabilities can be developed in micro companies?

For this purpose, action research methodology can be used to explore these research questions. A maturity model based on our framework can be used to assess capability maturity of organizations. This may be achieved through semi-structured interviews with owners/managers and immersive observations at firms. Data collection process can be designed in four steps:

Step 1 has two part

a) Diagnostic – Identify current issues and priorities at firms
b) Maturity Assessment – Current level of organizational capabilities

Step 2 Design intervention plan

Step 3 Implement intervention plan and review outcomes

Step 4 Maturity assessment of organizational capabilities after 3 – 6 months

A longitudinal action research such as the one outlined above will enable the researchers to observe the interaction between different capability areas in the context of the firm's current issues and priorities in a micro enterprise setting.

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Conflict Management and Case Studies

4th International Conference on Leadership, Technology, Innovation and Business Management

A study on the impact of communication system on interpersonal conflict

Arindam Chatterjee [a], Atik Kulakli [b], a[kk]

[a b] *American University of the Middle East, Egaila 15453, Kuwait*

Abstract

The purpose of this study is to survey the effect of organizational communication system on the conflict in management institutions based in NCR region. The study is based descriptive and correlation research design. The employees working in management institutions in NCR region were included in the sample for this study (N= 137). A self made questionnaire along with a demographic sheet was used as investigation instruments. Validity of study instrument was confirmed through opinions of professors, assistant professors and lecturers; working in different management institutions in NCR region. The reliability of the measuring instruments was calculated by cronbach's alpha coefficient. Descriptive statistics (frequency distribution, percentage, mean and standard deviation) and inferential statistics (Binomial test, chi square test, Spearman coefficient tests, Mann-Whitney U and Kruskal-Wallis tests) were used in the study. Based on the result of chi square test, there is significant difference between organizational communication system and interpersonal conflict. The most of participants evaluate communication in an informal way and pointed out that the communication channels were not open. Based on the result of binomial test, interpersonal conflict was found existing in different management institutes in NCR region.

. *Keywords:* Organizational Communication, Interpersonal Conflict, Management Effectiveness and Performance

1.Introduction

Communication is a very crucial aspect inside any organization especially if it is used by managers. In the last decade, because of the information technology, the working environment has changed. In fact, almost everything has become more rapid and more sophisticated. The globalization, technology and quick rate of change resulted in changing employee's perceptions about their job and their working environment.

This new atmosphere made the employees look for a stronger voice; a role in decision-making and meaningful responsibilities regarding organization's performance. These features cannot be established without communication. Communication is an important aspect in the managers' hands to improve organization's performance (Axley1996).

Because the purpose of organizations is to coordinate employees' tasks, to inform, persuade, seek information, coordinate and reward. However misuse of communication by managers can lead to lying, cajoling, controlling, misinforming, distorting and misrepresenting (Heath, 1994). Communication between the superior and subordinate is essential because it creates a better working environment. Communication is considered the glue that ties the employees with the organization to achieve its goal (Taylor, 1993).

In fact, communication facilitates employees' task; it enable them to know the organization's goal, how they can achieve it and what their role is in each task (Mogel, 2002). Communication is needed inside organizations, as well as outside the organization, to be aware of any problem, analyze the elements of the problem, come up with different options for solving the problems, specify the required actions and evaluate the results through feedback (Clocke & Goldsmith, 2000, p.199).

The theoretical development of this study was limited to the concept of Interpersonal conflict.

[kk] Corresponding author. Tel.: +965-222 51 400 (Ext.1540)

E-mail address: arindam.chatterjee@aum.edu.kw; arindam.hrdm@gmail.com

Interpersonal Conflict usually arises when one party feels another is trying to prevent his/her goals from being achieved (Antonioni, 1998). Similarly, Ohbuchi and Fukushima (1997) describe interpersonal conflict as an event in which an individual potentially jeopardizes another's goals, wishes, or expectations. In organizations, interpersonal conflict is prevalent and troublesome for managers (Putnam, 1988). Meyer, Gemmell and Irving (1997) reported that middle managers are spending 25 per cent of their time in handling conflict. When deciding the most effective method for managing conflict, the conflict itself needs to be evaluated. In order to increase individual, group, and system-wide effectiveness, organizational conflicts are often managed with a temporary or doable solution, instead of being resolved (Rahim, et.al. 1992).

This paper attempts to achieve two goals: to investigate the effect of organizational communications system on the conflict among the employees in the management institutes based in NCR region, and to identify the present dominant organizational communications system and interpersonal conflict in those management institutes. The major question of this study is "does interpersonal conflict exist in management institutes or not?" In this study, organizational communications system is independent variable and interpersonal conflict is chosen as dependant variable. This is the first study dealing with communication strategies for interpersonal conflict at management institutional level in NCR region. As such, the current study can be considered to break new ground in communication strategies in management institutes.

5. Literature Review

Organizational communication is a crucial aspect for the effectiveness of organizations and of individuals inside an organization. On-going patterns of interaction among people within organizations are characterized as planned, sequential and systematic. While communication is the connection among individuals, at the same time, it helps individuals in creating awareness (Neher, 1997). Cloke and Goldsmith (2000) stated those employees' reactions to conflict may take different styles, such as litigation, strike, poor moral or reduced productivity due to miscommunication. They believe that any type of conflict can be "avoidable" if the organization opens communication channels through dialogue (p.2). Communication with employees should be on-going and consistent; especially when organizations need guidance or when there is opposition to changes inside the organization (Dawson, 2003).

According to McCroskey (1997), human communication behaviour is the product of at least two interacting factors: an individual's predispositions (traits) and situational constraints on his or her communication behaviour at a given time (states). On the other hand, conflict, by definition is the "disagreement between people or groups" (Long Man dictionary, 1997, p.158). Kim and Leung (2000) define conflict as "communicative exchange between at least two interdependent parties who have different, opposite, or incompatible opinions and goals and who perceive that the other is interfering in the achievement of his or her goals" (p.231). Dealing and handling conflict may differ based on the original environment of the culture.

Cloke and Goldsmith (2000) suggested eight different ways to avoid conflict. They believe that there is no guaranteed way to resolve a conflict, however, these eight steps can aid organizations to confront and resolve any conflict, two ideas out of the eight that seem to be important are: (1) discovering the meaning of conflict and (2) establishing open channels of communication to resolve problems (p.2) (3) By understanding the meaning of conflict an organization can increase the awareness, acceptance and resolution of conflicts. Likewise, through collaborative negotiations to create communication channels, the cause and solutions are more easily identified.

Cloke and Goldsmith (2000) differentiated between the types of communication, as well. They claim that some organizations communicate to settle a conflict, while others may communicate to resolve a conflict (p.12). Thus, organizations that are just interested in pacifying their employees, most likely have little interest in feedback and conflict resolution. On the contrary, organizations that encourage their employees to grow and learn usually are serious about conflict resolution. Open communication channels assist upper management to avoid negative reactions by the employees.

Hatch (1997) defined conflict as "an overt struggle between two or more groups in an organization" (p.301). Therefore, communication has an important role in dealing with and solving conflicts that may arise between the employees at different levels to maintain an organization's effectiveness. High levels of cooperation inside an organization assist in reducing and resolving internal problems (Ehling. 1992, p.625; Hatch, 1997, p.300). Plowman (1998) explored how the communication establishes power in organizations. In his study, Plowman outlines

how conflict resolution can empower the employees in becoming more effective. The study was based on J.E. Grunig's model of symmetrical two-way practices for communication. Although communication is a method of interaction among employees; it may cause conflict. However, communication may be utilized as an effective way to resolve conflict. The employees should have strong communication activities within and outside the organization to avoid any type of conflict.

The analyzed dynamic changes in communication sounds uttered during induced social interactions between a female and an unfamiliar male. Detailed video graphic and sound analyzes revealed that the arousal state predicted variations in communication sound structure reliably. Both, a decrease of distance and a male approaching the female led to an increase in fundamental frequency and repetition rate of syllables. These findings support comparable results in human and non-human primates and suggest that common coding rules in communication sounds govern acoustic conflict regulation in mammals (Schehka S, Esser KH, Zimmermann E, 2007). The authors support these statements according to theory bases of study variables.

6. Methodology

6.1. Research Goal

The objective of this study is to empirically investigate the relationship between organizational communication and interpersonal conflict in management institutes located in NCR region.

6.2. Research Design

This study was conducted using a correlational research design. Correlational research represents a general approach to research that focuses on assessing the relationship among variables in a particular sample. The rationale behind choosing this design is to identify the relationship between organizational communication and interpersonal conflict for a given set of subjects.

3.2.1. Sample and Data Collection

The sample for this study consisted of 153 employees of management institutes located in NCR region. Out of 153 employees 137 persons responded. Survey was administered by sending the questionnaires to the selected management institutes. Each employee was assured of the confidentiality of his or her anonymous responses. The questionnaires were self-administered and they were completed inside the institutes. The researcher collected the questionnaires immediately after completion. Descriptive and inferential statistics were performed with SPSS, version 13.0, and Excel.

3.2.2. Instruments

The instrument consists of 32 questions with responses measured on a five point Likert scales, ranging from strongly disagree (1) to strongly agree (5), assessing communication (the five dimensions such as: freedom of act in communication, efficient inform, formal and informal communication, one-way communication, and open communication channels) and interpersonal conflict (the three dimensions such as: conflict with colleague, conflict with chief, and conflict with subordinate). A demographic questionnaire was developed for this study to obtain information concerning gender, age, education level, kind of employment, and years of service.

3.2.3. Pilot Testing

The main reason for performing a pilot test is to reduce the measurement error and to increase reliability and validity. This technique helps researchers test the questionnaire in order to make sure that the instrument is effective before the main study begins (Frey.et.al). Thirty employees working at different levels in management institutes participated in the pilot test. The pilot data collected from this test were analyzed using factor analysis with computer software package for reliability of the measuring instruments. The reliabilities of the communication sub-dimensions were .91, .87, .85, .88, .93, and for interpersonal conflict sub-dimensions were .95, .93, .92, respectively. The reliability of 8 dimensions was .97 by cronbach's alpha coefficient. Validity was checked by sending the instrument to fifteen university professors via mail to determine if any problems existed with the reading levels or interpretation of the questions. Content validity was confirmed by these experts.

Data Analysis and Results

The demographic data were obtained from the participants' responses. From 153 participants, working in management institutes based in NCR region; 137 (89.54%) persons completed the survey. Out of 137 participants, 92 (67.15%) were males and 36 (26.28%) were females while 9 (6.57%) did not answer their gender. The current research participants ranged in age from 24 to 58 years old (M= 36.59, SD=2.94). The education levels of current research participants were PG Diploma 64 (46.71%), Master of Commerce 28 (20.44%), Master of Business Administration 27 (19.71%) and PhD 9 (6.57%), with 9 (6.57%) missing data. The current research participants ranged in years of services from 1 to 28 years (M= 18.67, SD= 2.76). The kind of employment of current research participants were teachers 103 (75.2%), office staffs 22 (16.1%), research associate 3(2.2%), with 9(6.6%) missing data.

As shown in table 1 the significant proportion of participants evaluate communication in a formal way and pointed out that the communication channels were not open. Also this study found that there is neither freedom of act in communication with upper managers nor efficient information in management institutes was disseminated to the employees. Based on the result of binomial test, interpersonal conflict exists among the employees in management institutes located in NCR region.

Table 1: Result of binomial test of variables

Variables	Category	N	Observed Prop	Test Prop	Asymp Sig
Open communication channels	Agree group	34	0.37	0.50	0.016
	Disagree group	58	0.63		
	Total	92	1.00		
Efficient inform	Agree group	29	0.34	0.50	0.005
	Disagree group	56	0.66		
	Total	85	1.00		
Formal communication	Agree group	35	0.37	0.50	0.013
	Disagree group	60	0.63		
	Total	95	1.00		
Informal communication	Agree group	75	0.68	0.50	0.000
	Disagree group	35	0.32		
	Total	110	1.00		
Freedom of act in communication	Agree group	40	0.38	0.50	0.015
	Disagree group	66	0.62		
	Total	106	1.00		
One-way communication	Agree group	57	0.63	0.50	0.021
	Disagree group	34	0.37		
	Total	91	1.00		
Conflict with chief	Agree group	67	0.6	0.50	0.047
	Disagree group	45	0.4		
	Total	112	1.00		
Conflict with subordinate	Agree group	65	0.67	0.50	0.001
	Disagree group	32	0.33		
	Total	97	1.00		
Conflict with colleague	Agree group	57	0.61	0.50	0.038
	Disagree group	36	0.39		
	Total	93	1.00		
Interpersonal conflict	Agree group	85	0.65	0.50	0.001
	Disagree group	46	0.35		
	Total	131	1.00		

As shown in Table 2 interpersonal conflict affecting by other organizational communication elements, except open communication channels.

Table 2: Result of chi square of variables

Variables	df	Asymp Sig	Chi square value
Organization communication Interpersonal conflict	494	P = 0.000 N = 136	X^2 = 1184.935**
Freedom of act in communication Interpersonal conflict	39	P = 0.000 N = 137	X^2 = 249.597**
Open communication channels Interpersonal conflict	39	P = 0.541 N = 136	X^2 = 37.433
Formal communication Interpersonal conflict	78	P = 0.000 N = 137	X^2 = 469.351**
Informal communication Interpersonal conflict	117	P = 0.000 N = 137	X^2 = 184.518**
One-way communication Interpersonal conflict	65	P = 0.000 N = 137	X^2 = 657.359**
Efficient inform Interpersonal conflict	65	P = 0.000 N = 137	X^2 = 314.758**

** Difference is significant at the 0.01 level

As shown in Table 3 there is significant relationship between interpersonal conflict and some of organizational communication elements.

Table 3: Result of spearman coefficient between variables

Variables	Mean	Std. Deviation	Minimum	Maximum	Correlation coefficient
Interpersonal conflict	2.6502	0.62971	2	4.33	r= 0.608** P= 0.000 N= 136
Organizational ommunication	2.2510	0.22435	1.81	2.89	
Interpersonal conflict	2.6502	0.62971	2	4.33	r= -0.005 P= 0.955 N= 137
Freedom of act in communication	2.3064	0.27617	1.33	3	
Interpersonal conflict	2.6502	0.62971	2	4.33	r= 0.519* P= 0.000 N= 137
Formal communication	2.4854	0.63214	2	4	
Interpersonal conflict	2.6502	0.62971	2	4.33	r= -0.243** P= 0.004 N= 137
Informal communication	1.7245	0.57305	1	4	
Interpersonal conflict	2.6502	0.62971	2	4.33	r= 0.805** P= 0.000 N= 137
One-way communication	2.5731	0.64721	2	4.33	
Interpersonal conflict	2.6502	0.62971	2	4.33	r= -0.181* P= 0.035 N= 137
Efficient inform	2.1332	0.26089	1.75	3	

** Correlation is significant at the 0.01 level

* Correlation is significant at the 0.05 level

In Tables 4 & 5 the calculated P value shows there is no significant differences between organizational communication, interpersonal conflict and demographic aspects such as employee's age, employee's records of service, employee's education levels, employee's type of employment and employee's gender.

Table 4: Result of Kruskal-Wallis test of variables (N=128)

Variables	Kruskal-Wallis value
Employees' s age Interpersonal conflict	H = 0.270 ; Asymp.Sig = 0.965 ; df = 3
Employees' s age Organizational communication	H = 1.95 ; Asymp.Sig = 0.583 ; df = 3
Employees' s records of service Interpersonal cnflict	H = 4.022 ; Asymp.Sig = 0.546 ; df = 5
Employees' s records of service Organizational communication	H = 4.776 ; Asymp.Sig = 0.444 ; df = 5
Employees' s education levels Interpersonal conflict	H = 3.283 ; Asymp.Sig = 0.35 ; df = 3
Employees' s education levels Organizational communication	H = 0.683 ; Asymp.Sig = 0.877 ; df = 3
Employees' s type of employment Interpersonal conflict	H = 0.545 ; Asymp.Sig = 0.762 ; df = 2
Employees' s type of employment Organizational communication	H = 0.38 ; Asymp.Sig = 0.827 ; df = 2

Table 5: Result of Mann-Whitney U test of variables

Variables		N	Mean Rank	U value
Employees' s Gender	Male	92	67.1	U = 1417 Asymp.Sig= 0.198 N=128
	Female	36	57.86	
Interpersonal Conflict				
Employees' s Gender	Male	92	68.09	U = 1325.5 Asymp.Sig= 0.08 N=128
	Female	36	55.32	
Organizational communication				

Discussion and Conclusion

The broad purpose of the study is to identify the effect of organizational communications system on the conflict among the employees in management institutes based in NCR region. The study results were based on 137 questionnaires completed by employees. The instrument used in this study examined the organizational communications system with five dimensions (freedom of act in communication, efficient inform, formal and informal communication, one-way communication, and open communication channels) and interpersonal conflict with three dimensions (conflict with colleague, conflict with chief, and conflict with subordinate). Identifying what is the dominant organizational communications system in NCR region based management institutes was the main focus of this study. The study also examined how interpersonal conflict is affected by organizational communications system.

This research confirmed finding regarding the negative impact of conflict on the working communications, particularly on employees. Previous studies conducted by Hatch 1997; and Plowman 1998 claimed the importance of communication within organizations and employees to reduce conflict. The results confirmed that communication was the key factor with an issue becoming an interpersonal conflict. This was supported by a study conducted by Schehka S, Esser KH, Zimmermann E (2007) who believed that communication with detail such as sound may cause conflict. The high percentage of interpersonal conflict could indicate that these three types of interpersonal conflict occurred because of a lack of proper organizational communications system. The explanation as to why this type of conflict occurs is that when an organization does not take a proactive approach to certain issues they usually developed into an interpersonal conflict. Banks (2000) claimed that being proactive and giving proper attention to the surrounding environment as an approach to managing issues, is a preventive means before a conflict occurs. This is especially true when the relationship between employees in an organization is not based on strong communication. Lack of communication and information within an organization may lead to increased levels of uncertainty among employees. Results showed that there was a lack of proper communication between employees and upper management, and between the superior and subordinate in general. Most employees express that that there are neither freedom of act in communication with upper managers nor efficient inform in their offices, whereas the finding of the most of the previous researchers just reported the communication with employees should be ongoing and consistent and High levels of cooperation inside an organization assist in reducing and resolving internal problems (Dawson, 2003; Ehling, 1992). Certainly, employees are suffering from the lack of freedom of act in communication with upper managers to express their need and their concerns. Neglecting employees' needs could lead to conflict. Organizational communications system recommends the use of freedom of act in communicate with upper managers as an effective communication strategy and as a mean of dealing with an interpersonal conflict. The data indicate that there aren't significant differences on interpersonal conflict affecting by age, gender, education and record of service. The most of participants evaluate communication in the image of informal and refused the communication channels are open. This study also found that present participants didn't agree with one-way organizational communication in their offices, whereas the finding of some researchers indicated the major way to resolve any conflict is the establishing open channels of communication; and communication may cause conflict (Cloke and Goldsmith, 2000; Grunig, J.E., 1992). Therefore, having open channels of communication could be a solution for reducing interpersonal conflict. The authors of this study believe that communication is the required method, which enables organizations to decrease the level of interpersonal conflict through activating the role of organizational communications system. Not using open communication channels at a time of interpersonal conflict may vitiate the learning environment of the institute.

The results of the responses to this question revealed that interpersonal conflict exists in management institutes in NCR region. Furthermore, the researcher identified that interpersonal conflict in management institutes did differ according to the type of interpersonal conflict they faced (see Table 1). Communication strategies, such as opens communication channels, freedom of act in communication, efficient inform, and multiple communications are the major ways, of responding to an interpersonal conflict. This supports the idea of the contingency theory that the

organization should be flexible in dealing with any event; since there is no one right way to confront an interpersonal conflict. Applying the appropriate and strong communication helps the organization to: (1) identify the cause of a problem through feedback, (2) increase organizational stability, (3) and keep interpersonal conflict controllable. Therefore, according to these factors an organization will be able to design an appropriate response strategy. It seems the need for an organization to place high priority on reducing all types of interpersonal conflict with their employees because they are the real power and resource for the organization. There is an obvious need to begin thinking about interpersonal conflict management. Issue management should be one of the major areas that organizations should focus on because it is the first stage that helps organizations to detect the possibility of an interpersonal conflict. Departments need to focus on having a written strategy for dealing with important communication and practices in an interpersonal conflict. Academic researchers also need to conduct research to evaluate not only interpersonal conflict but other aspects of communication especially in the field of message construction and dissemination. Future studies could be geared towards establishing comparisons between organizational communications system for interpersonal conflict in education sectors in different geographic locations.

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A Theoretical Model on the Proposed Predictors of Destructive Deviant Workplace Behaviors and the Mediator Role of Alienation

Bora Yıldız[a*] , Lütfihak Alpkan[b]

[a]*Gebze Institute of Technology, Kocaeli, 41400, Turkey*
[b]*Gebze Institute of Technology,Kocaeli, 41400, Turkey*

Abstract

Destructive deviant workplace behaviors are getting more and more important in today's business world. Although numerous researchers in the literature have tried to determine and clarify antecedents and consequences of deviant behaviors, studies on both alienation and deviance are limited. In this respect after a comprehensive literature review on the concept of workplace deviance, this paper provides a theoretical framework on some rarely studied predictors (i.e. person-organization fit, participative decision making, careerism) of it, where work alienation plays a mediator role. Managerial and further research implications are provided.

- *Keywords:* Destructive deviant workplace behaviors, Work alienation, Person-organization fit, Participative decision making, Careerism

Introduction

The concept of workplace deviance has been received a great deal of attention in past two decades (Robinson and Bennet, 1995; Bennett and Robinson, 2000; Henle, 2005; O'Neill and Hastings, 2011). Workplace deviant behavior has generally conceptualized deviance as destructive (Robinson and Bennett, 1995; Spector and Fox, 2002; Sacket, 2002; Henle, 2005; Spector and Fox, 2010; Bodankin and Tziner, 2009), but some researchers have used this concept as a positive meaning (Spreitzer and Sonenshein, 2003, 2004; Appelbaum et al., 2007), which is called as a constructive deviance (Galperin, 2002; Warren, 2003; Robbins and Galperin, 2010; Galperin, 2012; Vadera, Pratt and Mishra, 2013). Thus, it can be inferred from these studies the construct of workplace deviance includes positive (constructive) and negative (destructive) behaviors, which are deviations from formal organizational norms (Warren, 2003). Although this behavior is a two-edged sword, in this study, we address only destructive deviant workplace behaviors.

Destructive deviant workplace behaviors are one of the most important research topics affecting well-being of organizational norms and performance. Therefore understanding these behaviors and related work attitudes has become a significant research area. A deviant behavior in the workplace has been defined as "voluntary behavior that violates significant organizational norms and in so doing threatens the well-being of an organization and its members or both" (Robinson and Bennett, 1995; Bennett and Robinson, 2000). In this respect, previous researches show that workplace deviance is an important threat for organizations in terms of social and economic costs (Bennett and

* Corresponding author. Tel. + 90-555-721-3425 fax. +90-000-000-0000
E-mail address: byildiz@gyte.edu.tr

Robinson, 2000; Greenberg, 1990: Murphy, 1993; O'Leary-Kelly, Griffin and Glew, 1996; Griffin, O'Leary and Collins, 1998; Galperin and Burke, 2006; Örücü and Yıldız, 2014). According to these definitions this kind of behaviors have two basic characteristics: (a) they are not mentioned in the formal job definitions and go beyond the existing role expectations, (b) they violate organizational norms.

There are many empirical studies on the direct antecedents of workplace deviance. They include many demographical factors, organizational conditions, employee perceptions and characteristics, etc. However, these predictors might cause deviance not directly but through some negative attitudes. For instance according to the social exchange theory (Blau, 1969) perceptions cause attitudes that cause behaviors. In other words employees' personal feelings, expectations, perceptions, characteristics etc. may develop some negative attitudes towards the work and organization which then cause some negative behaviors. Therefore in this study, we highlight work alienation as a negative attitude that links some possible predictors to deviant behaviors. Although important and interesting, relations between two negative concepts, both at the expense of the organizational milieu and norms, work alienation -a negative attitude, and workplace deviance -a set of negative behaviors, are rarely studied until now. Thus, the present study has two main research questions: (a) what might be some less studied antecedents of destructive deviant workplace behaviors, and (b) is work alienation a missing link between the antecedents and behaviors? It develops a conceptual model that incorporates some possible causes and a mediator for destructive deviant workplace behaviors.

The paper proceeds in the following manner. It begins with a literature review on deviant workplace behaviors and work alienation. Then the mediator role of alienation is discussed in the relations of careerism, participative decision-making and person-organization fit to deviant behaviors. Lastly, conclusion and implications are forwarded.

2. Destructive Deviant Workplace Behaviors and Work Alienation

The concept of destructive workplace deviant behaviors has been defined as "voluntary behavior that violates significant organizational norms and in so doing threatens the well-being of an organization and its members or both" (Robinson and Bennett, 1995; Bennett and Robinson, 2000). In a recent study, Gruys and Sacket (2003) extended this definition as "any intentional behavior on the part of an organization member viewed by the organization as contrary to its legitimate interests". With this definition it is clear that behavior (or intend to behavior) is more important than its negative results. This behavior is also labeled as an organizational misbehavior (Vardi and Weiner, 1996), counterproductive workplace behavior (Fox, Spector and Miles, 2001; Gruys and Sacket, 2003), deviance (Robinson and Bennett, 1995; Hollinger, 1986), antisocial behavior (Robinson & O'Leary-Kelly, 1998; Aquino and Douglas 2003) and dysfunctional work behavior (Griffin et al., 1998). Although these concepts have different names, they have nearly same definitions. For instance, counter-productive workplace behavior is defined as" behavior that is intended to have a detrimental effect on organizations and their members" (Fox et al., 2001). Based on the these definitions, it is easy to see that destructive behaviors have two common distinct characteristics; (a) these behaviors are performed voluntarily, (b) the main aim of these behaviors harm to the organization's significant norms, or tend to harm organization and its members, stakeholders or all of them (Robinson and Bennett, 1995; Bennett and Robinson, 2000).

Destructive deviance behavior is an important problem for organizations from two aspects; it is a common problem and its cost is enormous (Bennet and Robinson, 2000). Therefore, understanding and managing this problem is an important research area. In the literature, many researchers have studied many possible antecedents of these behaviors such as; work alienation (Kanten and Ülker, 2014), organizational climate (Kanten and Er Ülker, 2013), moral disengagement (Fida et al., 2014; Samnani, Salamon and Singh, 2014; Hystad, Mearns and Eid, 2014; Christian and Ellis, 2014), negative affect (Alias et al., 2013; Fox et al., 2001; Hung, Chi and Lu, 2009; Kantur, 2010; Spector, 2011; Ho, 2012; Samnani et al., 2014), organizational commitment (Appelbaum, Saphiro and Molson, 2006; Brooks, 2012), organizational justice (Henle, 2005; Yen and Teng, 2013; Fatima et al., 2012; Chang and Smithikrai, 2010; Appelbaum, Iaconi and Matousek, 2007; Galperin, 2002), ethical climate (Peterson, 2002; Appelbaum et al, 2005; Alias et al., 2013), organizational structure (Zimmerman, 2001; Yen and Teng, 2013; Fatima et al., 2012), organizational culture (Chung and Moon, 2011; Galperin, 2002), guilt proneness (Cohen, Panter and Turan, 2013), ethical ideology (Henle, Giacalone and Jurkiewicz, 2005), Machiavellianism (Galperin, 2002), ethical orientation (Galperin, 2002) personality traits (Salgado, 2002; Bolton, Becker and Barber, 2010; O'Neill and Hastings, 2011) have been widely studied by researchers. Apparently, since the last two-decades, numerous researches have been tried

to clarify workplace deviance and as a result acknowledged that perceived fairness, injustice and some negative emotions play a crucial role in occurrences of this kind of behaviors (Fox et al., 2001; Appelbaum et al., 2006; Kantur, 2010; Kelloway et al., 2010). In light of these studies, it is easy to say that there are many negative variables that relate to this deviance. Work alienation, which can be accepted a common result of work and organization related negative factors, is one of newly studied drivers of deviant behaviors (Chiaburu, Diaz and De Vos, 2013). In this paper, the work alienation will be used as a mediator in our proposed model, alienation and its relationship with the destructive workplace behavior will be defined.

Beside the above mentioned studies, work alienation as an attitudinal negative variable has been rarely related to deviant behaviors in the past literature. However, alienation is a common problem in today's business world where employees' levels of specialization have risen. The concept of alienation has long been studied (Nair and Vohra, 2010). According to Suárez-Mendoza and Zoghbi-Manrique-de-Lara (2008) alienation defined as the loss of capacity to express oneself at work. Work alienation occurs when employees lack concern, interest and attachment against to their work (Kanten and Ülker, 2014). According to Seeman's (1983) study, alienation is not a stable personality characteristic; in contrast, it is a situational phenomenon that emerges under some conditions. According to Sulu, Ceylan and Kaynak (2010) an alienated person is defined as a person lacking involvement in work role and disengaging from the work. The feeling of alienation can lead to a decrease in motivation and negative results in terms of organization and its members or both (Banai, Reisel and Probst, 2004; Ceylan and Sulu, 2011; Chiaburu et al, 2013).

In the literature, many researchers have studied many related factors to alienation such as; management style and practices and job characteristics, lack of decision-making, limited control over the job, organizational commitment, job involvement, performance related pressure, organizational justice, the negative effect of downsizing, perceived organizational structure, technological changes (Dipietro and Pizam, 2008; Banai and Reisel, 2007; Allen and LaFollette, 1977; Ceylan and Sulu, 2011; Hirschfield, Feild and Bedeian, 2000; Kanten and Ülker, 2014; Sulu et al., 2010; Nair and Vohra, 2012). According to these studies, it is easy to say that the causes and consequences of alienation are numerous. However its relation to deviant behaviors is rarely studied (Nair and Vohra, 2012). Accordingly, in this study we propose a theoretical model where alienation is not only a cause of deviance but also a mediator that links the effects of some other drivers to deviant behaviors.

3. Mediator Roles of Alienation

Because of its harmful effects and enormous costs, studying and understanding destructive deviant workplace behaviors is an important research area (Yıldız and Yıldız, 2014). Although a great deal of study has been done about these behaviors, the main difference of the present study from previous researches is the mediator role of work alienation in the proposed model. Of course alienation have already been proposed as mediator in a study by Kanten and Er Ülker (2013). But, in our study, predictors are not employee perceptions on organizational climate. We use employee feelings or orientations instead. Then, we propose that negative employee feelings may lead to negative behaviors through the negative attitudes, i.e. work alienation in our study.

3.1. Mediator Role of Alienation in the Relation of Person-Organization Fit to Destructive Deviant Workplace Behaviors

Generally, hiring or selecting right person to organizations is an important process. From this aspect, a fit between person and organization is a must. Person-Organization Fit (POF) is defined as the compatibility of personal and organizational characteristics (Kristof‐Brown, Zimmerman and Johnson, 2005). Person-Organization (POF) fit is a pivotal factor for organizations to elevate employee commitment and flexibility to overcome challenges in the competitive environment (Kristof, 1996). POF can exhibit two aspects; complementary and supplementary fit. Supplementary fit occurs when a person's characteristics are similar to those of the organization. On the other hand complementary fit was defined as when a person brings to the organization, something is missing, add needed (Kristof, 1996; Sharkawi, Rahim, and AzuraDahalan, 2013).

In social sciences, many studies explain employee behaviors in terms of Blau's (1964) social exchange theory. This theory explains employee behaviors as a two-way communication between person and organization. Employees receive some positive or negative messages from organizations and perform some positive or negative behaviors as a response to the organization. According to this theory POF can be a predictor of some positive behaviors such as; job satisfaction and organizational commitment (Liu, Liu and Hu, 2010; O'Reilly, Chatman and Caldwell, 1991), career success (Bretz and Judge, 1994) and organizational citizenship behavior (Suárez-Mendoza and Zoghbi-Manrique-de-Lara 2008). According to these studies high-level of POF can lead to positive outcomes and poor level of POF can also lead to some negative outcomes such as; turnover intention (Liu, Liu and Hu, 2010), work alienation (Suárez-Mendoza and Zoghbi-Manrique-de-Lara 2008), dissatisfaction and counterproductive workplace behaviors (Sharkawi et al., 2013; Jawad et al., 2013). Accordingly, if a person feels a poor level of POF, this can develop negative attitudes, then leading to destructive deviant workplace behaviors (Sharkawi et al., 2013).

Alienation as an important negative attitude may play such a linking role between the employees' feelings of POF and deviant behaviors. As presented before, low level of POF is associated with destructive deviant workplace behaviors (Sharkawi et al., 2013). Alienation is also associated with destructive workplace behaviors (Kanten and Ülker, 2014; Kanten and Er Ülker, 2013; Nair and Vohra, 2012). Moreover, in Suárez-Mendoza and Zoghbi-Manrique-de-Lara' (2008) study, they used alienation as mediator in the relationship between POF and citizenship behavior. In this relationship hypothesized model explain that if person with high-level POF will more likely to exhibit citizenship behaviors precisely because of their low-level tendency to alienation. In this respect many studies have already state that citizenship behaviors, as a pro-social behavior (Spreitzer and Sonenshein, 2004; Galperin, 2012), are inversely related to destructive deviant workplace behaviors (Sackett and DeVore, 2001; Dunlop and Lee, 2004; Dalal, 2005; Dineen, Lewicki and Tomlinson, 2006; Vigoda-Gadot, 2007; Levine, 2010; Chang and Smithikrai, 2010; Jung and Yoon, 2012; Hafidz, Hoesni and Fatimah, 2012; Ariani, 2013; Yen and Teng, 2013). In light of these studies, we propose that an employee, who feels that there is a misfit between his characteristics and those of the organization he serves, may get alienated and then engage in deviant behaviors.

P1. Work alienation mediates the negative relationship between Person-Organization Fit (POF) and destructive deviant workplace behaviors

3.2. Mediator Role of Alienation in the Relation of Careerism to Destructive Deviant Workplace Behaviors

Careerism or careerist orientation is defined as "the propensity to pursue career advancement through non-performance-based means" by Feldman and Weitz (1991). In their study, they state that people, who have careerist orientations pretend to be successful even if they are not, use their social relationship with the coworkers or supervisors as an instrument to career advancement, and commit some misbehaviors necessary to career development. Accordingly, careerist orientation is related to some negative outcomes such as absenteeism and turnover (Aryee and Chen, 2004; Feldman and Weitz, 1991). However, we could not find in the literature any study on the effects of careerism on deviant behaviors. Thus, our aim is to close this research gap and propose that careerism is associated with destructive deviant workplace behaviors since in a recent study by Adams (2011) a negative relationship has been found between organizational citizenship behavior (OCB) and careerism. Given the negative relationship between OCB and destructive workplace behaviors (Dunlop and Lee, 2004; Dalal, 2005; Vigoda-Gadot, 2007; Levine, 2010) it can be proposed that there is a positive relationship between high-level careerism orientation and destructive deviant workplace behaviors.

Another negative outcome of careerism is alienation. This has already been studied and a direct relation is found by Chiaburu et al. (2013). If frustrated careerist employees may develop negative attitudes including work alienation. But with or even without frustration, careerism may cause work alienation since work related qualifications, tasks or performance measures are not already internalized by careerist people. Just pretending to be successful is enough. Alienated from the real substance of the work, they may then easily engage in deviant behaviors to further develop

their careers. Therefore we propose that an employee who pursues careerist orientations may get alienated and then develop deviant behaviors.

P2. Work alienation mediates the relationship between Careerism and destructive deviant workplace behaviors

3.3. Mediator Role of Alienation in the Relation of Participative Decision-Making to Destructive Deviant Workplace Behaviors

Nassehi (2005) defines organizations as "decision machines". Participative decision-making is defined by Aiken and Hage (1966) as "the degree to which staff members participate in setting the goals and policies of the entire organization". Employees' role in the decision-making process is vital for organizations in terms of their positive or negative attitudes towards the organization (Lam, Chen and Schaubroeck, 2002; Nassehi, 2005). Past studies exhibit positive effects of participative decision-making on positive attitudes and behaviors such as job satisfaction and organizational citizenship behavior (OCB) (Black and Gregersen, 1997; Porter, Lawler and Hackman, 1996; Gilbert, Laschinger and Leither, 2010). On the other hand, there are also findings about the effects of low participation on negative outcomes such as low-level performance and alienation, (Aiken and Hage, 1966; Allen and LaFollette, 1977; Black and Gregersen, 1997). Already, according to Blau's (1964) social exchange theory if members of an organization feel themselves out of the decision-making process they might develop some negative behaviors. Since a positive antecedent of OCB can be assumed as a negative one of destructive workplace behaviors (Bennet and Stamper, 2001; Yen and Teng, 2013) and since alienation is found as an outcome of low participation, we can propose that low participation is a source of deviance and alienation mediates this relation. In other words, an employee who feels to be externalized or isolated from the decision making process may get alienated and then develop deviant behaviors.

P3. Work alienation mediates the relationship between participative decision-making and destructive deviant workplace behaviors

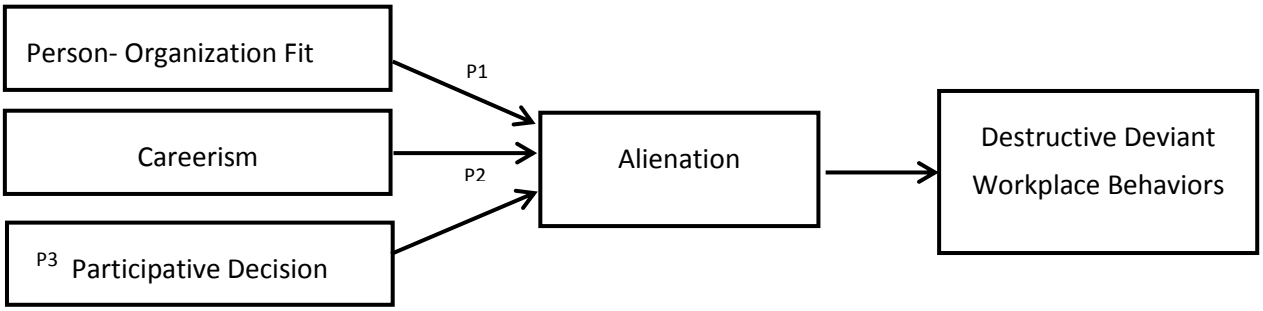

Figure 1: Proposed Model

4. Conclusion

In this study, we began defining some constructs with related to proposed model and reviewing the relevant literature of destructive deviant workplace behaviors. After explaining their rationales we suggested several propositions related with five variables; destructive deviant workplace behaviors, participative decision-making, alienation, person-organization fit (POF) and lastly careerism. In this respect, several propositions are developed to test these predictive relationships (see Figure 1). Thus, this study provides a theoretical model, whereby practitioners and researchers can examine and clarify these empirically testable relationships.

Considering this relationship within the social exchange theory (Blau, 1964), we can say that employees' organizational level perceptions are predictors of attitudes and in turn these attitudes are predictors of behaviors. In

other words, employees perceive some positive and negative treatment from their organizations, than develop some positive and negative attitudes and lastly exhibit some behaviors based on these attitudes. In this respect, we thought employees' feelings and orientations could lead to deviant behaviors through the agency of work alienation. This theoretical framework can be beneficial in terms of practitioners and researchers. Informed about theoretical antecedents of alienation and deviant behaviors, managers might develop some precautions to prevent or destructive deviance. For instance, HRM managers should look for POF as a must in selection and appraisal activities. Career opportunities should be provided for those specialist employees who may easily develop careerist orientations. Also top managers should establish an organizational milieu where employees may feel involved in the decision making process. If accordingly work alienation is minimized, positive attitudes such as commitment and involvement may flourish which then lead to a decrease in destructive deviance.

Despite the strengths, this study is not without limitations. Firstly, we included only destructive deviant workplace behaviors. But, there is also constructive deviance and this type of deviance lies outside the scope of this study. Future researches, should examine destructive deviance together with constructive deviance to emphasize the differences. Secondly, it is easy to say that there are numerous situational and contextual variables that could affect these relations. Further researches should explore the possibility that certain situational or contextual variables mediate or moderate these relations. In addition, future studies may investigate the direct or moderator effects of personality variables. Lastly, although we assume that the present study will provide a useful standpoint to researchers, we believe that it will achieve its primary purpose when empirically tested by future researches.

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Quantitative Decision Making

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Mathematical optimization methods:

Application in project portfolio management

Houda TAHRI[a], a[*]

[a]*Mohammadia School of Engeneering, Rabat, Morocco*

Abstract

The project selection is a decision process that can be made by using mathematical optimization methods. The objective of this paper is to present a literature review of optimization methods and a practical use case in portfolio management area with the following objectives:

- Maximizing the organization benefit (Direct and Indirect)
- Minimize costs (Direct and Indirect)
- Consider the constraints and strategic objectives.

In this article we present two numerical methods of mathematical optimization problems, for one and multiple objectives (ILP, IGP), using the two values (0 and 1) as decision variables.

This example is used to present several scenarios to decision makers to choose the best alternative (portfolio) that meets their expectations.

Keywords: mathematical optimization, objective function, ILP, IGP.

[*] Corresponding author. Tel. + 212-674-881-518

E-mail address: htahri@gmail.com

Literature Review

Strategic vision :

The strategic vision of a company is the representation and formulation of the strategic future of the company in terms of competition, business, activities and development choices (Olivier Meier, 2009). It generally included in a document or statement so all company managers can share the same vision for the company and make decisions according to the shared principles and company mission (businessdictionary).

Company mission :

The mission of the enterprise is the mainspring of the company and its purpose regarding its shareholders, partners and customers. It refers to concepts on the general guidelines of the company, its businesses, professional membership and identity (Olivier Meier, 2009).

Company mission (or corporate mission) is different from a vision in that the former is the cause and the latter is the effect ; a mission is something to be accomplished whereas a vision is something to be pursued for that accomplishment.

Several factors may be taken into account in a mission statement, in particular: its intentions in the medium and long term, the choice of its businesses and activities (target products and markets), the desired positioning (market position and picture), its choice of development (developmental pathways and growth patterns), its basic requirements and constraints (growth, profitability ...), and its cultural values. Therefore, the mission serves to define in a few lines the company vision, what it is, what it does and what it wants to do in the future.

Company strategy :

Corporate strategy is the translation, into actions, of the company vision. It is the set of decisions and actions that guide decisively, in the long term, mission, trades and business activities, as well as its organizational and functional structure (Olivier Meier, 2009). The strategy used to trace the roadmap over time (3-5 years) and space (covered markets and customers) from existing resources (human technological organizational financial immaterial,) and new allocations according to the environment changes.

The strategy is therefore to choose the trades and activities for which the company can maintain and develop sustainable competitive advantages in the environment. According to E. Luttwak (2002), Strategic decisions are not linear but paradoxical. It’s generally "a mixture of reflection and action, creativity and adaptation, experience and innovation”.

Project Portfolio selection :

PMI (2008) defined the project portfolio as "a set of projects or programs and other operations that are grouped together to facilitate effective management of that work in the pursuit of strategic objectives." Thus, the project portfolio is the effective translation of strategic business objectives. Therefore, to manage successfully a projects portfolio, we must choose the projects to be implemented. Hence, Projects selection process is so important.

The selection of project portfolio is a process that involves the evaluation of a set of valid projects that achieve certain strategic objectives (Mantel et al., 2011). This process must be done on a periodic basis to ensure that the selected projects satisfy the organization's resources constraints (Ghasemzadeh & Archer, 2000) and external constraints (market regulation, laws, and others). This involves solving the problem of project portfolio selection.

To do this, several techniques exist: numeric and non-numeric methods (Mantel et al, 2011.), Linear and nonlinear optimization methods, for mono-objective and multi-objectives problems. And company chooses the most appropriate model that best reflects its maturity level (Hugo C. et al., 2012).

In this paper, we present numerical methods of mathematical optimization for mono-objective and multi objectives problems.

Lenear optimization - LO:

In mathematical optimization, a linear optimization problem is an optimization problem in which we minimizes (or maximize) a linear function on a convex polyhedron. The function that we minimize (or maximize) and constraints can be described by linear functions. The linear optimization (LO) is the discipline that studies these problems; it is also known by the name of linear programming, a term introduced by George Dantzig to 1947, but this name tends to be abandoned because of possible confusion with the concept of computer programming.

Integer Linear Programming - ILP :

Many problems of operational research can be expressed as linear optimization problems. These problems also appear as sub problems in algorithms designed to solve more difficult problems. In some Linear optimization problems, it requires in addition to variables that take only integer values (so-called integrity constraints) or even the values 0 or 1. Then were talk about Integer Linear Programming. These problems are much more difficult to solve than the LO continuous variables.

An integer linear programming (ILP) problem is not a linear optimization (LO) problem in the sense that its admissible domain is not a polyhedron but a discrete set of points. However, it can be described as a problem of OL which is added the additional constraints that some variables can only take integer values. We distinguish between mixed integer linear programming with integer and continuous variables, and the integer problem with all integer variables.

Goal Programming - GP :

Goal Programming (GP) is a branch of combinatorial optimization (Wolsey & Nemhauser, 1999), whose particularity is to try to optimize several objectives simultaneously on the same problem (against a single objective in linear optimization and ILP).

The idea of this method was introduced initially by Charnes and Cooper in 1961. They presented an approach to solve linear decision problem with multiple objective functions. This method has been extended by the work of Ijiri (1965) and Ignizio (1976) to solve nonlinear problems. Their method has been used in several theoretical and practical work (Chankong (1983), Martel (1998), Spronk (1981), Steuer (1985)) based on the following assumptions:

- Pre-assign weights (or priorities) to goals or targets groups
- Set values of positive and negative deviations,
- Minimize the weighted sum of these deviations.

Integer Goal Programming - IGP :

In Integer Goal Programming method, the same principle applies, except the solution definition domain; we add the additional constraints that the variables can take only integer values or even the two values 0 or 1 depending on the nature of the problem, in which case it is called 0-1 Goal programming (Tripathy & Biswal, 2007).

Case Study

Problem definition :

Numerical optimization methods can be used in several areas including mainly the field of management:

- In project management field several mathematical optimization methods were used:
    - Goal programming has been used by Sang Lee and David L. Olson (1984) for planning projects that meet several objectives: to minimize the execution time, meet deadlines and minimizing resources used.
    - Mixed integer quadric programming was used by Robert Terry and EZEY Mr. Dar-El (1982) for the strategic planning of several projects taking into account the date of completion and the number of resources available of each project
    - Linear Programming (ILP) has been used by Colin O. Benjamin (1987) to plan the optimal investment projects budgets.

- In project portfolio management domain, mathematical optimization methods were used mainly to address the problem of project selection (Hugo Caballero et al, 2012.) Or portfolio selection that meet the objectives defined previously (Cooper et al. (1997) biased by Bruno et al. (2007)).

The project selection process can be accomplished using mathematical optimization methods. The basic problem of linear optimization is to maximize or minimize an objective function while satisfying certain constraints. The formulation of the linear optimization problem is to define the decision variables, the objective function and constraints. This article presents two use cases of optimization methods applied on project m=portfolio management:

- ILP when the decision maker focuses on a goal,
- IGP when the decision maker considers several objectives.

Using LO methods in project portfolio management (PPM)

Criteria for projects selection

Projects prioritization in a portfolio of projects is the classification of projects according to cost-benefit relationship (R.Vargas, 2010). However, the criteria on which is based this relationship is not based only on financial aspects (costs and benefits), but also affect all effort committed to the success of the project. We distinguish, then, two types of costs (direct: perceptible and indirect: hidden) and two types of benefits (direct and hidden).

The table below summarizes the main criteria for projects selection in projects portfolio management field:

Direct costs	**Direct benefits**
Cost, human resources, hardware resources, risks (threats), technical skills …	ROI, profit, NPV, improving competitiveness, increasing the number of customers, increase market share,
Indirect costs	**Indirect benefits**
Degree of complexity, resistance to change, urgency, constraints and assumptions, stakeholder involvement,…	Society Development, reputation enhancement, improvement of internal processes ...

Tab 1. : Some criteria for selecting projects

Application of ILP method

The company ALPHA wants to select one of the eight projects, those that will maximize its financial profit (profit, in terms of monetary value less the cost of capital) under the following conditions:

- The available budget is 300000,00 MAD:
- Project 1 depends on the project 4: if one is selected, the other must also be;
- Projects 2 and 6 are equivalent if one is chosen, the other must not be;

The budget and the benefit of each project are presented in the table below:

Data	**Project1**	**Project2**	**Project3**	**Project4**	**Project5**	**Project6**	**Project7**	**Project8**
Profit (MAD)	160000	210000	110000	300000	350000	250000	200000	320000
Budget (MAD)	40000	50000	60000	70000	80000	90000	100000	110000

Tab 2. : Data of candidate projects in the company ALPHA

We assign to each project i a decision variable Xi defined by:

Xi = 1, if the project is selected ; **(1)**

Xi = 0, otherwise ;

The objective function F is the total profits of the projects; it can be described as follows:

Max F= 16 X1 + 21X2 + 11X3 + 30X4 + 35X5 + 25X6 + 20X7 + 32X8 **(2)**

The constraint on the available budget can be represented by the following relationship:

4X1 + 5X2 + 6X3+ 7X4 + 8X5 + 9X6 + 10X7 + 11X8 <= 30 ; **(3)**

The dependency constraint of projects 1 and 4 can be represented by the following relationship:

X1 = X4 ; **(4)**

The equivalence relation of the two projects 2 and 6 can be represented as follow:

X2 + X6 <= 1 ; **(5)**

The solution to the projects selection problem, that maximizes the financial benefit of the company ALPHA, is solving equations (1,2,3,4 and 5). For this we will use the method of integer linear programming on MS Excel solver. The result is shown below:

Data	Project1	Project2	Project3	Project4	Project5	Project6	Project7	Project8	Total
Profit (MAD)	160000	210000	110000	300000	350000	250000	200000	320000	**F= 1130000**
Budget (MAD)	40000	50000	60000	70000	80000	90000	100000	110000	Budget = 300000
DV	1	1	1	1	1	0	0	0	

Tab 3. : The maximum value of the profit

Taking into account budget constraints and dependency projects, the result shows that:

- Projects that will yield the greatest financial benefits to the company are the five projects : 1, 2, 3, 4, and 5.
- The maximum expected profit is: 1130000 MAD.
- The constraints (equations 3, 4 and 5) are satisfactory.

Application of IGP method

We will take the same example above, and there adds three more goals. The objectives considered in this case are:
Goal 1: The budget for the projects should not exceed 300000.00 MAD;
Goal 2: The financial profit of the portfolio project selected must be greater than 1000000.00 MAD;
Goal 3: The use of manpower should not exceed 50;
Goal 4: The sum of the risks associated with projects selected portfolio should not exceed 10.
A constraint to the urgency of certain projects may be added (Exp: Projects that have a high degree of urgency are given priority);
The table below summarizes the values associated with each project for each criterion:

Data	Project1	Project2	Project3	Project4	Project5	Project6	Project7	Project8	Total	Weight
Budget (MAD)	40000	50000	60000	70000	80000	90000	100000	110000	<= 300000	40%
Profit (MAD)	160000	210000	110000	300000	350000	250000	200000	320000	>= 1000000	30%
Manpower	5	8	7	10	9	8	7	6	<= 50	10%
Risque	3	0	4	4	2	2	1	5	<=10	20%
Urgency	2	3	2	2	3	4	1	1		

Tab 4. : Data of candidate projects and objectives to be achieved

The decision variables Xi indicates whether the project i is selected or not.
For each objective j is associated value Gj and weight Pj designating the degree of importance.
Each possible solution (the set of selected projects) has two (2) possible deviation variables defined as follows:
Vp (j) = the positive difference between the value obtained from selected projects and the value of the objective j.
Vn (j) = The negative difference between the value obtained from selected projects and the value of the objective j.

The objective function of the problem is the sum of the deviations of the objectives and can be described by the following formula: **Min Z = ∑ Pj x Vj ; (j=1…4)**
Where Vj = Vp (j) if it is to minimize the objective j (<=), and Vj = Vn (j) if it is to maximize the objective j (> =).
In our case the objective function is described as follows:

Min Z= 0,4Vp1 + 0,3Vn2 + 0,1Vp3 + 0,2Vp4 ; **(6)**

An equation is associated with each goal:

Cji Xi + Vp(j) – Vn(j) = Gj ; **(7)**

With Cij the contribution of project i to thegoal j, and Gj the goal value j.
The constraints related to this problem can be described by the following functions:

4X1 + 5X2 + 6X3 + 7 X4 + 8X5 + 9X6 + 10X7 + 11X8 <= 30 ; **(8)**

16X1 + 21X2 + 11X3 + 30X4 + 35X5 + 25X6 + 20X7 + 32X8 >=100 ; **(9)**

5X1 + 8X2 + 7X3 + 10X4 + 9X5 + 8X6 + 7X7 + 6X8 <=50 ; (10)

3X1 + 4X3 + 4X4 + 2X5 + 2X6 + X7 + 5X8 <=10 ; (11)

By applying the formula (7), equations related to the goals are:

G 1 : 4X1 + 5X2 + 6X3 + 7 X4 + 8X5 + 9X6 + 10X7 + 11X8 + Vp1 – Vn1= 30; (12)

G 2 : 16X1 + 21X2 + 11X3 + 30X4 + 35X5 + 25X6 + 20X7 + 32X8 + Vp2 – Vn2= 100 ; (13)

G 3 : 5X1 + 8X2 + 7X3 + 10X4 + 9X5 + 8X6 + 7X7 + 6X8 + Vp3 – Vn3= 50 ; (14)

G4 : 3X1 + 4X3 + 4X4 + 2X5 + 2X6 + X7 + 5X8 + Vp4 – Vn4= 10 ; (15)

We used MS Office Solver to solve this problem.

Three scenarios are considered. The results obtained are shown below:

Scenario 1:

Data	**Project1**	**Project2**	**Project3**	**Project4**	**Project5**	**Project6**	**Project7**	**Project8**
Budget (MAD)	40000	50000	60000	70000	80000	90000	100000	110000
Profit (MAD)	160000	210000	110000	300000	350000	250000	200000	320000
Manpower	5	8	7	10	9	8	7	6
Risque	3	0	4	4	2	2	1	5
Urgency	2	3	2	2	3	4	1	1
DV	**1**	**1**	**1**	**1**	**0**	**0**	**1**	**0**
Min Z= 0,4Vp1 + 0,3Vn2 + 0,1Vp3 + 0,2Vp4				1,3				

Tab 5. : The minimum deviation of scenario 1

Relation	**Weight**	**Vp**	**Vn**
<=	0,40	0	20000
>=	0,30	20000	0
<=	0,10	13	0
<=	0,20	0	2

Tab 6. : Detail deviations from goal scenario 1

Analyze 1 :

- Projects to be selected are: 1, 2, 3, 4 and 7
- The minimum deviation obtained: Min Z = 1.3
- The values of deviation objective are:
  - The total budget will be less than the target value of 20000 MAD,
  - The total profit will exceed the target goal 20000 MAD ,
  - The use of manpower will exceed the target goal of 13 ,
  - The risk is less than the permissible value of 2.

Scenario 2:

The following additional constraints are considered:

- Projects that have a high degree of urgency are given priority;
- Projects 2 and 6 are equivalents;

Scenario 2 favors, then, the project 6 on the project 2:

Data	Project1	Project2	Project3	Project4	Project5	Project6	Project7	Project8
Budget (MAD)	40000	50000	60000	70000	80000	90000	100000	110000
Profit (MAD)	160000	210000	110000	300000	350000	250000	200000	320000
Manpower	5	8	7	10	9	8	7	6
Risque	3	0	4	4	2	2	1	5
Urgency	2	3	2	2	3	4	1	1
DV	0	0	1	1	0	1	1	0
Min Z= 0,4Vp1 + 0,3Vn2 + 0,1Vp3 + 0,2Vp4				1,8				

Tab 6. : The Minimum deviation of scenario 2

Relation	Weight	Vp		Vn
<=	0,40	0		20000
>=	0,30	140000		0
<=	0,10	18		0
<=	0,20	0		1

Tab 7. : Detail deviations from goal scenario 2

Analyse 2 :

- Les projets à sélectionner sont : 3,4, 6 et 7
- La déviation minimale obtenue : Min Z= 0,4Vp1 + 0,3Vn2 + 0,1Vp3 + 0,2Vp4 = 1.8
- Les valeurs de déviation par objectif sont :
  - Le budget total sera inférieur à la valeur cible de 20000 MAD,
  - Le profit total sera supérieur à l'objectif cible de 140000 MAD,
  - L'utilisation de la main d'œuvre sera supérieure à l'objectif cible de 18,
  - Le risque sera inférieur à la valeur tolérée de 1.

Scenario 3:

The following additional constraints are considered:

- Projects that have significant degree of urgency more important: Project 5 will be selected.

Data	Project1	Project2	Project3	Project4	Project5	Project6	Project7	Project8
Budget (MAD)	40000	50000	60000	70000	80000	90000	100000	110000
Profit (MAD)	160000	210000	110000	300000	350000	250000	200000	320000
Manpower	5	8	7	10	9	8	7	6
Risque	3	0	4	4	2	2	1	5
Urgency	2	3	2	2	3	4	1	1
DV	0	0	1	0	1	1	1	0
Min Z= 0,4Vp1 + 0,3Vn2 + 0,1Vp3 + 0,2Vp4				2,1				

Tab 8. : The Minimum deviation of scenario 3

Relation	Poids	Vp	Vn
<=	0,40	0	30000
>=	0,30	90000	0
<=	0,10	19	0
<=	0,20	1	0

Tab 9. : Detail deviations from goal scenario 3

Analyze 3 :

- Projects to be selected are: 3.5, 6 and 7
- The minimum deviation obtained: Min Z = 2.1
- The values of deviation objective are:
  - The total budget will be less than the target value of 30000 MAD,
  - The total profit will exceed the target goal 90000 MAD
  - The use of manpower will exceed the target goal of 19
  - The risk is greater than the permissible value of 2.

The table below summarizes the best alternatives projects portfolios to choose:

Sc.	Selected Projects	Budget <= 300000	Profit >= 1000000	MO <= 50	Risque <=10	total Deviation
		Deviation	Deviation	Deviation	Deviation	
1	**P1, P2, P3, P4, P7**	**-20000**	**+20000**	**+13**	**-2**	**1.3**
2	**P3, P4, P6, P7**	**-20000**	**+140000**	**+18**	**-1**	**1.8**
3	**P3, P5, P6, P7**	**-30000**	**+90000**	**+19**	**+2**	**2.1**

Tab 10. : Summary of deviations scenario

Conclusion et perspectives

We tried, through this work, to show the importance of mathematical optimization methods in the field of project management, in particular, project selection. Two examples were used to present both ILP and IGP methods.

The main advantage of these methods remains the objectivity and accuracy of the results they present to decision makers. However, a combination with the multi-criteria analysis methods is still possible to select effective (or dominated) projects and then store or aggregate solutions to conclude with the optimization and sensitivity analysis.

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4th International Conference on Leadership, Technology, Innovation and Business Management

CPM, PERT and PROJECT MANAGEMENT with FUZZY LOGIC TECHNIQUE and IMPLEMENTATION ON A BUSINESS

Mete MAZLUM[a] , Ali Fuat GÜNERİ[b]
[a,b] *Yıldız Technical University, Istanbul, 34349, Turkey*

Abstract
As a result of increased competition environment, it has been obligatory to complete the projects in the foresighted time and with the specified sources. An effective project management is necessary to finish the projects without delay and with the available qualifications identified beforehand. The project planning techniques are utilized to satisfy these necessities.
In this study, classic PERT and CPM, which are project management techniques, fuzzy PERT and fuzzy CPM, which are used in the fuzzy project management, will be used to improve an online internet branch and to plan the project of an online internet branch. At the end of the study, the results will be analyzed. In the study, certain and fuzzy activity times of three different firms are used. With certain activity times, classic CPM and PERT optimization and with using triangular fuzzy numbers for fuzzy data, CPM and PERT optimization are analyzed.

Keywords: Project Management, Fuzzy Logic, PERT, CPM, Fuzzy PERT, Fuzzy CPM

Introduction

Fuzzy Set Theory, proposed in 1965 by LA Zadeh, is not only interested in well-defined and precise data, but also in uncertain and fuzzy data (MathWorks, 1995). This theory provided the real world to be expressed mathematically, thus the exact boundaries created by classical mathematics have been removed, and uncertainty took place in the decision-making processes (Steyn, Stokar, 2014). In almost every field of science and technology, the widespread use of fuzzy set theory with the new perspectives supplied to decision-making in industrial systems to the subject of the classic operations research studies have expanded the domain(Aziz,2013). This theory widely used in game theory and network problems in operations research, linear programming, nonlinear programming, goal programming, dynamic programming, transportation models (Junior, Carvalho, 2013).

Literature Review And Hypotheses

Fuzzy Set Theory

Triangular fuzzy numbers are shown as (a1, a2, a3) (Pillay ve Wang,2003). Here a2 is a number indicating the size is certainly. A1 and A3 size and upper and bottom limit shows the acceptable values.

Elements Of U, with "x" is defined as shown a universal set. Which is conventional for a subset of the membership function characteristic represented by μ, and {0, 1} as the following ranges of: (Ross,1995)

$$\mu A(x) = \begin{cases} 1 & \text{İf } x \in A \\ 0 & \text{Otherwise} \end{cases}$$

If value set is allowed to be in the range of [0, 1], A is Fuzzy set. μ A (x), x in the set of "degree of membership" and to μ (x) for values of x close to 1 set of membership increases. A fuzzy set, is characterized by a set of regular binary (Yakhchali, 2012).

$A=\{(x,\mu_A(x))\ x\varepsilon X\ \}$

Zadeh, in the form as proposed here also has the following representation. A fuzzy set X is a finite set {x1, x2, x3, ... xn} is indicated in the form.

That's a lot of uncertainty and competition in today's activity life, Triangular Fuzzy Numbers made using a CPM / PERT much more flexible and gives accurate results (Madhuri, Saradhi, Shankar, 2014).

A = (x1, x2, x3) and B = (Y1, Y2, Y3) in the form of two triangular fuzzy numbers;

• Equality: equality of fuzzy numbers A and B, shows the mutual equality of all members. This can be explained as follows:

If A = B (x1, x2, x3) = (Y1, Y2, Y3) if x1 = y1, x2 = y2, x3 = Y3 is.

• Gathering : A (+) and B = (x1 + y1, x2 + y2, x3 + y3) is expressed as.

• Subtraction : A (-) B = (x 1-y3, x2-y2, x3-y1) is shown as. Result is again a triangular fuzzy number.

• The symmetric triangular fuzzy numbers: A = (x1, x2, x3) if taken as triangular fuzzy number, that number will be as symmetrical - (A) = (-x1,-x2,-x3)

Multiplication and division operations are defined only on positive fuzzy numbers. The number of positive fuzzy numbers is the lower limit value is positive (Klir ve Yuan, 1995).

• Multiplication: A ⊗ B = (x1.y1, x2.y2, x3.y3) are shown in the form.

Division

$$A:B=\left(\frac{x_1}{y_3},\frac{x_2}{y_2},\frac{x_3}{y_1}\right)$$

This process results in the resulting number is a triangular fuzzy number (Sadjadi, Pourmoayed ve Aryanezhad, 2012).

t; increasing flexibility and innovation; making major changes in processes, products, or services; and gaining commitment to the changes (Yukl, 2002). Specific types of change-oriented behaviors can be classified as (1) influencing organizational culture, (2), developing a vision, (3) implementing change, (4) increasing innovation and learning (Yukl, 2002).

Fuzzy Critical Path Method (FCPM)

CPM (Critical Path Method) network planning is a technique used in the analysis. This technique "of the work done towards the realization of a project, when to start, and what bits work as well as when and what to do with the" grid presents visual information to the manager (Mccahon and Lee,1989). CPM, the duration of activity is assumed to be constant when the deterministic method (Meyer, Loch, Pich, 2014). In this study, the problem of CPM subjective interest based merging method is used with the membership functions. In this method, the formula of triangular fuzzy numbers,

$$\left(\frac{a+2b+c}{4}\right)$$

each with a designated representative values and values that are greater among themselves pessimistic, optimistic median optimal value was considered as the lowest value were calculated CPM (Baykasoglu, Gokcen, 2012).

Fuzzy PERT Method (FPERT)

In this study, known as the method of FPERT benchmarking method is used in this method assumes that each job is known of fuzzy time (Chanas Zielinski, 2001). Benchmarking method to find the time to complete the project in the early start-to-finish in a blur in transition forward and backward pass, pass a blur start-to-finish time is calculated in the following way.

$$\widetilde{ES}_i = \max_{v_j \in P_i} \left[\widetilde{ES}_j \ (+) \ \widetilde{A}_j\right]$$

$$\widetilde{EF}_i = \widetilde{ES}_i \ (+) \ \widetilde{A}_i$$

$$\widetilde{LF}_i = \min_{v_j \in S_i} \left[\widetilde{LF}_j \ (-) \ \widetilde{A}_j\right]$$

$$\widetilde{LS}_i = \widetilde{LF}_i \ (-) \ \widetilde{A}_i$$

Methodology

Research Goal

In this study, classic PERT and CPM, which are project management techniques, fuzzy PERT and fuzzy CPM, which are used in the fuzzy project management, will be used to improve an online internet branch and to plan the project of an online internet branch.

Sample and Data Collection

Although there are many methods used in project management methods, PERT and CPM are most popular methods (Kim, Kang, Hwang, 2013). In this study, the classical PERT and CPM in project management used in project management with a fuzzy fuzzy PERT (FPERT) and fuzzy CPM (FCPM) techniques to be used, and the results will be analyzed.

All analysis and observations are made in a new online internet branch project. For these project project activities and activities time are obtained by X, Y and Z consulting firm's project team. The results are Table 1 .

Table 1

Activity Code	Previous Activity	Definition of activity
A	-	The creation of the project plan and team
B	A	Determination of user needs / survey, focus group
C	B	Benchmark studies and determination of proper layout
D	C	Get the determination of the companies to offer
E	D	Evaluation of tenders
F	C	Evaluation of Contract and maintenance conditions
G	C	Consulting Services decision
H	C	The creation of new content and approval
I	G,H	Preparation of visual and template design
J	I	Tests
K	F	Launch

In phase I, the logical relationship between these activities and times WINQSB program was initiated, entered and analyzed.

Activity Name	Immediate Predecessor (list number/name, separated by ',')	Normal Time
A		7
B	A	90
C	B	15
D	C	7
E	D	7
F	C	15
G	C	7
H	C	3
I	G,H	3
J	I	7
K	F	7

Figure 1 Precise Time in the WINQSB Screen Display

In Figure 1, the first column (activity name) related activity, while the second column (immediate predecessor) related activities should take place before the activity, the activity will take place the third column is the precise time (in normal conditions) shows. Precise time of activities were analyzed with using WinQSB program.

Activity Name	On Critical Path	Activity Time	Earliest Start	Earliest Finish	Latest Start	Latest Finish	Slack (LS-ES)
A	Yes	7	0	7	0	7	0
B	Yes	90	7	97	7	97	0
C	Yes	15	97	112	97	112	0
D	no	7	112	119	120	127	8
E	no	7	119	126	127	134	8
F	Yes	15	112	127	112	127	0
G	no	7	112	119	117	124	5
H	no	3	112	115	121	124	9
I	no	3	119	122	124	127	5
J	no	7	122	129	127	134	5
K	Yes	7	127	134	127	134	0
Project Completion Time =			-	134	days		
Number of Critical Path(s) =			-	1			

Figure 2 Precise Time and Project Completion Time For Calculation of WINQSB

WinQSB calculated completion time 134 days and critical path A-B-C-F.

This situation is shown in Figure 2 and Figure 3.

05-10-2014	Critical Path 1
1	A
2	B
3	C
4	F
5	K
Completion Time	134

Figure 3 Expected Completion of the Critical Path

WinQSB's graphical solution shown in Figure 4.

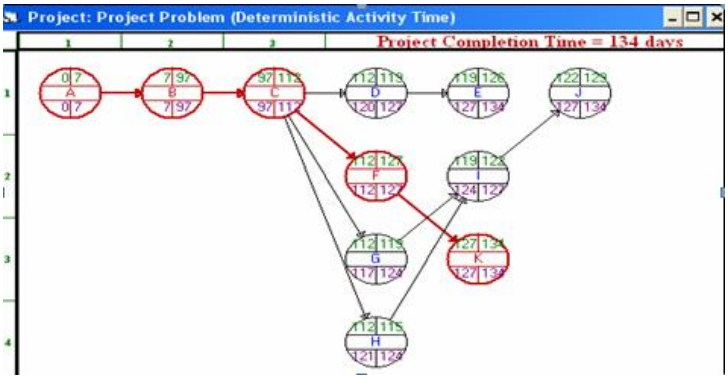

Figure 4 Graphical CPM Solution.

Analyses and Results

Table 3, X, Y and Z taken from firms operating time has been considered as triangular fuzzy numbers, and these numbers are calculated representatives.

Triangular fuzzy numbers, the smallest of the calculated values of representative value optimistic, pessimistic value is considered to be the biggest in the program, and WinQSB these values were obtained using the optimistic and pessimistic solutions (Chanas, Kamburowski, 1981)

Table 2 For each activity, pessimistic and optimistic Triangular Fuzzy Numbers and Representative Values

Activity Code	Previous Activity	A*(Triangular Fuzzy Numbers) Pessimistic	Represe ntive Value	A*(Triangular Fuzzy Numbers) Pessimistic	Represe ntive Value
A	-	(5,8,9,)	7.5	(5,7,9)	7
B	A	(90,95,100)	93.75	(75,90,95)	87.5
C	B	(15,15,17)	15.5	(15,15,15)	15
D	C	(7,8,9)	8	(6,7,8)	7
E	D	(5,7,9)	7	(5,7,9)	7
F	C	(15,17,18)	16.75	(13,15,18)	15.25
G	C	(6,7,8)	7	(6,7,8)	7
H	C	(3,3,3)	3	(3,3,3)	3
I	G,H	(1,3,5)	3	(1,1,1)	1
J	I	(7,7,7)	7	(7,7,7)	7
K	F	(7,8,9)	8	(6,7,8)	7

In the first phase of activities pessimistic representative values have been entered into WinQSB display and analysis was initiated.

As a result of this pessimistic analysis of the optimal solution of the model is calculated as 141.5 days. Pessimistic duration of the project with triangular fuzzy numbers (132, 143, 153) was found and was identified as the critical path A-B-C-F. In the second phase of activities optimistic representative values have been entered into WinQSB display and analysis was initiated.

WinQSB optimistic optimal solution of this model with the program is calculated as 131.75 days. Optimistic duration of the project with triangular fuzzy numbers (114, 134, 145) was found and was identified as the critical path A-B-C-F.

In the light of these results. Fuzzy modeling with applications in the solution of the CPM (FCPM) is more flexible and provide the appropriate framework (Dubois and Prade, 1980) (Buckley, 1995) has been observed that a mathematical *definition.*

Classic PERT Calculation Of The Project Duration

Classic PERT method, we used the largest, optimally and smallest values from the firm. When we take a look the PERT formula, a = the minimum value, m is considered as the optimal value and b = is the maximum value. Utilizing all three times the estimated weighted-average expected time for each activity is calculated.

Expected time (ET) is calculated by the formula:

$ET = (a + 4m + b) / 6$

The first stage of completion of activities in time for the 3-time estimates and the logical relationships between the activities and analyzes have been entered into WINQSB program was started.

Activity Name	Immediate Predecessor (list number/name, separated by ',')	Optimistic time (a)	Most likely time (m)	Pessimistic time (b)
A		5	7	9
B	A	75	90	105
C	B	13	15	18
D	C	6	7	9
E	D	5	7	9
F	C	13	15	18
G	C	6	7	8
H	C	3	3	3
I	G,H	1	3	5
J	I	7	7	7
K	F	6	7	10

Figure 5 Time Estimates for each activity WINQSB Screen Display

The first column in Figure 7 (activity name) related activity, the second column (immediate predecessor) related activities indicate activities that should happen before. Third, fourth and fifth columns of the related activities performed according to PERT technique has been entered 3-time estimates. Using time estimates for activities WinQSB program analyzed and activity results were obtained.

05-10-2014 23:23:25	Activity Name	On Critical Path	Activity Mean Time	Earliest Start	Earliest Finish	Latest Start	Latest Finish	Slack (LS-ES)	Activity Time Distribution	Standard Deviation
1	A	Yes	7	0	7	0	7	0	3-Time estimate	0,6667
2	B	Yes	90	7	97	7	97	0	3-Time estimate	5
3	C	Yes	15,1667	97	112,1667	97	112,1667	0	3-Time estimate	0,8333
4	D	no	7,1667	112,1667	119,3333	120,5	127,6667	8,3333	3-Time estimate	0,5
5	E	no	7	119,3333	126,3333	127,6667	134,6667	8,3333	3-Time estimate	0,6667
6	F	Yes	15,1667	112,1667	127,3333	112,1667	127,3333	0	3-Time estimate	0,8333
7	G	no	7	112,1667	119,1667	117,6667	124,6667	5,5	3-Time estimate	0,3333
8	H	no	3	112,1667	115,1667	121,6667	124,6667	9,5	3-Time estimate	0
9	I	no	3	119,1667	122,1667	124,6667	127,6667	5,5	3-Time estimate	0,6667
10	J	no	7	122,1667	129,1667	127,6667	134,6667	5,5	3-Time estimate	0
11	K	Yes	7,3333	127,3333	134,6667	127,3333	134,6667	0	3-Time estimate	0,6667
	Project	Completion	Time	=	134,67	weeks				
	Number of	Critical	Path(s)	=	1					

Figure 6 Activity for classical PERT Analysis and Results Obtained

Figure 8 As seen in all its activities, the average completion time (Activity Mean Time), the early start (Earliest Start), latest start (Latest Start), the early finish (Earliest Finish) and the late finish (Lastest Finish) time , margin values (Slack), standard deviation (Standard deviation) and the expected duration of the project (Project completion time) has been shown in the respective column. At the same time, which was determined to be on the critical path activities. Statements in the second column (Ten Critical Path) and the intersecting lines in some of the reference to "yes", the phrase about the activity on the critical path that expresses and 8 th columns in (Slack, LS - ES) As can be seen, the critical activities gap value is zero (Makropoulos ve Butler, 2005). The total space of non-critical activities in the same column values are also shown in the same row. Accordingly activities and administration sequences forming the critical path of the project, and the standard deviation of the expected duration of Figure 9 are indicated.

05-10-2014	Critical Path 1
1	A
2	B
3	C
4	F
5	K
Completion Time	134,67
Std. Dev.	5,22

Figure 7 Critical Path of the project and the expected completion time of the Representation of Variance

Analysis II. stage, in the light of the values of the models WINQSB program results through the solution, project network programmed, 134.67 days of expected project completion time, critical path and variance A-B-C-F 5.22

days.

Fuzzy PERT Calculation of the Project Duration

In the Table 4, X Y and Z are taken from companies operating time has been considered as triangular fuzzy number. This activity period on the basis of the average values were calculated for fuzzy PERT. In calculating the average value of the weight of each company by 1/3 and by summing the values are assumed to be average values were obtained.

Average value = (a (x, y, z), m (x, y, z), B (x, y, z))

a (x, y, z) = X, Y, and Z companies optimistic activity time's average values

a(x, y, z)= ax+ay+az

is calculated by formula.

Here, ax = X1 / 3, ay = Y1 / 3, az = Z1 / 3,

X1 = X, Y1 = Y = Z and Z1 are the company's optimistic activity time period refers to the activities of the firm optimistic (Russel ve Norvig, 2003).

m (x, y, z) = X, Y, and Z companies considered the optimal operation time and the average value was calculated in the same method.

b (x, y, z) = X, Y, and Z companies pessimistic activity time has been considered as the average value was calculated in the same method.

Table 3 X, Y and Z Company received from Operations Fuzzy And Average Value of Time

Activity	**Previous Activity**	**Duration of activity**	**Average Value ($a_{(x,y,z)}$, $m_{(x,y,z)}$, $b_{(x,y,z)}$)**
A	-	(5,7,9) (5,8,9) (5,7,9)	(5,7.3,9)
B	A	(75,90,95) (90,95,100) (75,95,105)	(80,93.3,100)
C	B	(13,15,18) (15,15,15) (15,15,15)	(14.3,15,16)
D	C	(6,7,8) (7,8,9) (6,8,9)	(6.3,7.6,8.6)
E	D	(5,7,9)	(5,7,9)
F	C	(13,15,18) (15,16,17) (15,17,18)	(14.3,16,17.6)
G	C	(6,7,8)	(6,7,8)
H	C	(3,3,3)	(3,3,3)
I	G,H	(1,3,5) (1,1,3) (1,1,1)	(1,1.6,3)
J	I	(7,7,7)	(7,7,7)

Fuzzy activity time on the basis of the average value of the ES (Early Start), EF (Early Finish time) in Table 5, LS (Late Start) and LF (Late Finish) is calculated and shown in Table 6.

Table 4 ES (Early Start), EF (Early Finish time)

Activity	ES	EF
A	(0,0,0)	(5,7.3,9)
B	(5,7.3,9)	(85,100.6,109)
C	(85,100.6,109)	(99.3,115.6,125)
D	(99.3,115.6,125)	(105.6,123.6,133.6)
E	(105.6,123.6,133.6)	(110.6,130.6,142.6)
F	(99.3,115.6,125)	(113.6,131.6,142.6)
G	(99.3,115.6,125)	(105.3,122.6,133)
H	(99.3,115.6,125)	(102.3,118.6,128)
I	Max [EFG,EFH]= EFG= (105.3.122.6,133)	(106.3,124.2,136)
J	(106.3,124.2,136)	(113.3,131.2,143)
K	(113.6,131.6,142.6)	(119.9,138.9,151.6)

Table 5 LS (Late Start) and LF (Late Finish)

Activity	LS	LF
A	(0,0,0)	(5,7.3,9)
B	(5,7.3,9)	(85,100.6,109)
C	(85,100.6,109)	Min [LSD,LSF,LSG, LSH]= LSF =(99.3,115.6,125)
D	(106.6,124.3,134)	(112.9,131.9,142.6)
E	(112.9,131.9,142.6)	(119.9,138.9,151.6)
F	(99.3,115.6,125)	(113.6,131.6,142.6)
G	(105.9,123.3,133.6)	(111.9,130.3,141.6)
H	108.9,127.3,138.6)	(111.9,130.3,141.6)
I	111.9,130.3,141.6	(112.9,131.9,144.6)
J	112.9,131.9,144.6	(119.9,138.9,151.6)
K	113.6,131.6,142.6	(119.9,138.9,151.6)

In this case, fuzzy project completion time shown as T, EF is the time of K activity
and is expressed as follows:

$$\mu T(x)= \begin{cases} (x-119.9)/(138.9-119.9), & 119.9 \le x \le 138.9 \\ (151.6-x)/(151.6-138.9) & \\ 138.9 < x \le 151.6 \quad 0 \quad , & 151.6<x \end{cases}$$

Activity time is difficult to determine the critical path is fuzzy. Therefore, each of routes network located on the degree of criticality should be calculated and should be decided accordingly. A good degree of criticality of the road can be calculated as follows: Cpi (Gencer vd., 2001).

Cpi=sup [Tpi ^ T]

There are 4 alternative ways ;these routes, (A-B-C-D-E), (A-B-C-F), (A-B-C-G-I-J) and (A-B-C-H-I-J) .
All activity durations is expressed as fuzzy numbers, fuzzy path length is calculated in the following way.
Route 1 (A-B-C-D-E): (5,7.3,9) + (80,93.3,100) + (14.3,15,16) + (6.3,7.6,8.6) + (5,7,9) = (110.6, 130.2,142.6)
Route 2 (A-B-C-F): (5,7.3,9) + (80,93.3,100) + (14.3,15,16) + (14.3,16,17.6) + (6.3,7.3,9) = (119.9, 138.9,151.6)

Route 3 (A-B-C-G-I-J): (5,7.3,9) + (80,93.3,100) + (14.3,15,16) + (6,7,8) + (1,1.6,3) + (7, 7.7) = (113.3,131.2,143)
Route 4 (A-B-C-H-I-J): (5,7.3,9) + (80,93.3,100) + (14.3,15,16) + (3,3,3) + (1,1.6,3) + (7, 7.7) = (110.3,127.2,148)

After calculating alternative routes calculated degree of criticality of each path (Gencer vd., 2001).

In Figure 9, each of the road are calculated and the degree of criticality are shown in Table 7.

Table 6 Criticality Degrees Of Routes

Routes	*Cpi*
1	0.72
2	**1.00**
3	0.75
4	0.71

According to the results of 2. Routes, which is the critical path of the project (A-B-C-F-K) and the project completion time (119.9,138.9,151.6) .

3.6 Fuzzy PERT Calculation of the Project Duration

In this part in order to assure better CPM, PERT FCPM FPERT solutions and the results obtained are shown in Table 8.Fuzzy PERT (FPERT) method, the obtained solution is a triangular fuzzy number (119.9,138.9,151.6) ease of operation and because it is more meaningful to compare the exact number of these triangles are converted into precise integer numbers (Turan ve Khisty, 2003). There are several methods in the literature for this transformation in this study Lee and Li (1988) and recommended Bortolin then Degani (1989) method is used in proving by the average value. Average value management by taking the arithmetic mean of the triangular fuzzy number is an exact number in this example extraction (119.9 +138.9 +151.6) / 3 = 136.8 was converted into the exact number.

Table 7 CPM, PERT, and FPERT obtained by FCPM Display of Project Duration

Method	*Project Duration*	*Critical Path*	*Standart Deviation*
CPM	*134*	*A-B-C-F-K*	-
PERT	*134.67*	*A-B-C-F-K*	*5.22*
FCPM (İyimser Çözüm)	*131.75*	*A-B-C-F-K*	-
FCPM (Kötümser Çözüm)	*141.5*	*A-B-C-F-K*	-
FPERT	*136.8*	*A-B-C-F-K*	-

Conclusion

CPM and PERT are the two of contemporary planning and scheduling techniques that are widely used in construction, IT, manufacturing and defense. They can be applied in the solutions of many problems and can be used in the programming of large-scale projects. Together with their easy application, these two techniques provide great benefit to the decision makers with being analytical. In this study, fuzzy and classical implementations of the two methods, which are used in project completion time, are compared. Then the project is assessed by cost-time point of view with

the help of earned value techniques that are developed by project management institute. In the last part of the study, the most probable scenario is analyzed.

According to the results in general, there are no huge differences between methods. However, the method can be considered the challenges of the process. In the solution according to the methods of fuzzy logic trigonal each job has been expressed as fuzzy numbers As shown in working process is creating algorithm chaos. Should precede the use of fuzzy factor, especially for jobs all the time in cases where these factors can not be effective completion of the project, and this causes difficulties in defining time. In cases where these factors are valid, especially in systems with large-scale and more refined process than predecessors and causes a lot of confusion. When this method again increased the number of business transactions will increase confusion.

In this study, the PERT method is in the works when the average time to find and only one value is reduced to that process streamlined and simple at the same time PERT cpm according to the method of uncertainty is greater in environments more optimal solutions given is an indisputable fact. When viewed from this perspective, the classical PERT method projects online internet branch will be appropriate. CPM and PERT tecniques can also be blended with fuzzy logic and earned value tecnique. Thus these study focus on a project with different constraits. The most popular tecniques in the academic literature of project management are used in this study.

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MISCELLANEOUS

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A giant fish in an empty basin: Carriage goods by sea acts-global practices and Indonesia

Atur Tetty Lubis[a] *

Binus Bussiness School,Senayan, 12180,Indonesia

Abstract

UNCITRAL have adopted four international conventions to standardize laws governing the carriage of goods by sea. Hybrid versions of the four conventions have been largely applied by most maritime countries in the world, which leave a few countries uphold their own versions, this includes Indonesia. Ten major trading partner countries with Indonesia have long established the implementation of provisions under the UNCITRAL conventions; while Indonesia still stays with 1848 codes, inherited from Dutch colonization. This paper examines key provisions and shortcomings of UNCITRAL conventions and their global adoption.. The discussion continues to individually evaluate and compare the legal practices of governing carriage goods by sea in Indonesia and its ten major country partners. The comparison analysis results in similar implementation of hybrid version of the four UNCITRAL conventions adopted by the ten trading partners; which strongly encourage Indonesia to replace the 1898 commercial codes with current international practice that conveys the best interest of Indonesia.

Keywords—Carriage Goods by Sea, International conventions, Hague Rules, Hague Visby Rules, Hamburg Rules, Rotterdam Rules, Commercial code, Carrier liability, Indonesian Law, UNCITRAL

1. Introduction

A remarkable development has begun in the maritime sphere of South East Asia. Ten countries in the region with emerging economic development have established a commercial and economic integration agreement under a regional economic association namely ASEAN. ASEAN was pulled forward a goal to become a free trading zone in 2006 by establishing the ASEAN Economic Community (AEC) before 2015 (Green, 2007).

Indonesia, a founding father of ASEAN, is the world's largest archipelago with the sea area about 7.9 million square kilometer including the EEZ, or four times larger than the land area. Indonesia is greatly reliant on maritime transport for both international and domestic trade especially because of their archipelagic nature, based on which Indonesian government has proudly proclaimed the country as a maritime nation and ascertained maritime sector as a key economic development (Country Report of Indonesia, 2010).

The ambition to become a maritime nation is acceptably grounded yet challenging; government should pay strong attention to the delicate balance of trade and law, which should also be anticipated in combination with the changing condition of economy. From the legal perspective, the domestic trade laws with respect to the carriage of goods by sea have to be efficiently regulated to conform to the global standards. If there is a proposal for a new direction, it should be steered towards the best interest of Indonesia and current international practice.

At present, Indonesia is still imprisoned by the 1848 commercial codes inherited from the Dutch colonialism, which is certainly incompatible with the development of technology and communication in maritime industry. The carrier's minimum liability was set based on the condition of trading over 160 years ago, when only few countries

Tel. + 62-87881110598

E-mail address: atlubis@binus.edu

traded globally and containerization had yet existed. Therefore Indonesian laws are widely regarded as uncertain and ambiguous, which can jeopardize Indonesia's maritime trading in the long term.

On the most major side of the world, UNCITRAL have adopted four international conventions to standardize the laws governing the carriage of goods by sea. The aspiration of Indonesia to be a developed maritime country would certainly call for a reformation in law governing the carriage goods by sea. There are multiple choices of international conventions as well as the hybrid versions that are widely applied by Indonesia's major trading partners. It is now the time to decide, which regime is in the best interest of Indonesia.

2. Uniformity of laws

International trading, which always engages two or more countries, undeniably involves different legal approaches that have largely been divided into the common law and civil law system. This divergence make it difficult to find a workable solution by a conflict of law process as a result of the substantial discrepancies in the conflict approach of each country with regard to the law to be applied to a particular dispute is defined. The transnational character of the maritime industry and its transactions have historically been perceived as to some extent separately from domestic law, therefore the ideal of international uniformity has been always been considered as particularly important to maritime law (Myburgh, 2003).

Tetley listed three reasons of why it is desirable to have international convention. It could simplify international legal system, create the legal certainty and attain a fairness, equity and just right and obligation (Tetley, 1987), which at the end, the uniformity in practical perspective would advantageously save cost. Every covered transaction in international trading involves at least two countries so as the parties engaged with the business are numerous; at least there are the shipper sand the consignees (Sturley, 1995). Carrier might be from different country and so is the cargo owner or the underwriter. If a dispute occurs, it could subject to litigation in any country involved or even in a country where none of the parties domiciles in or has an official presence in. Hence, international rules can provide the certainty and predictability that are necessary for the parties to make a rational and efficient decision (Sturley, 1995).

The uniformity would be effective and practically useful when it applies in national legal system with no reservation (Berlingieri, 1987). However, changes are unavoidable when an international code comes into national enactment. A convention usually contains a provision to only oblige the contracting countries to adopt it but the states would have freedom to enact their own rules.

Apart from a various degree of uniformity in each country, CMI along with UNCITRAL have tirelessly looked for the greatest acceptance of international convention on carriage goods by sea (Moore, 1979). At present, there are three international conventions on carriage goods by sea, namely the Hague Rules, the Hague Visby Rules and the Hamburg Rules which have been the major reference for legal dispute on carriage goods by sea. The number will be four, once the newly signed convention, the Rotterdam Rules, enter into force.

3. International Legislation on Carriage of Goods by Sea

3.1 The Hague Rules 1924

3.1.1 Historic background

First international convention established is the "Brussels Convention for the Unification of Certain Rules of Law relating to Bills of Lading" or popularly known as "the Hague Rules" in 1924, which were later adopted by 26 participating parties including the major maritime nations (Astle, 1981). The Hague Rules were mainly based on the Harter Act 1893 since many provisions in the convention are reproduced as provision found in the Harter Act. The Harter act was US congress enacted rules which is complimented as the world's first legislative attempt to allocate the risk of loss in ocean transportation between carrier and cargo interest (Sturley, 1983)

The Hague Rules were more likely as a 'compromise' between carriers and shippers from developed countries and were not intended to be a comprehensive regulation of carriage of goods by sea, but rather affirmed certain basic responsibilities of the carrier and shippers by setting forth exemption from carrier liability, and providing for limitation of carrier liability (Force, 1996). Thus, the carrier would be able to contract out of certain defined

responsibilities and the parties were free to negotiate the remaining terms. This is the most important effect of the Hague Rules existence (Wilson, 2008).

However, the Hague Rules only last for the first half of this century when the trading was still carried out old-fashionably. Technology and communication are developing in the shipping industry by increasing use of containerization and navigational technology, which forced the CMI to seek a better legislation.

3.1.2 The defects of The Hague Rules

3.1.2.1 Scope of application

The scope of application only applies to the outbound shipment, which is the shipment from a port of contracting party to a port of a non-contracting state. Thus, the rules are not applicable for outbound shipment, the shipment from any port of non-contracting state to a port of contracting state. This defect was raised by a well-known case on conflict of law namely Vita Food Case (Vita Food Product v Unus Shipping Co [1939] AC 277) which enabled the Hague Rules to be exempted by a choice of law clause for a jurisdiction in a non-contracting state (Reynolds, 1990).

3.1.2.1 A short period of responsibility

The rules only cover the liability of carriers from "the period from the time when goods are loaded on to the time they are discharged from the ship", a period which is referred to 'tackle to tackle'(Article I (e)). Therefore, the carrier would not be liable for damage of a cargo while it sit on the dock or stored in the warehouse prior or after shipping.

3.1.2.2 Low limitation of financial liability

The Hague Rules have been widely criticized for setting the amount of carrier's liability limitation too low, for only 100 pound per package or unit (Article IV (5)). It has no method of unit limitation for bulk cargoes and a difficulty in determining the liability limitation for a container whether in package or unit (Reynolds, 1990). This technique of expressing the limitation amount became unpractical for current means of compensation and liability.

3.1.2.3 Inadaptability to the technology and communication development

The widely used electronic communications robustly influence the increasing use of electronic B/L in shipping transaction by the introduction of EDI [12] which has been developed to replace the paperless B/L (Hasan and Ismail, 2007). Hence, the Hague Rules were irrelevant and incompatible to the new shape of seaborne trading.

3.2 The Hague Visby Rules 1968

3.2.2 Historic background

CMI adopted a protocol of the Hague Rules amendments signed at the city of Visby on the island of Gotland in Baltic. These amendments to the Hague Rules are officially titled as "Protocol to amend the international convention for the unification of certain rules of law relating to Bill of Lading" which entered into force on February 23, 1968. Next amendment namely the "SDR Protocol" was further made to account for currency imbalances in December 21, 1979 (CMI Year Book, 2009).

The Hague Rules were widely regarded as adverse to the carrier; hence the Visby amendments (hereinafter HVR) were to some extent put forward by carrying interests. The amendments contain provisions which were intended for remedy defects noted in the Hague Rules to which carriers had drawn attention (Reynolds, 1990). The HVR have now either been ratified or adopted as domestic legislation by almost one third of the parties to the Hague Rules including some leading maritime nations such as Belgium, Denmark, France, the Nordic countries, South Africa and United Kingdom (Lourens, 1999). The remaining two third of the Hague Rules contracting states, accordingly have both Hague Rules and HVR standing side by side (Carr, 2010). The amendments modified the Hague Rules in several respects, most notably, the limitation of the carrier's duties and the laundry lists of immunities to the carrier, including nautical fault defence (Article IV.2).

3.2.3 The shortcomings of HVR

One major concern was the exception of ship's negligent management, which was categorized by different aspects of negligence, thus the categorization would apply different approaches (Diamond, 1978). Further, the rules are difficult to interpret and have also created uncertainty. There is no proper provision to identify the Hague Rules' carrier, accordingly this has led to immeasurable problems relating to demise clauses and succeeding carriers (Diamond, 1978). The period of the carrier's liability is found still too limited and the deck cargo is still excluded from the subject matters.

3.3 The Hamburg Rules 1978

3.3.2 Historic background

The Hamburg Rules were adopted by UNCITRAL in March 1978 and after waiting for more than a decade, it came into effect on November 1, 1992.The countries, which have ratified the convention, are mostly developing countries. The Hamburg Rules was said to have better rules than HVR, as they were the first truly comprehensive attempt to codify the allocation of risks between vessel interest and cargo interests (Bauer, 1993).

3.3.3 Salient features of the Hamburg Rules

First and the greatest change was the elimination of the defence of the nautical and managerial fault, unless the carrier can prove that it/its servants/agents "took all measures that could reasonably require to avoid" (Article 5 (1)). The Hamburg rules made applicable to the delay in delivery of the goods, which was uncertain under the HVR, with up to 2/1/2 times the amount of freight cost. For the first time deck cargo was included under liable goods as well as cargo moving without a B/L (Article 9 (1)).

The other major point was the maximum limit of carrier's liability, which was increased from 665 SDR under the HVR to 835 SDR per package. Shippers could claim damages based on weight of the cargo instead of the value of the package with maximum recovery of 2.5 SDRs per kilo, approximately $1.59 per Lb. or $1169 per package, whichever is higher (Article 6 (1)).

Arbitration and jurisdiction, for the first time, were included by the new rules (Article 21 and 22); hence it provides a wider choice of courts to the parties of carriage. The application scope was extended from tackle-to tackle to port-to-port movement which was defined as 'any contract whereby the carrier undertakes against payment of freight to carry goods by sea from one port to another" (Article 1(6)).

However, there was global development, which evidently confirmed that either HVR or the Hamburg Rules have been out-dated. The massive increase in container traffic demands a better legislation than the simple package under the 1968 HVR while the gigantic use of electronic communication in the issue and transfer of B/L required an accommodating legislation (Staniland, 2009). Lastly, a new legislation is required to response the increased market globalization, even within the liner markets as modern commercial becomes more concerned on that the carriages of goods since the liner term is not only about exports matter, but also about integral part of serial supply chains, for which new legislation provide flexibility in freedom of contract. A new law becomes urgently and necessarily required (Staniland, 2009).

3.4 The Rotterdam Rules

3.4.2 Historic background

On 11 December 2008, the UNCITRAL adopted Rotterdam Rules as an attempt to bring back the uniformity of law in the field of maritime carriage by replacing the multiplicity of liability regime currently in existence as well as other regional hybrid. Many of its provisions are expected to represent significant breakthrough in an area previously defined by a certain divergence between the HVR and Hague Rules (Alba, 2008).

The Rotterdam rules run a number of 96 articles under 18 chapters, more complex and much numerous compare to their predecessors, The Hague Rules run to 16 articles with amendments by Visby Rules, while the Hamburg Rules consist of 34 articles and two annexes. What are the features of the Rotterdam Rules, which make them significantly distinguishable than its predecessors?

The Rotterdam rules run a number of 96 articles under 18 chapters, more complex and much numerous compare to their predecessors, The Hague Rules run to 16 articles with amendments by Visby Rules, while the Hamburg Rules consist of 34 articles and two annexes. "Bold and ambitious", one critic says in term of the extensive number and detail of provisions in the new convention, and accordingly the law becomes flooding with words and missions which arguably would be unsuccessful to cover all in accurate detail (Thomas, 2009). What are the features of the Rotterdam Rules that make them significantly distinguishable than its predecessors?

3.4.3 Key provisions

3.4.3.1 Scope and period of application

It requires for the convention to apply that the place of the receipt or loading or discharge or delivery of goods has to be in contracting country. The period of application is 'door-to-door'; from the time when the goods are received to the time the goods are delivered. It is not restricted to tackle-to-tackle (Hague Rules) or port-to-port (Hamburg Rules). This eliminates the carrier's liability to take benefit of a system of network liability that imposes different liability based on what stage loss or damage arisen (SITPRO's guide to the Rotterdam Rules, 2010).

3.4.3.2 Maritime performing parties recognition, Himalaya clause and electronic commerce

Rotterdam Rules introduce a new term of "maritime performing party" to which the obligations, liabilities and limitation of carriers are extended (Article 19). It is a party other than contracting carrier who performs any part of the sea lag or provides additional services to the sea leg such like stevedores and terminal operator who possess liability as same as the carrier only when they are in charge of the cargo.

3.4.3.3 Volume contracts

Volume Contracts are defined as "a series of shipments of specified quantities of goods during an agreed period of time" (Article 80). There is freedom to derogate from the Rotterdam Rules in respect of volume contracts as long as it prominently states the derogation from the rules (Mukherjee and Bal, 2009). Nevertheless, the provisions of seaworthiness and crewing and equipping, the obligation of information, dangerous goods,[ll] the limits of liability and the loss of right to limit liability are unable to be omitted.

The introduction of the maritime performing parties has clearly shown the anticipation made by the Rotterdam Rules in respect of Himalaya Clauses. Thus, the convention authorizes the automatic Himalaya clause protection to every maritime performing party regardless whether the relevant contract incorporates a Himalaya Clause (Sturley, 2008). Related to electronic commerce, the convention ensures that the eligibility of any electronic transport records, whether negotiable or not, or other information in electronic forms are similar to their paper documents (Article 8-10).

3.4.3.4 Provisions on liabilities of carriage for loss damage or delay

The monetary maximum limit of carrier's liability is exceeded to 875 SDR per package and 3 SDR units per kilogram of gross weight; whichever is higher (Article 17). The period limit for any claim is extended from one year under its predecessor to two years (Article 62 (1)). For the delay in delivery, which causes loss, the damages are limited to a multiple 2.5 times the freight payable on the goods of delayed. Notice of delay must be given within 21 days from the date of agreed delivery.

3.4.3.5 Jurisdiction and arbitration

Jurisdiction and Arbitration were firstly included in the Hamburg Rules, but the new convention provides more detail provisions (Chapter 14 and 15). In both jurisdiction and arbitration provisions, a claimant has a broaden options of courts namely "domicile of the carrier", "place of receipt", "delivery of the goods", or "load/discharge port" in which to bring claims. Nonetheless, a state shall express the 'opt-in' jurisdiction clause in their enactment to have a legal effect (Article 66).

4. Global practice

4.1 Current global position

The UK, France and Canada had adopted the HVR by virtue of its own legislation. The UK adopted the HVR by the COGSA 1971. France enacted the Hague Rules for international shipment in 1936 then amended by the Visby Rules in 1977 and 1987. France is not an enactor of the Hamburg Rules, yet certain provisions of the rules were incorporated in their domestic legislation (Sturley, 1995). Canada adopted the Hague Rules with "Carriage of Goods by Water Act" 1936, which was revoked the Act 1993 adopting HVR. Canada takes somewhat parallel approach as Australia by providing provision for future adoption of the Hamburg Rules at five–year interval. Yet, after two times review in 1999 and 2001, it continues the pending enforcement of the Hague Rules and remains applying the Hague Rules. Canada naturally would like to follow the US because the US is Canada's second largest trading partner in terms of sea trade.

Scandinavian Countries, i.e. Finland, Norway, Sweden and Denmark have exclusively enacted the Hamburg Rules in their HVR version legislation of 1994 (Mandelbaum, 1996). Belgium, Hongkong, Italy, Netherlands, Spain and New Zealand have also adopted the HVR; each country took some liberty in adoption of the rules into its own legislation (Mandelbaum, 1996).

In the CMI yearbook 2009, 85 countries had adopted the Hague Rules and 14 have later denounced the rules after amended by the Visby Rules (CMI Yearbook, 2009). There are 33 states adopted the Visby Rules 1968 while only 25 states incorporated the SDR Protocol 1979 in their legislation. The number is certainly much higher when countries apply the hybrid of the HVR and the Hamburg Rules are included. Hamburg Rules 1978, which came into force in 1992, attracted only 33 states, most of which were developing countries.

4.2 Indonesia's principal trading country partners

Tetley argued that the international uniformity would be achieved unless one's major trading partners do the same (Tetley, 1987). It has been proved when the US adopted the Hague Rules with the COGSA 1936, a flurry of ratifications to follow in due course. A country would certainly 'wait-and-see' to what the response of their major trading country partners and the international practice, before deciding its position whether to follow the trend or to sustain the exiting one. From the 2012 Indonesian export and import data, the top-ten major trading partners with Indonesia in term of trade value, are Japan, Singapore, China, US, Malaysia, South Korea, India, Thailand, Australia and Germany (Department of Commerce of Republic of Indonesia, 2010).

4.2.1 Japan

Japan has become a member of the HVR with the full support of both Japanese ship-owners and shippers. It has ratified the Hague Rules along with the modifications from the HVR in 1992 (Lourens, 1999) During the Rotterdam Rules making process, Japan played important roles during the drafting and negotiation; surprisingly they are yet to sign the convention.

4.2.2 Singapore

Singapore has been the second major Indonesia's trading partner in the last seven years. They have enacted the HVR with COGSA 1972 that was later modified in 1995 in order to accommodate the technology development in sea trading. Meetings and discussion with concerned parties are still underway to examine the benefit of the Rotterdam Rules to Singapore's shipping Industry (Hamid, 2004).

4.2.3 China

The Chinese Maritime Code 1993 leaned profoundly toward the Hague Rules while also included the Visby amendments and combine the characteristic of the Hamburg Rules (Tetley, 1999). China, as Japan, took a leading part in the Rotterdam Rules drafting process; they are yet to sign the convention.

4.2.4 The United States of America (US)

US were the world's largest trading nation, with international trading approaching over $1 trillion annually (Mandelbaum, 1996). They are actually the first country to adopt an internationally approach legislation on the maritime trading with the adoption of Harter Act 1893. This act was then provisionally adopted by the Hague Rules in 1924 which was later ratified by the US with the COGSA 1936 with some minor alterations in order to suit with the shipping practice in the US during the time (Sturley, 2008).

The US adopted neither the Visby amendments nor the Hamburg Rules. In the draft of the US COGSA 1998, US adopted a hybrid between HVR and HAR, and once it would be approved by the senate and came into force, it will add the variation of the existing hybrid regimes (Lourens, 1999). The COGSA 1998 would be further postponed since the Rotterdam Rules were adopted by UNCITRAL. During the Rotterdam Rules' drafting, US played the most significant role and signed the rules on the signing ceremony. This implicitly means that US delete the agenda to forgo COGSA 1998 (the hybrid of HVR and Hamburg Rules) but adopt the Rotterdam Rules instead.

At global level, the ratification of the convention maintains the trust of other countries in the US leadership in international maritime community (Sturley, 2008). Rest of the world is now paying attention to what China decides in respect with the Rotterdam Rules.

4.2.5 Malaysia

Malaysia shares the same legislative history with Singapore, yet they were less responsive to adopt an international legislation in their legislation. Malaysia ratified the Hague Rules with COGSA 1950 and with some minor modification 1995 (Joseph, 1998). There were discussions at ministry level to revoke the act and replace it with a new regime incorporating the HVR and other maritime conventions. In 2003, the Carriage of Goods by Sea Bill 1970 was submitted to Parliament to incorporate some provisions of the HVR, but the bill was never passed (Joseph, 1998).

4.2.6 South Korea

Korea is not a contracting state to any of international carriage goods by sea act. Nevertheless, Korea takes an approach by using the uniform law as a model when enacting its domestic law on the subject (Kozuka, 2003). Korean Commercial Codes, amended in 1993, contain certain provisions of the HVR (Yu and Peck, 1993).The major amendments inspired by the Hamburg Rules are the ship-owners liability limitation to the value of the vessel or to amount of "15,000 won per ton of tonnage," whichever was the lower. Korea also, for the first time introduce, the package limitation although the amount has been slightly different which is "500 SDR" per package rather than 666.67 SDRs per HVR, and there is no weight-based restriction amount provided.

4.2.7 India

India has adopted the Hague Rule 1924 with COGSA 1925. The COGSA 1925 is applicable in respect of the carriage goods by sea in ships carrying goods inward from outside India and outward from India (Kiran, 2007). India

is not a party of the Hamburg Rules, but they apply the maximum liability provision "666.67 SDR per package or 2 SDR per kilogram" per Hamburg Rules.

4.2.8 Thailand

Thailand has passed COGSA 1992, which is majorly based on the HVR with several additions from the Hague Rules. The Hamburg Rules provisions of 'port-to-port period of responsibility and liability for delay which is limited to 2.5 times the freight payable were also enacted in their COGSA (Hamid, 2004).

4.2.9 Australia

Australia incorporated the Hague Rules and two Visby amendments in their COGSA 1991 which contained an 'automatic trigger' mechanism to automatically replace the HVR by the Hamburg Rules after three years, unless otherwise were specified by the commonwealth government (Tetley, 1999). Nevertheless, the automatic scheme remained unused due to the strong opposition to the Hamburg Rules. COGSA 1997 was then passed to replace the provision of the three-year automatic replacement with a five-year interval review.

4.2.10 Germany

Germany incorporated the Hague Rules 1924 into the German Commercial Code (The Handelsgesetzbuch/HGB) in 1937 and included the two Visby amendments into the HGB after taking time for a while in considering whether to ratify the Hamburg Rules or follow the crowd to adopt the HVR (Tetley, 1999). In respect of the Rotterdam Rules, like other European states, Germany sits on a neutral position and waits until the US, China and Japan show their move.

5. Indonesia position

5.1 An overview on Indonesian legal system

Indonesia is a civil-law country in South East Asia directly surrounded by common law countries, like Australia, Malaysia, Singapore, Brunei and Philippines. Indonesian legal philosophy has been considerably influenced by Dutch legal thinking, which is classified as a civil law.

In the Indonesian civil law system, prominence is placed on codified law passed by parliament, supplemented by regulations, decrees and orders issued by the president, minister and other executive bodies. The doctrine of binding precedent is not applicable under Indonesia legal system, like also other countries with civil law tradition. Thus case law, which shapes as a substantial source of law in common law jurisdiction, has little or no role in Indonesian law (Tabajulan, 2010).

Single decisions of the courts are recognizing and enforcing only upon the parties and not upon others in future cases. Nevertheless, when courts have repeated preceding decisions more than once, they would have persuasive authority. In few cases, a court will decide owing to such established decisions, only those established decisions may be cited "case law" (Gunanto, 1995).

The Indonesian laws of contract are still governed by Dutch colonial codes, civil codes *(Burgerlijk Wetboek voor Indonesie)* and commercial codes (*Wetboek van Koophandel voor Indonesie*), both came into force in 1848. After Indonesia officially welcome foreign investment in 1967 and in the era of global economy then after, Indonesia laws which particularly dealing with commercial law have been largely influenced by the US contract formats (Gunanto, 1995). This is enough to explain that Indonesia civil law is undergoing a silent conversion in the direction of US Law.

5.2 Indonesian Commercial Code

Indonesian laws in respect of carriage goods by sea are codified under commercial code of 1848. The codes are divided into three books -the law merchant in general, Rights and Obligation arisen from shipping and insolvency of merchant (Book I). The rules on carriage goods by sea are incorporated in Book Two under chapter V about Ship Charter from article 309 to 747. Carriage goods by sea is governed under a specific sub chapter VA from article 466 to

517d, the rest of articles within the Chapter V provides general matters related to the carrier, shipper, the employment agreement between the carrier and its servants and the provision on voyage and time charter. The provisions on carriage goods by sea actually took some inspiration from the Hague Rules,

The Netherlands had actually moved forward by ratifying the Hague Rules which were revoked by the ratification of the Visby and SDR Protocol (CMI Yearbook, 2009), while Indonesia is still swimming in their 1848 pool. A new draft maritime law was actually prepared by a team of experts 20 years ago but no consensus was made on enactment of international conventions. In practice, parties in carriage of goods contract take proactive initiative if they prefer the international conventions to be included in their contract, through including their interest by reference incorporated into a B/L or other contract of carriage which become binding upon the parties as contractual obligation (Ganie and Mills, 2007).

The carrier's limitation liability determined by the code was too low compare to current trading currency and had no package limitation provided therein. The provision on period responsibility was also absent to define ether at the time the goods are loaded onto the ship to the time they are unloaded from it as per Hague Rules or during the entire period of the goods at the port of loading until they are discharged as the Hamburg Rules applies. Indonesian commercial codes also remain silent on jurisdiction and arbitration.

Another characteristic apart from features provided by the international conventions, which is "demise" or "identity of carrier" clause, a common clause in carriage goods by sea under common law, is not governed under Indonesian law. The use of demise clause has in practice leads to situations in which the plaintiff sued the "wrong" carrier and by the time the plaintiff sued the actual carrier, the one year period of bar order under Indonesian law had been expired and as a result the plaintiff was abandoned without any remedy. In short words, there appears in essence that no advantage arising from the use of demise clause under Indonesia Law.

Matters on the containerization and Electronic B/L are distinctively far beyond the arm of the Indonesian Commercial Codes 1898. Therefore, any matter outside the application scope of the codes would rely on the interpretation on the clause incorporated in the B/L.

6. Recommendation and conclusion

Practices applied by ten countries for trading partner to Indonesia clearly indicates that a large proportion, except the US, India and Malaysia, have adopted either the HVR or a hybrid regime of HVR and Hamburg Rules like China and Thailand. Albeit US, India and Malaysia are still in the shadow of the Hague Rules, there had been movements underway in these countries to the prospect of ratifying the HVR themselves before the Rotterdam Rules are adopted.

The current global practice discloses that the majority of countries, including large shipping states where carrier's interests are overriding, enact the HVR. The HAR only attracted insignificant number of countries, most of which were developing countries where cargo-owner's interests are dominant. Other major maritime states i.e. United Kingdom, Canada, France and Italy have also adopted the HVR into their own legislation, whereas Nordic Countries preferred to ratify the Hamburg Rules.

The Rotterdam Rules have recently listed on the option cluster and become a reliable choice for countries seeking for the most sophisticated legal approach to the shipping development. Albeit, to date no country has yet adopted the convention, Indonesia shall not lose their sight on the prospect of its enforcement in the near future.

Indonesia is undoubtedly in need of a new regime on the carriage goods by sea. Among a range of options in their trading partners and the global practice, which regime is in the best interest of Indonesia? The widespread use of EDI and intermodal transport in Indonesia automatically exclude the Hague Rules as an option. The HVR is a favorable regime in global practice including Indonesia's trading partners, but as Indonesia is a country of shipper rather than carriers, the Hamburg Rules would be a preference with respect to the liability limitation leaning to the shippers.

Against this background, it would be in the best interest of Indonesia to replace entirely the provisions on carriage goods by sea in its 1898 Commercial Code with a new regime incorporating a hybrid regime of the HVR and

Hamburg Rules. Indonesia shall adopt the HVR's provisions on 'tackle-to-tackle' period of responsibility for non-containerized goods, due diligence obligation of the carrier, carriers' duty of care for cargo, financial limitation of 666.67 SDRs per package-2 SDRs per kg for loss and damage. The liability limitation under HVR is actually lower than Hamburg Rules, thus it contributes less benefit to cargo-owner, and however Indonesia shall act in concert with international practice, which mostly adopts the HVR version.

The Indonesian new regime shall not been put on hold until the date of the Rotterdam Rules entering into force, it could be next year or might be a decade later. It would be impressively acceptable if the new legislation provides a provision for automatic replacement, such as Australian and Canadian COGSA, by the Rotterdam Rules at five-year interval as a sign to the world about Indonesian commitment to be a maritime nation with a strong support of up-to-date regulations. Alternatively, a signature on the Rotterdam Rules would also deliver the same intention.

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Turkish Users' Attitudes Towards Facebook Advertisements

Kader Oskaybaş[a] , Tolga Dursun[b] , Dursun Yener[c]

[a,b,c] *Maltepe University,Istanbul, 34857, Turkey*

Abstract

The purpose of this paper is to determine the effects of different factors on the formation of users' attitudes towards advertisements on Facebook, the current leading social networking site. For this purpose, Pollay and Mittal's scale aimed at measuring the public opinion towards advertisements was modified and used. Data obtained from 101 participants was evaluated. The model of the survey tries to determine the existence and the nature of the relationships between societal effects and personal uses of Facebook advertisements and the attitudes of the site's users' towards those advertisements. According to the results, perceived personal usage factors of Facebook advertisements, along with certain perceived societal effects contribute to the formation of attitudes towards Facebook advertisements.

Keywords: Consumer Attitudes, Social Media, Facebook

Introduction

The end of the 20th century saw the invention of the Internet, and the way of daily life has started to change. First, getting information and communication became easier, and as a result, consumers' needs started changing, which, in turn, led to businesses starting to abandon conventional models of business and started shifting towards e-commerce.

One of the steps many businesses has taken to answer the changing consumer needs is to establish a presence on social media sites. Social media sites allow businesses and customers to interact instantaneous – much like the telephone- but, the interaction most often can be viewed and, in a sense, overseen by other customers. A presence on social networking sites also allows businesses to track their customers' interests closely by letting them friend or follow the customers, and thus letting them follow what the customers like, what events the customers attend, and what the customers share about themselves.

Facebook is currently the leading social network site in the world. In Turkey, the majority of people with online access are members of the Facebook. Due to the popularity of Facebook among Turkish users, this paper focuses on the attitudes of Facebook's Turkish users' attitudes toward advertisements on Facebook.

Literature Review And Hypotheses

Social Media and Consumer Attitudes

Weber (2007) defines Social Media as "The social Media is the online place where people with a common interest can gather to share thoughts, comments, and opinions". According to Kaplan and Haenlein (2010) social media as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content" (Kaplan & Haenlein, 2010). Layered with several different user-controlled communication channels, social media differs from conventional media outlets in its capability of offering users transparent, engaging, interactive communication. The platforms that are collectively called social media enable the interactive web by letting users to generate, remix and comment on content as means of communicating with those who are both in and outside of their social groups. It encompasses wide variety of content formats including text, video, images and audio. Many social media sites incorporate more than one content

alternative. Social media as a whole concept also lets users interact across sites with functions that let users share posts on one site to another site.

The etymological stem of the word "attitude" is the Latin "aptus", which equals to "joined, fitted" in modern English. In 17th century, the term "attitude" was used as a technical term to denote the posture of a figure in a statue or painting. Later in the 18th century, the meaning of the word was generalized to "a posture of the body supposed to imply some mental state". Only in the mid-19th century have the connotations of "settled behavior reflecting feeling or opinion" started to be attached to the word. (http://www.etymonline.com/index.php?term=attitude, retrieved on 13th of March, 2014)

Although the meaning of the term has been redefined countless times in the past century, Thurstone's definition of it as "the amount of affect or feeling for or against a stimuli" captures the widest area on its current usage. The definition of attitudes as "evaluations of a concept or object, such as an issue, person, group, brand or service that expresses a degree of favor or disfavor" is more relevant to the topic of consumer behavior. Consumers form these evaluations by integrating knowledge, meanings or beliefs about the attitude object – the entity that gets evaluated. Attitudes are both concrete and protean, in the sense that once one about an object is formed, consumers activate the said attitude from memory and incorporate their interpretation of new information into it, instead of forming a new attitude each time they come upon a new bit of information (Peter & Olson, 1999). This implies that an attitude toward an object might differ in different points in time. The changes an attitude might undergo depends on three characteristics: Attitude availability, attitude accessibility and attitude strength (Arnould, Price & Zinkhan, 2004).

Attitudes about most objects are an amalgam of numerous feelings, thoughts and experiences of both positive and negative nature. In addition, attitudes are not necessarily always verging on the extremes. Neutral evaluations are not uncommon, especially towards relatively un-important concepts that do not require high levels of involvement (Peter & Olson, 2005).

Development of Hypotheses

Pollay and Mittal posit that seven effects that might be yielded by advertising and can affect formation of attitudes toward advertising. They divide those seven effects into two main categories, namely: Personal Uses, and Societal Effects (Pollay & Mittal, 1993). The seven effects determined by Pollay and Mittal are as follows:

Personal Uses:

Product Information: Some arguments advocating usefulness of advertising are based upon its role as a provider of information. The information obtained from advertising might increase market efficiency by more accurately matching customers' needs and producers' offerings.

Social Role and Image: Most advertising provide lifestyle imagery, aimed at association of the product with status and prestige. Many consumers agree to pay premium prices for effectively branded products.

Hedonic / Pleasure: The experience of looking at or remembering an advert itself can be a pleasurable.

Societal Effects:

Good for the Economy: Arguments advocating adverts claim that advertisement can speed up the acceptance of new products by the costumers, ultimately fostering full employment, lower production expenses, and similar larger-scale results.

Materialism: Critics of advertising claim that the display of countless products in an attractive manner preoccupies consumers with commercial concerns and divert them from social, political and philosophical concerns.

Value Corruption: Advertisements are built upon premises of values. Values portrayed and promised, critics of adverts claim, reinforce tendencies towards the "seven deadly sins" (greed, lust, gluttony, envy, sloth, pride, and anger) more than they do the "seven cardinal virtues" (prudence, temperance, justice, fortitude, faith, hope, and charity).

Falsity / No Sense: Advertising in general has been accused of being purposefully misleading or not fully informing. In such cases, the personal usefulness of adverts as information sources diminishes. Furthermore, such ads can damage communities they are served to by promoting half-truths as truths.

Global Attitudes: Specific beliefs listed above are claimed to be in accordance with more generalized attitudes that exist at another cognitive abstraction (Pollay & Mittal, 1993).

All the statements used were modified and reworded for measurement of attitude formation toward Facebook advertisements.

H1: Evaluation of Product Information factor influences Attitude toward Facebook advertisements positively.
H2: Evaluation of Social Role and Image factor influences Attitude toward Facebook advertisements positively.
H3: Evaluation of "Hedonic / Pleasure" factor influences Attitude toward Facebook advertisements positively.
H4: Evaluation of "Good for the Economy" factor influences Attitude toward Facebook advertisements positively.
H5: Evaluation of "Falsity / No Sense" factor influences Attitude toward Facebook advertisements negatively.
H6: Evaluation of "Corrupts Values" factor influences Attitude toward Facebook advertisements negatively.
H7: Evaluation of "Materialism" factor influences Attitude toward Facebook advertisements negatively.

Methodology

Research Goal

The Purpose of this survey is to determine the effects of different factors on the formation of users' attitudes towards advertisements on Facebook, the current leading social networking site. For this purpose, Pollay and Mittal's scale aimed at measuring the public opinion towards advertisements was modified and used. In addition to the factors adapted from Pollay and Mittal's model, the existence of relationships between demographic characteristics of the participants and their attitudes towards the Facebook advertisements was also tried to be determined.

Sample and Data Collection

Data obtained in this survey was computerized in Microsoft Excel and SPSS 18.0 programs. In this study, 7 questions about participants' demographic characteristics and 39 statements each were compiled into a survey and the resulting survey was published online to determine participants' attitudes towards Facebook advertisements in accordance with seven attribute model adapted from Pollay and Mittal. Participants were asked to state to what extent they agree with the statements on a scale of 1 to 5. Agreement degrees for 39 attribute statements were designed as 1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree. Each attribute assessment was then scored on the scale of 100 to calculate importance weights of each quality dimension.

Analyses and Results

Reliability is an important concept for research findings. Gegez explained that reliability indicates whether or not the same results are going to be obtained when a research is repeated and whether respondents would give same answers in case of no change of their state (Gegez, 2010). For reliability analysis of this survey Cronbach's alpha model was used. Cronbach's alpha model, in the words of George and Mallery (2001, p. 209), is an indicator of to what extent all the items in a scale can successfully measure any dimension.

Reliability analysis comes to the front to gauge inter-closeness degree of questions when calculation is made by summating the values of answers to certain numbers of questions. This is also called as internal consistency. Most preferred method for reliability analysis is Cronbach Alpha model. This model calculates the coefficient alpha. Coefficient is obtained by comparing overall variations of question to general variation in a scale. Alpha is a standard change mean and varies between 0 and 1. According to Nakip's explanation; in social research, an alpha value of 0,70 is accepted as 'adequate' for reliability (Nakip, 2006).

Demographic Features

46% of total participants were female and 53% were male, while 18.8% of the participants were married, 80.2% were single, and 1% were divorced or widowed. 24 to 29 age bracket was the largest group among the participants with 56.4%, followed by 18 to 23 group with 30.7%, 30 to 34 group with 8.9%, and 35 to 39 group with only 4%.

Gender	**N**	**%**	**Income**	**N**	**%**
Female	47	46	<1000 TL	32	31.7
Male	54	53	1001-1500 TL	10	09.9
Age	**N**	**%**	1501-2000 TL	18	17.8
18-23	31	30.7	2001-2500 TL	10	09.9
24-29	57	56.4	2501-5000 TL	22	21.8
30-34	9	08.9	5001+ TL	5	05.0
35-39	4	04.0	**Occupation**	**N**	**%**
Marital Status	**N**	**%**	Academician	5	05.0
Single	81	80.2	Engineer	2	02.0
Married	19	18.8	Lawyer	3	03.0
Divorced/Widowed	1	01.0	Other	3	03.0
Education	**N**	**%**	Private Sector	28	27.7
Postgraduate	27	26.7	Public Employee	2	02.0
Undergraduate	63	62.4	Self-Employed	10	09.9
Associate's	2	02.0	Student	48	47.5
High School	8	07.9	**Have Children**	**N**	**%**
Literate	1	01.0	Yes	14	13.9
			No	87	86.1

Table 3. 1 Demographic characteristics of the participants.

The monthly personal income of 31.7% of the participants was less than 1000TL. This group was followed by 21.8% of the participants with an income between 2501 and 5000 TL, 17.8% between 1501 and 2000TL, 9.9% with both between 1001 and 1501TL, and between 2001 and 2500TL, and, the smallest group, 5% with more than 5001TL of monthly personal income.

As to the occupation of the participants: With 47.5%, almost half of the participants were students, while 27.7% were employed in private sector. 9% of the participants were self-employed. Academicians, lawyers, engineers, public sector employees and those who were working in branches other than the options given in the survey made up 5%, 2%, 3%, 2% and 3% of the participants, respectively.

62.4% of the participants either had or were working towards an undergraduate degree. 26.7% of the participants were post-graduates. Those of the participants who had an associate's degree made up 2% of the total number of participants. High school graduates made up 7.9% percent of the participants, while only 1% of the participants' education level was literate –meaning they have not completed any high school level education.

Evaluation of Participants' Answers

Factors	Variables	Factor Weight	Explained Variation (%)	KMO	Bartlett	Cronbach Alpha
Global Attitudes	Facebook advertisements are essential.	0,809	66,52	0,758	0	0,883
	Overall, I consider Facebook advertisements a good thing.	0,837				
	My general opinion of Facebook advertisements is unfavorable.	0,737				
	I do like Facebook advertisements.	0,874				
Product Information	Courses, in large part, should be practice-oriented (e.g.case study)	0,787	67,01	0,657	0	
	Students should be prompted to group works in practice oriented parts of courses	0,872				
	Facebook advertisements helps me keep up to date about products/ services available in the marketplace.	0,793				
Social Role and Image Formation	From Facebook advertisements I learn about fashions and about what to buy to impress others.	0,847	64,74	0,658	0	
	Facebook advertisements tell me what people with lifestyles similar to mine are buying and using.	0,741				
	Facebook advertisements help me know which products will or will not reflect the sort of person I am.	0,821				
Hedonic/ Pleasure	Facebook advertisements are quite often amusing.	0,854	65,98	0,652	0	
	Sometimes I take pleasure in thinking about what I saw or heard or read in Facebook advertisements.	0,727				
	Sometimes Facebook advertisements are even more enjoyable than other media contents.	0,85				
Good for the Economy	Facebook advertisements help raise our standard of living.	0,799	50,45	0,721	0	
	In general, Facebook advertisements result in lower prices.	0,704				
	In general, Facebook advertisements help our nation's economy.	0,767				
	Mostly, Facebook advertisements are wasteful of economic resources.	0,36				
	In general, Facebook advertisements promote competition, which benefits the customer.	0,818				
Materialism	Faculty members should help students and give advices on their career planning	0,843	57,6	0,694	0	
	Advisers should help students complete the program smoothly	0,791				
	Facebook advertisements make people live in a world of fantasy.	0,661				
	Because of Facebook advertisements, people buy a lot of things they do not really need.	0,728				
Falsity/No Sense	In general, Facebook advertisements are misleading.	0,746	53,81	0,562	0	
	Most Facebook advertisements insult the intelligence of the average consumer.	0,83				
	In general, Facebook advertisements present a true picture of the product advertised.	0,606				

Table 3.2 Results of the reliability tests

"Global attitudes" factor consists of 4 variables in the survey. Factor weight of each variable can be found on the 3rd column of the table. Explained variation percentage is %66,52, which means that the aforementioned four variables account for %66.52 of the "global attitudes" factor. KMO test, performed to ascertain whether the sample was adequate for factor analysis, needed to be 0,7 or higher. For "Global Attitudes" factor, the KMO test result was

adequate. Bartlett test is used to ascertain whether the variables could be used for factor analysis. Values lower than 0,05 mean that the variable can be used for factor analysis.

"Product Information" factor consists of 3 variables in the survey. Explained variation percentage for this factor was %67,01. KMO test resulted in a value of 0,657 for this factor. Bartlett value for this factor was also below 0,05.

"Social Role and Image Formation" factor consists of 3 variables in the survey. Explained variation percentage for this factor was %64,74. KMO test resulted in a value of 0,658 for this factor. Bartlett value for this factor was also below 0,05.

"Hedonic / Pleasure" factor consists of 3 variables in the survey. Explained variation percentage for this factor was %65,98. KMO test resulted in a value of 0,652 for this factor. Bartlett value for this factor was also below 0,05.

"Good for the Economy" factor consists of 5 variables in the survey. Explained variation percentage for this factor was %67,01. KMO test resulted in a value of 0,721 for this factor. Bartlett value for this factor was also below 0,05.

"Materialism" factor consists of 4 variables in the survey. Explained variation percentage for this factor was %57,6. KMO test resulted in a value of 0,694 for this factor. Bartlett value for this factor was also below 0,05.

For "Falsity/No Sense" and "Value Corruption" factors, the KMO values were not adequate, and thus these factors have been omitted from the analysis.

Analysis also showed in-group differences in four demographic characteristics. Those characteristics are listed below:

- Education

		Sum of Squares	df	Mean Square	F	Sig.
Global Attitudes	Between Groups	3,883	4	0,971	3,044	0,021
	Within Groups	30,617	96	0,319		
	Total	34,500	100			
Product Information	Between Groups	10,771	4	2,693	3,27	0,015
	Within Groups	79,066	96	0,824		
	Total	89,837	100			
Hedonic/Pleasure	Between Groups	6,330	4	1,582	2,575	0,042
	Within Groups	58,997	96	0,615		
	Total	65,327	100			
Good for the Economy	Between Groups	5,409	4	1,352	2,849	0,028
	Within Groups	45,554	96	0,475		
	Total	50,962	100			

Table 3. 3 Comparison of Effects measured by Education Level

Deduced from the data is that for the factors included in the table above, participants' education level did show some statistical difference, but, since a post-hoc test was not performed, the exact differences between educational status is not clear.

- Age

		Sum of Squares	df	Mean Square	F	Sig.
Hedonic/Pleasure	Between Groups	5,726	3	1,909	3,106	0,03
	Within Groups	59,601	97	0,614		
	Total	65,327	100			

Table 3. 4 Comparison of "Hedonic / Pleasure" effect by Age

Hedonic/Pleasure factor shows fluctuations relative to the age of participants. When mean values are analyzed, it can be seen that the highest Hedonic / Pleasure score belongs to the 35-39 age group. It was also seen that Hedonic / Pleasure score increased as the age of the participants did.

- Marital Status

		Sum of Squares	df	Mean Square	F	Sig.
Global Attitudes	Between Groups	4,395	2	2,197	7,153	0,001
	Within Groups	30,105	98	0,307		
	Total	34,500	100			
Product Information	Between Groups	7,553	2	3,777	4,498	0,014
	Within Groups	82,284	98	0,84		
	Total	89,837	100			
Hedonic/Pleasure	Between Groups	5,968	2	2,984	4,926	0,009
	Within Groups	59,359	98	0,606		
	Total	65,327	100			

Table 3. 5 Comparison of effects measured by Marital Status

As it was the case with the education level, participants' marital status did show some statistical difference for the factors listed in the table above, but, since a post-hoc test was not performed, the exact differences between marital status is not clear.

- Children

Group Statistics					
	Children	N	Mean	Std. Deviation	Std. Error Mean
Hedonic/Pleasure	Yes	14	2,50	0,994	0,266
	No	87	1,77	0,732	0,078

Independent Samples Test						
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	Df	Sig. (2-tailed)

Hedonic / Pleasure	Equal variances assumed	2,165	0,144	3,286	99	0,001
	Equal variances not assumed			2,636	15,352	0,018

Table 3. 6 Comparison of "Hedonic / Pleasure" effect by Children

When the relationship between participants' having children or not and the "hedonic / pleasure" factor was viewed, it was seen that the participants with children had a higher value across the "hedonic / pleasure" factor than those who did not have children.

		Global Attitudes	Product Information	Social Role and Image Formation	Hedonic/Pleasure	Good for the Economy	Materialism	Value Corruption
Global Attitudes	Pearson Cor.	1	,626**	,435**	,592**	,582**	,201*	0,123
	Sig. (2-tailed)		0	0	0	0	0,044	0,222
	N	101	101	101	101	101	101	101
Product Information	Pearson Cor.	,626**	1	,647**	,566**	,574**	0,177	0,192
	Sig. (2-tailed)	0		0	0	0	0,077	0,055
	N	101	101	101	101	101	101	101
Social Role and Image Formation	Pearson Cor.	,435**	,647**	1	,525**	,553**	,229*	0,157
	Sig. (2-tailed)	0	0		0	0	0,021	0,117
	N	101	101	101	101	101	101	101
Hedonic / Pleasure	Pearson Cor.	,592**	,566**	,525**	1	,631**	0,145	0,126
	Sig. (2-tailed)	0	0	0		0	0,149	0,209
	N	101	101	101	101	101	101	101
Good for the Economy	Pearson Cor.	,582**	,574**	,553**	,631**	1	,489**	,439**
	Sig. (2-tailed)	0	0	0	0		0	0
	N	101	101	101	101	101	101	101
Materialism	Pearson Cor.	,201*	0,177	,229*	0,145	,489**	1	,530**
	Sig. (2-tailed)	0,044	0,077	0,021	0,149	0		0
	N	101	101	101	101	101	101	101
Value Corruption	Pearson Cor.	0,123	0,192	0,157	0,126	,439**	,530**	1
	Sig. (2-tailed)	0,222	0,055	0,117	0,209	0	0	
	N	101	101	101	101	101	101	101

Table 3. 7 Correlation Analysis

Between “Global Attitudes” and “Product Information” lies a significance value of 0, which indicates that there is a significant relationship between them. Pearson correlation value of 0,626, which indicates that the relationship between these two factors is a positive one. According to these values, it can be said that Hypothesis 1 can be accepted.

Between “Global Attitudes” and “Social Role and Image Formation” lies a significance value of 0, which indicates that there is a significant relationship between them. Pearson correlation value of 0,435, which indicates that the relationship between these two factors is a positive one. According to these values, it can be said that Hypothesis 2 can be accepted.

Between “Global Attitudes” and “Hedonic / Pleasure” lies a significance value of 0, which indicates that there is a significant relationship between them. Pearson correlation value of 0,592, which indicates that the relationship between these two factors is a positive one. According to these values, it can be said that Hypothesis 3 can be accepted.

Between “Global Attitudes” and “Good for the Economy” lies a significance value of 0, which indicates that there is a significant relationship between them. Pearson correlation value of 0,582, which indicates that the relationship between these two factors is a positive one. According to these values, it can be said that Hypothesis 4 can be accepted.

Between “Global Attitudes” and “Materialism” lies a significance value of 0,044 , which indicates that there is a significant relationship between them. Pearson correlation value of 0,123, which indicates that the relationship between these two factors is a positive one. According to these values, it can be said that Hypothesis 7 can be accepted.

Between “Global Attitudes” and “Value Corruption” lies a significance value of 0,222 , which indicates that there is a significant relationship between them. Pearson correlation value of 0,123, which indicates that the relationship between these two factors is a positive one. According to these values, it can be said that Hypothesis 6 can be accepted.

Analysis returned inconclusive results on Hypotheses 5.

Conclusion

With the advent of Internet technologies, many businesses started to spill their functions over to the cyber world to provide more ease and speed to their customers. As the social media sites started to become widely accepted and used, companies started using those sites to strengthen and improve their relationships with the customers, as well as to reach new customers. As the companies started establishing themselves on social networking sites and become more easily reachable, advertisements for businesses started finding their way into these sites too.

To determine the attitude of Turkish Facebook users’ attitude towards advertisements on Facebook, a survey was prepared and 101 answer sets were collected. Analysis of the data collected indicates that there is a positive relationship between participants’ evaluation of the “Product Information”, “Social Role and Image Formation”, “Hedonic / Pleasure”, “Good for the Economy”, “Materialism”, and “Value Corruption” factors and participants’ global attitudes towards Facebook advertisements.

The effect of “Falsity / No Sense”, and “Behavior” factors on Facebook advertisements could not be determined due to these factors’ variables turning out to be unreliable.

In light of these results, it can be said that companies considering foraying into the social media arena should put the focus in the advertisements they are going to use in Facebook on the adverts’ being informing and picturing the social image it is trying to foster as clearly as possible. The advertisement used should be prepared in accordance with the culture of the target base it will be used for, for the results show -just like the old-media ads- Facebook advertisements too can be deemed as corrupting the values of the population they are exposed to. Undertones that

might foster materialistic tendencies will also meet resistance from the customers, and have a negative effect on customers' general attitude towards the advertisement.

Further research with a larger sample might shed more light between users' evaluation of the effects included in the model and their overall attitude towards Facebook advertisements. In addition, research about users' attitude towards advertisements on social media outlets other than Facebook might be used to determine different attitudes and cross-site trends.

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Linking entrepreneurial orientation to firm performance: the role of differentiation strategy and innovation performance

Cemal Zehir[a] , Esin Can[b], Tugba Karaboga[c]

[a,b,c] *Yıldız Technical University, Istanbul, 34330, Turkey*

Abstract

In the strategy literature, the effect of entrepreneurial orientation (EO) on firm performance has been investigated in many studies. The latest researches investigate the relationship between them by considering the effects of third variables which can be internal and external factors. Within this framework, our study focuses on the mediating role of innovation performance and differentiation strategy on the relationship between entrepreneurial orientation and firm performance. The survey of this study is conducted on 991 middle and senior managers of 331 middle and large scale firms operating in manufacturing industry in Turkey, in 2014. The data gathered from questionnaires are analyzed with SPSS statistical package program at firm level. The results of analyses showed that both differentiation strategy and innovation performance mediate the relationship between EO and firm performance. Also, analyses results revealed another mediating effect in which differentiation strategy mediates the relationship between EO and innovation performance.

Keywords: Entrepreneurial orientation, Differentiation strategy, Innovation performance, Firm performance

Introduction

In the strategy literature many researchers (eg: Miller, 1983; Lumpkin and Dess, 2001; Zahra and Covin, 1995; Wiklund and Shephard, 2005) have studied the importance of EO on firm performance. Entrepreneurial orientation is a firm level concept and it is closely related to strategic management and strategic decision making processes (Covin and Slevin, 1991; Lumpkin and Dess, 1996; Birkinshaw, 1997). Globalization, global competition, focusing on firm performance for profitability, and inadequacy of traditional managerial techniques due to the changing market conditions can be the reasons for the increase in the importance of corporate entrepreneurship (Morris and Kuratko, 2002).

The concept of "entrepreneur" goes back to 1755 and Cantillon (Hamilton and Harper, 1994). Cantillon defined entrepreneurs as risk takers and they buy at certain prices today and sell at uncertain prices in the future. In the 19th and early 20th centuries entrepreneurs were generally considered in an economic perspective. According to Schumpeter ([1942] 1994, p.132) "The function of the entrepreneur is to reform or revolutionize the pattern of production by exploiting an invention or, more generally, an untried technological possibility for producing a new commodity or producing an old one in new way, by opening up a new source of supply of materials or a new outlet for products, by reorganizing an industry and so on." According to Lumpkin and Dess (1996), the concept of entrepreneurship is mainly related to "new entry" and it is applicable to different levels such as individuals, groups and organizations. With the development of the strategic management literature, a new concept "entrepreneurial orientation" (EO) is emerged. They define EO at firm level, as the reflection of strategic orientation of a firm by

affecting processes, practices, and decision-making activities that lead to new entry. Thus, new entry describes what entrepreneurship consists of and EO describes how new entry is carried out (Lumpkin and Dess, 1996).

Today, due to the globalization all sectors, companies, institutions and people are facing intense global competition. Under this pressure, for businesses it is being more difficult to exceed their rivals and outperform. In order to perform better than rivals firms should gain competitive advantage which is one of the most important subjects of management area. Porter has created two basic competitive advantages: low cost and differentiation. Cost leadership is related to producing products and services with lower costs than competitors and reaching a broader customer segment. Differentiation strategy is related to being unique in the market with the unique or different products and services companies offer (Porter, 1980, 1985). According to Barney (1991), in order to have a competitive advantage a firm needs to implement a value creating strategy that is not simultaneously implemented by any other potential competitors. Eisenhardt and Martin (2000) classified cost leadership strategy as temporary and long term sustainability of performance is not possible. Also, Murray (1988) stated that in the cost advantage strategy imitation is inevitable. On the other hand, differentiation strategy creates more sustainable competitive advantage with the unique products and services offered into the market and imitation is very difficult or very costly. (Grant, 1991; Carter and Ruefli, 2006). Also the recent study of Banker, Mashruwala and Tripathy (2014) showed that differentiation strategy creates sustainable higher financial performance in the long run. On the other hand another important subject is innovation or innovativeness which is one of the most important dimensions of EO, critical for differentiation strategy and again crucial for higher performance (e.g. Porter, 1990; Miller, 1983; Hull and Rothenberg, 2008). In the literature, some studies showed that there are relationships between EO, innovation and differentiation strategy (e.g. Prajogo et al., 2007). In this study we will exclude cost leadership strategy because of the higher sustainability of differentiation strategy and higher relationships with other variables (EO, innovation performance and financial performance) we investigate in this study.

In this study we investigate the relationships between EO, differentiation strategy, innovation performance and financial performance. More precisely, we want to analyze the role of differentiation strategy and innovation performance within the EO-financial performance relationship. Our expectation is that differentiation strategy and innovation performance will play a mediating role in the EO-financial performance relationship. In the rest of the paper we give literature review about our variables, we create our hypotheses, draw our research model and methodology, give empirical results from our analysis and present our conclusions.

Literature Review And Hypotheses

Entrepreneurial Orientation

Entrepreneurial orientation is defined as an organizational willingness to find and accept new opportunities and taking responsibility to affect change (Morris et al., 1996). According to Rauch and Frese (2009), EO describes firm level strategic processes that businesses use to gain competitive advantage. Thus, EO is not related to individual level variables as in the previous entrepreneurship theories, it is related to firm level processes (Rauch and Frese, 2009). Especially newly established firms should be very careful in pursuing strategic orientations because they have limited financial and managerial resources (Eisenhardt and Schoonhoven, 1990).

When the importance of EO on firm performance is considered, the EO can be a good measure to explore opportunities in the market and to utilize from them (Barringer and Bluedorn, 1999; Zahra and Garvis, 2000; Ireland et al. 2003). If a firm offers new products and services above averages and enter new markets it can be said that this firm is an entrepreneurial firm (Jennings ve Lumpkin, 1989). According to Lumpkin and Dess (1996), EO consists of independent variables and in the recent researches it is studied as a multidimensional concept (Lumpkin and Dess, 1996; Kreiser et al., 2002; Rauch et al., 2009). Miller (1983) defined entrepreneurial orientation in three dimensions: innovativeness, risk taking and proactiveness. Then Lumpkin and Dess, (1996) added aggressive competitiveness and autonomy to Miller's 3 dimensions. In this study, depending on different models of corporate entrepreneurship we use 5 dimensions of entrepreneurship; innovativeness, risk taking, proactiveness, aggressive competitiveness and autonomy.

EO Dimensions

According to Lumpkin and Dess (1996: 142), ***innovativeness*** reflects "willingness to support creativity and experimentation in introducing new products/services, and novelty, technological leadership and R&D in developing new processes". Schumpeter is one of the researchers who firstly emphasized the importance of innovativeness in entrepreneurial processes and defined innovativeness as doing new things or doing existing things in new ways (Schumpeter, 1947). According to Drucker (1985), innovativeness is the most important subject of entrepreneurship and in a similar way Lumpkin and Dess (1996) found it as the key component of entrepreneurship.

Lumpkin and Dess (1996: 144) defined ***risk taking propensity*** as a reflection of activities of entrepreneurial firms such as "incurring heavy debt or making large resource commitments, in the interest of obtaining high returns by seizing opportunities in the marketplace". Risk taking behavior is a crucial factor that differentiates entrepreneurs from others because it can create losses and inconsistencies in the performance (Morris and Kuratko, 2002), but it is the behavioral dimension of an EO along which opportunity is pursued (Lumpkin and Dess, 1996).

Proactiveness is defined as seeking new opportunities in the market and firms can be proactive by anticipating future demands and opportunities in the market, participating in emerging markets, shaping the environment, and introducing new products and brands before their rivals, (Venkatraman, 1989). Proactive companies perform better than rivals because they respond market changes instantly (Hughes and Morgan, 2007), and they become leaders of the industry with opportunities they find before their rivals (Lumpkin and Dess; 1996).

Competitive aggressiveness refers to "a firm's propensity to directly and intensely challenge its competitors to achieve entry or improve position, that is, to outperform industry rivals in the marketplace" (Lumpkin and Dess, 1996: 148). Also, they viewed competitive aggressiveness as responses of companies to achieve competitive advantage in the market.

Autonomy is defined as an independent action by an individual or a team focused on creating a business concept or a vision and carrying it through to completion (Lumpkin and Dess, 1996). According to Mintzberg and Waters (1985), entrepreneurs are strong leaders because their decision making processes requires decisive and risky actions, so entrepreneurial autonomy is related to freedom of entrepreneurs, free actions and independent decision making (Lumpkin and Dess, 1996).

EO, Differentiation Strategy and Innovation Performance Relationship

From the beginning of the recent decade, due to the speed of the globalization the intensity of the competition increased and as a result firms started to focus on searching strategies which will provide them sustainable competitive advantage. These strategies generally make firms differentiate their products and processes in other words, force them to innovate (Popadiuk & Choo, 2007). Differentiation strategy is one of the Porter's generic strategies (differentiation, cost leadership and focus) and closely related to innovation and performance (Porter, 1985).

Differentiation strategy is related to being unique in the market with the unique or different products and services companies offer. According to Barney and Hesterly (2006), differentiation is the reflection of individuals and groups working in a firm. When compared to competitive rivals, differentiation strategy provides higher profitability by creating brand loyalty and low price sensitivity (Porter, 1988). Due to the product or service differentiation, customers are ready to pay higher prices. Therefore this strategy reduces price sensitivity, decreases power of suppliers, creates a powerful entry barrier and reduces threat of substitute products. Brand positioning, innovation in marketing techniques, control of distribution channels, advertising campaigns, technological developments, high quality, improving brand image and company reputation are signs of differentiation strategy (Dess and Davis, 1984; Fitzsimmons and Fitzsimmons, 2004). Therefore advantages gained with differentiation strategy are more likely to be sustainable because unique products and services cannot be easily imitated by competitors (Grant, 1991).

In the strategy literature innovation is an important concept that creates value for companies and enables sustainable competitive advantage in the complex and rapidly changing business environment (Madhavan and Grover, 1998). Firms that have higher innovation capabilities are more successful in responding to changing conditions and

developing new capabilities to adopt changes and as a result achieve better performance (Montes et al., 2004). Innovation is related to organizations' adoption of a new idea or behavior (Zaltman et al. 1973). Differentiation strategies involve expending resources through research and development, marketing new products and services and promoting brand image (Porter, 1985). Similar to differentiation strategy, innovation occurs in different types such as product innovation, process innovation, service innovation and technological innovation. Also, according to Ireland and Webb (2007), entrepreneurial activities have effects on innovations of the firms. Therefore, due to the intense competitive environment, firms need entrepreneurially oriented individuals or groups in order to innovate new and different products, services, images and processes which cannot be imitated easily by others. This is why differentiation strategies, innovation and EO are closely related with each other.

Firm Performance

In today's business world it is highly emphasized on firm performance. However, there are a lot of criteria used in studies and determining the performance. According to Venkatraman and Ramanujam (1986), performance can be measured with financial and operational (non-financial) indicators. Financial measures are related to economic factors such as profitability and sales growth (e.g. return on investment, return on sales and return on equity) and operational measures are related to non-financial success factors such as quality, market share, satisfaction, new product development and market effectiveness. Also, they classified performance data in two dimensions; primary or secondary data. Primary data are directly collected from organizations and secondary data are collected from publicly available sources. Another classification in the performance measure includes objective and subjective measures. Objective performance measures refer to quantified indicators. They are generally financial indicators and obtained from organizations. On the other hand, subjective measures depend on judgmental assessments of respondents and these indicators cover both financial and non-financial indicators (Gonzalez-Benito, and Gonzalez-Benito, 2005). In the management field, Gonzalez-Benito, and Gonzalez-Benito (2005), suggest the use of subjective measures because subjective measure facilitates the measurement of complex dimensions of performance. Also some authors found difficult to obtain objective measures and perceive objective measures as unreliable because the data can be narrow in scope or cannot be up to date (e.g. Pitt, Caruana, & Berthon, 1996). Depending on similar views in the literature, subjective measures are used in this study and the role of differentiation strategy and innovation performance between the EO – performance relationship is investigated. Data are collected directly from executives of the firms, which show that primary data are used. Also firm performance questions in the survey include profitability and growth questions which mean financial performance is measured.

Development of Hypotheses

According to Lyon, Lumpkin and Dess (2000), there is a general perception that EO affects firm performance. In the entrepreneurship literature, many researchers emphasized the importance of EO – performance relationship and in most of the studies powerful relationship is found between EO and firm performance (e.g. Miller, 1983; Lumpkin and Dess, 2001; Wiklund, 1999; Wiklund & Shepherd, 2005; Zahra & Covin, 1995; Hult, Snow, & Kandemir, 2003). Also some researchers made longitudinal researches and found that the positive influence of entrepreneurial orientation on performance increases over time (e.g. Zahra and Covin, 1995; Wiklund, 1999). On the other hand, some studies were unable to find any significant relationship between EO and performance (e.g. George, Wood, & Khan, 2001; Covin, Slevin, & Schultz, 1994). Thus, there is a variation in the previous research findings. As a result, researchers began to seek internal and external factors that mediate the relationship between EO and firm performance rather than measuring the direct link between them (e.g. Lumpkin and Dess, 1996; Zahra and Garvis, 2000; Lumpkin and Dess, 2001; Li, Huang and Tsai, 2008; Wang, 2008; Alegra and Chiva, 2013). Therefore, in this study, we are investigating mediator effect of differentiation strategy and innovation performance on the relationship between EO and financial performance. In order to measure innovation performance researchers generally examine the indicators such as R&D, patents, new products and services offered by firms (Hagedorn and Cloodt, 2003). On the other hand differentiation strategies involve expending resources through research and development, marketing new products and services and promoting brand image (Porter, 1985). When the relation of differentiation strategy with EO and innovation performance is investigated, differentiation strategy is shown to be the strongest predictors for product and process innovation in the literature (e.g. Richard, McMillan, and Chadwick, 2003; Prajago et al., 2007; Khalili, Nejadhussein, and Fazel; 2013). Also Lumpkin and Dess (2001), Hughes and Morgan (2007) and Ireland *et al*. (2005) have concluded that EO directly affects organizational innovation and performance. Therefore, it is expected that that good

implementation of differentiation strategy can increase financial and innovative performance of companies. Also, depending on the literature, we argue that innovation performance and differentiation strategy will enhance the EO – performance relationship. In accordance with the literature review, our research model is developed as at Figure 1 below:

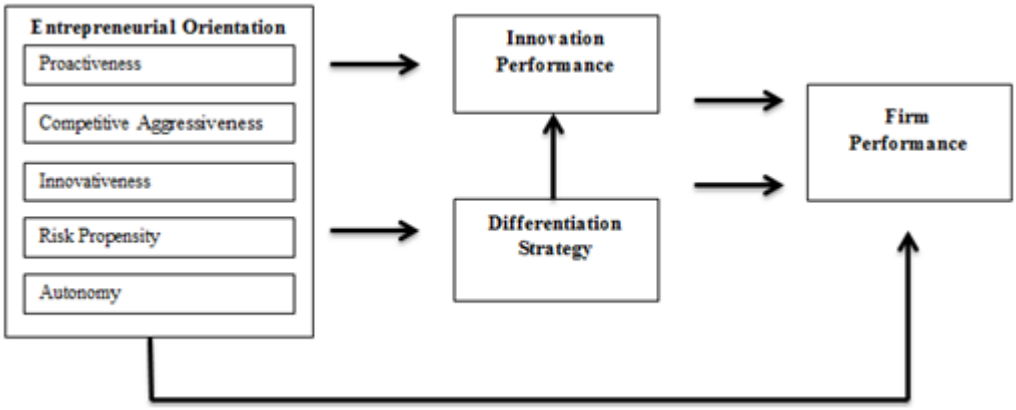

Fig 1. Research Model

Depending on the model, our hypotheses are created as following:

H1: Differentiation strategy mediates the relationship between entrepreneurial orientation and firm performance.
H2: Innovation performance mediates the relationship between entrepreneurial orientation and firm performance.
H3: Differentiation strategy mediates the relationship between entrepreneurial orientation and innovation performance.

Methodology

Research Goal

In this survey we aim to examine the mediating effect of differentiation strategy and innovation performance on the relationship between EO and firm performance.

Sample and Data Collection

The survey of this study is conducted on 991 middle and senior managers of 331 middle and large scale firms operating in manufacturing industry in Turkey, in 2014. Firms were conducted via e mail or phone and informed about the research. Data gathered from 991 questionnaires were reduced to firm level and 331 data were created at firm level. These 331 data were analyzed through SPSS statistical package program and hypotheses were tested through regression analyses.

Analyses and Results

To measure entrepreneurial orientation, 21-item questionnaire is created to measure 5 dimensions (5 questions for proactiveness, 4 questions for competitive aggressiveness, 5 questions for innovativeness, 4 questions for risk propensity and 3 questions for autonomy) by adapting from literature (Covin and Slevin, 1988;Venkatraman, 1989; A ndersen, 2001; Li, Zhao and Liu, 2006;). To measure differentiation strategy 14-item questionnaire is created by adapting from literature (Porter, 1980; Dess and Davis, 1984; Kohli and Jaworski, 1990; Chang et al., 2003). 8-item questionnaire is created to measure innovation performance by adapting from Prajogo and Sohal (2006). To measure firm performance 7- item questionnaire is created by adapting from literature that focus on financial performance indicators such as profitability and growth (Baker and Sininkula, 1999; Antoncic and Hisrich, 2001). During the analyses 3 questions are deleted (1question from proactiveness and 2 questions from innovation performance) because

they showed a weak loading or loaded two different factors. Overall 47 questions are used to measure variables. Factor loadings can be seen on the Table 1 and Cronbach's Alpha values can be seen on table 2.

Table 1 Factor Analysis Results

	DIFFERENTIATION STRATEGY	FIRM PERFORMANCE	INNOVATION PERFORMANCE	Innovativeness	Risk Propensity	Competitive Aggressiveness	Proactiveness	Autonomy
Developing new products and services	0,704							
Offering products according to the special needs of our customers	0,725							
Offering better quality products compared to our competitors	0,618							
Offering products in differentiating features	0,687							
Hiring qualified and creative people to achieve strategic goals	0,692							
Coordination among R&D, product development and marketing	0,762							
First company in introducing new products/brands to our customers	0,718							
Differentiated products of our company take place in the market	0,728							
Developing additional models and sizes upon our existing products	0,770							
Reducing new product development and marketing time	0,735							
Continuous improvement and development of products	0,735							
Benefiting from identified new businesses and market opportunities	0,721							
Satisfying the needs of different customers in different markets	0,711							
Expanding production line in order to produce different products	0,693							
Average net profitability compared to equity		0,819						
Net profitability before tax compared to all available resources		0,813						
Net revenue achieved from basic operations		0,839						
Financial success of the new products offered to market.		0,734						
Overall success level in financial terms		0,752						
Average annual increase in sales		0,658						
Overall level of profitability		0,740						
Technological competitiveness of our company			0,686					
Level of new product offering to the market			0,539					
Latest technological innovations in our new products and processes			0,789					
Adaption of the latest technological innovations in all processes			0,690					
The rate of change in our processes, techniques and technology.			0,685					
Importance given to R&D, technological leadership and innovation			0,659					
ENTREPRENEURIAL ORIENTATION								
Technical innovations based on research results are accepted quickly.				0,570				
Importance given to innovative ideas regarding products and services				0,612				
In our firm, innovations are accepted easily in projects.				0,612				
Employees are not punished even if their new ideas do not work.				0,690				
Innovativeness is encouraged in the firm.				0,702				
There is a strong proclivity for high risk projects					0,542			
In general, our operations include high risk.					0,743			
Taking bold, wide-ranging acts which are not tried before.					0,769			
Taking aggressive postures to maximize the probability of exploiting potential opportunities					0,774			
We often sacrifice profitability to gain market share						0,685		
We often cut prices to increase market share						0,794		
For higher prices, we often set prices below competitors						0,752		
Market share position at the expense of cash flow and profitability						0,739		
Effectiveness in providing new products/services							0,732	
Changes in the products are more radical compared to competitors							0,686	
Great importance to the development of new and innovative products							0,574	
First move instead of responding to the moves of our competitors							0,526	
We generally follow tried and right ways while conducting activities.								0,663
New projects are approved step by step not as a whole.								0,706
A more conservative way is followed in taking major decisions.								0,717
Total Explained Variance for Differentiation Strategy % 60,891								
Total Explained Variance for Financial Performance % 70,483								
Total Explained Variance for Innovation Performance % 69,898								
Total Explained Variance for Entrepreneurial Orientation %68,570								
Explained Total Variance 68,368%								

Table 2. Cronbach Alpha Values

Concepts	Number of Items	Scale Format	Cronbach Alpha	% of Variance	Cumulative %
Differentiation Strategy	14	LRF	0,950	19,592	19,592
Financial Performance	7	LRF	0,930	11,289	30,881
Innovation Performance	6	LRF	0,913	8,184	39,065
Innovativeness	5	LRF	0,854	7,018	46,083
Risk Propensity	4	LRF	0,832	6,563	52,646
Competitive Aggressiveness	4	LRF	0,842	6,387	59,033
Proactiveness	4	LRF	0,863	5,356	64,389
Autonomy	3	LRF	0,708	3,980	68,368

Notes: LRF - Likert Response Format (Five point: 1=strongly disagree to 5=strongly agree)

Table 3: Correlations, means and standard deviations of all variables

	Mean	Std. Deviation	1	2	3	4	5	6	7	8
Proactiveness	3,7478	,67881	1							
Competitive Aggressiveness	3,4194	,75452	,373**	1						
Innovativeness	3,8549	,57418	,689**	,397**	1					
Risk Propensity	3,2893	,74137	,432**	,573**	,397**	1				
Autonomy	3,8078	,53575	,415**	,433**	,461**	,378**	1			
Differentiation Strategy	3,9793	,53455	,613**	,259**	,599**	,363**	,395**	1		
Innovation Performance	3,8183	,59531	,653**	,261**	,587**	,380**	,335**	,687**	1	
Financial Performance	3,7728	,56381	,501**	,362**	,512**	,364**	,375**	,535**	,544**	1

**. Correlation is significant at the 0.01 level (2-tailed).

In this study, we conducted regression analysis to test the hypotheses and to define the direction of relations. When we examined the Table 4, it can be seen that in the first regression analysis, 5 dimensions of EO (proactiveness, competitive aggressiveness, innovativeness, risk propensity, and autonomy) have significant effect on differentiation strategy and the total model is significant at p=,000. In the 2nd regression model proactiveness, competitive aggressiveness, risk propensity and innovativeness dimensions of EO have significant effect on innovation performance but autonomy do not have a direct effect on innovation performance and model is significant at p=,000. In the 3rd and 4th regression models, it can be seen that differentiation strategy (β=,535; p=,000) and innovation performance (β=,544; p=,000) have significant effect on firm performance. In the 5th model, it can be seen that three dimensions of EO (proactiveness, innovativeness and autonomy) have significant effects on EO-performance relationship (model is significant at p=,000). In model 6, differentiation strategy is added to EO-performance relationship and the direct effect of autonomy on firm performance disappears and the effect of innovativeness and proactiveness decrease which means differentiation strategy partially mediates the relationship between EO and firm performance (model significant at p=,000). In model 7, innovation performance is added to EO-performance relationship and the direct effect of proactiveness on firm performance disappears and the effect of innovativeness reduces which means innovation performance partially mediates the relationship between EO and firm performance (model significant at p=,000). Also, in model 8 we put both differentiation strategy and innovation performance to the regression analysis and we saw that the previous effects of proactiveness and autonomy on firm performance disappear and the effect of innovativeness and differentiation strategy decrease, so we can say that differentiation strategy mediates the EO-firm performance relationship through innovation performance. Depending on the regression analyses results we can say that differentiation strategy and innovation performance mediate the relationship between EO and firm performance which means H1 and H2 is supported. Also, in model 9 differentiation strategy is added to EO-innovation performance relationship and the direct effect of risk propensity disappeared and the effect of innovativeness decrease which means differentiation strategy mediates the relationship between EO and innovation performance, so H3 is also supported.

Table 4. Regression Analysis Results

Regression Model	Independent Variables	Dependent Variables	Standardized β	Sig.	Adjusted R2	F Value	Model Sig.
1	Proactiveness	Differentiation Strategy	,274***	,000	,445	53,915	,000[a]
	Competitive Aggressiveness		-,073*	,051			
	Innovativeness		,283***	,000			
	Risk Propensity		,078**	,040			
	Autonomy		,114**	,021			
2	Proactiveness	Innovation Performance	,446***	,000	,465	58,454	,000[a]
	Competitive Aggressiveness		-,090*	,083			
	Innovativeness		,254***	,000			
	Risk Propensity		,129**	,013			
	Autonomy		,023	,635			
3	Differentiation Strategy	Financial Performance	,535***	,000	,284	132,033	,000[a]
4	Innovation Performance	Financial Performance	,544***	,000	,294	138,372	,000[a]
5	Proactiveness	Financial Performance	,222**	,001	,326	32,971	,000[a]
	Competitive Aggressiveness		,094	,107			
	Innovativeness		,245***	,000			
	Risk Propensity		,079	,171			
	Autonomy		,099*	,068			
6	Proactiveness	Financial Performance	,120*	,069	,372	33,589	,000[a]
	Competitive Aggressiveness		,124**	,029			
	Innovativeness		,156**	,018			
	Risk Propensity		,048	,398			
	Autonomy		,066	,214			
	Differentiation Strategy		,293***	,000			
7	Proactiveness	Financial Performance	,080	,237	,379	34,510	,000[a]
	Competitive Aggressiveness		,122**	,030			
	Innovativeness		,164**	,011			
	Risk Propensity		,038	,497			
	Autonomy		,092*	,078			
	Innovation Performance		,318***	,000			
8	Proactiveness	Financial Performance	,050	,462	,394	31,670	,000[a]
	Competitive Aggresiveness		,135**	,015			
	Innovativeness		,126*	,053			
	Risk Propensity		,028	,614			
	Autonomy		,071	,169			
	Differentiation Strategy		,195**	,002			
	Innovation Performance		,234***	,000			
9	Proactiveness	Innovation Performance	,300***	,000	,561	71,251	,000[a]
	Competitive Aggressiveness		-,047	,321			
	Innovativeness		,127**	,021			
	Risk Propensity		,084*	,075			
	Autonomy		-,025	,574			
	Differentiation Strategy		,418***	,000			

Significance: * p<0.10 ** p<0.05 *** p<0.01

Conclusion

This study highlighted the relationship among EO, differentiation strategy, innovation performance and firm performance. The results of the regression analyses indicate that differentiation strategy and innovation performance mediate the effect of EO on firm performance. So, H1 and H2 is supported according to regression analyses. Also, in the regression analyses it is seen that differentiation strategy mediates the relationship between EO and innovation performance which means H3 is supported. These results are consistent with the literature which supports that EO-firm performance relationship can be mediated by other variables which can be external or external (e.g. Lumpkin and Dess, 1996; Zahra and Garvis, 2000; Wang, 2008; Alegra and Chiva, 2013). Although there are many studies examining the EO-innovation performance relation (e.g. Khalili et al., 2013), innovation-firm performance relation (e.g. Montes et al., 2004), differentiation strategy-innovation performance (e.g. Prajogo et al., 2007), and differentiation strategy-firm performance relation (e.g. Porter, 1985) in the literature; the mediator effect of differentiation strategy and innovation performance on the relationship between EO and firm performance is examined for the first time through this survey, which differentiates this survey from others. However, in this study there are

some limitations. This survey is conducted on middle and large scale manufacturing firms in Turkey, findings might not be transferable to all types of organizations. Thus, it is recommended that further researches can be conducted on small scale firms in different countries or service companies in Turkey and other countries for the generalizability of findings. The other limitation of this survey is that questions related to EO, innovation performance, differentiation strategy and firm performance are answered by same respondents which are middle or senior managers of firms. In the future surveys questions can be filled out by different respondents to prevent same-source bias.

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A Research About The Effect of The Leadership Qualities of Public Administrators On The Motivation of The Employees

Sudi Apak
Sefer Gümüş
Beykent University, İstanbul, Turkey

Abstract

Public administration is the set of law, regulations and rules. Administrators are shaped and assigned in accordance with these variables. Though administration and leadership in publicare regarded as very similar, they reflect different kinds of people and understanding. In recent times, administrator and leadership variables differ greatly and become subjects for analysis. In this research, the effect of different models of leadership and administrators on the motivation and job performance of the employees have been studied with a specific focus on public administration.

In the research, firstly, frequency tables that indicate the distribution of socio economic characteristics of public employees were included. Then, every question that measures the effect of the administrators' leadership qualities on the employees' motivation and job performance were analyzed separately and frequency tables were formed. In the decoding process, the relationship between the leadership types and qualities that increase motivation and the socio demographic characteristics of the employees was examined.

In this research, a questionnaire formed of 27 questions was used as a data collecting method. Before the application of the questionnaire, a short written notice was given to the participants about the aims of the study. In the questionnaire, questions measuring the demographic factors of the employees, the effect of the leadership qualities of the administrators on the motivation and job performance of the employees were used. The research was conducted in a big district of Istanbul, on 100 public employees who are single and married with an age range between15-56. In this study about Public Administration and Motivation, The Effects of The Leadership Qualities of the Administrators on The Motivation and Job Performances of the Employees, SPSS 21.0 statistical method were used as the decoding method; in accordance with the conclusions drawn, some proposals were brought forward.

Keywords: Motivation, Performance, Leadership

1- INTRODUCTION

Human beings live in a society. During this living, common goals and fate occurred; some people came to the fore and led the others. This leading was sometimes conducted by stronger or talented ones or dynasties and chosen people throughout the history. Thanks to the advancement in the technology and increase in the population, societies changed and developed, forming new administration models and administrator types. Administration styles and differing

administration types have become a very important issue especially after the industrial revolution and this issue has been a topic of scientific discussion since 1830s.

Though administration and leadership are regarded as being very similar, they actually reflect the different understandings of administration and different human types. Nowadays, especially with the varying understandings of administrators and leadership, different administration styles have come to existence and thus, which administration style will be the most utilized has become an important research question. In this research, the effect of different leadership models on the motivation and job performances of employees were examined. The most effective powers that will increase the performance and job performances of the employees were discussed. The study was conducted on 100 employees working in public institutions. The sample of the study is the employees working in different public institutions in a district of Istanbul. In the research, firstly, frequency tables that indicate the distribution of socio demographic characteristics of public employees were included. Then, every question that measures the effect of the administrators' leadership qualities on the employees' motivation and job performance were analyzed separately and frequency tables were formed. In the decoding process, the relationship between the leadership types and qualities that increase motivation and the socio demographic characteristics of the employees was examined.

In this research, a questionnaire was used as a data collecting method. Before the application of the questionnaire, a short written notice was given to the participants about the aims of the study. A total of 27 questions were included in the questionnaire. In the questionnaire, questions measuring the demographic factors of the employees, the effect of the leadership qualities of the administrators on the motivation and job performance of the employees were used.

2-LITERATURE REVIEW

2.1. Administration and Leadership: Once we study the historical development of the concepts of administration and leadership, we can see that they often concentrate on the qualities of leadership, effective leader behaviors, intercultural changes in leadership. If we attempt to define leadership, we observe that there are various definitions in very different and wide space in literature. In this section of the study, firstly, the definitions of leadership and administration were attempted to explain. Primarily, the definitions about these concepts were mentioned.

According to İncir, "The strategy of assigning the executives who are able to stimulate the motivation of the employees- in other words, leaders- to the administrative staff is an effective strategy in motivation management." (İncir, 2002: 71).

Nowadays, "the views indicating that leadership and administration are definitely different than each other, administration is about preserving and maintaining the present while leadership is about guiding and providing change gain importance." (Yüksek, 2005: 50). For this reason, it will be useful to mention the differences in the definitions of administration and leadership. To explain these concepts by İncir's words; "While the administrator quietly and calmly sets a target and explains it to the employees, the leader forms his vision that will make him effective for a long time and shapes it in a colorful and persuasive way, then explains it to the employees and share his enthusiasm. The administrator distributes tasks to the employees according to their present abilities, while the leader gives new

responsibilities to the employees and makes them gain new abilities. The administrator controls the employees constantly while the leader develops the employees' abilities and motivates them, thus creating a self-control process.

2.1.2 The qualities of the administrator: Specific qualities looked in the administrators who will work in certain levels in the administration varies according to the needs of the job in every institution and every level. However, there are basic qualities which every administrator shall have. This is because in the administration process, a bad administrator can't bring success regardless of the success of the resources, work force, and labor. "Even though the resources and opportunities are the same, the success gained in the administration varies in accordance with the abilities and qualities of the administrators." (Aytürk, 1999:4). Actually at this point, if we look at the qualities of a successful leader, we see that in a common ground, the leader is the person who gathers the people around the common goals of the institution, provides communication amongst the people, gets disconnected power and information together. Additionally, we can define a successful leader as the person who is critical and patient, not always out front but shares his authority to the employees when necessary, pays attention to their ideas and make them participate in the decisions, gives them freedom of speech in certain levels of the institution, is open to change and makes decisions with the employees.

When we define leadership alone, we can't ignore the fact that it may be lacking. To define this concept, I believe it will be useful to mention administration and administrator primarily.

Başaran explained the qualities a leader shall have in accordance with the results of the study, saying that leaders are smarter than his followers on the average, makes better connections and relations with his followers, shall be more adequate in the given tasks, will be more interested in the goals, shall evaluate the power of his followers better and use in the proper place.(Başaran,1992:57)

2.1.3 Styles of Administrator and Leadership: It is possible to reach different resources among so many periodically about administrator and leader models. This is because every society, period and culture has its own way of expressing itself as well as its own understanding of administration. In this section of the study, both traditional leadership models which have been existent from past to present management and contemporary leadership models that are modernized thanks to the changing society were attempted to be examined. Başaran said "In determining administrator models, a distinction shall be made considering the qualities of the administrator, his behavior in constructing the structure of the task, his behavior during the task, his behavior in relationship, hypothetical characteristics of the employee and work environment variables." (Başaran, 1992:80) In the resources, traditional leadership styles include autocratic leadership style, democratic-participatory leadership style, liberal leadership style, and contemporary leadership styles that have been brought to agenda with the modernization of the society involve charismatic leadership style, coach style leadership style, transactional (interactionist) leadership style and transformational leadership style.

Charisma is a Greek word that means gift. Thus, the qualities that determine charismatic leadership behavior are still debatable. (Gibson et al., 2002: 336.) If we look at the historical background of charismatic leadership model, it can be argued that even though its history is based on Greeks and quotations from the Bible, nowadays it gained popularity by the work of Robert House and its most important qualification is the extraordinary effect these leaders create on the other people thanks to their personal qualifications. House defined the characteristic qualifications of the charismatic leaders as self-confident, trusted by their subordinates, having high expectations and ideological vision.

According to Luthans, subordinates of the leader identify themselves with the leader and his vision, have great loyalty and trust towards the leader, take leader's values and behaviors as an example (Luthans, 1992 : 283.). Charismatic leadership is a model that comes forward during crisis and critical situations generally. Thus, there are some common personal qualifications found in this leadership model. These are self-confidence, bravery, creating admiration amongst the subordinates, persuasion and motivation.

3-Incentive in Public Administration: The concept of motivation was used as *movere* in Latin, meaning "to move" and its English version "motivation" was derived from the word "motive" (Adair, 2005;). This concept which is used as motivation in foreign literature is mentioned as "incentive" (Sabuncuoğlu, Tüz, 2005:36), encouragement or fomentation in our language. The concept of incentive is generally defined in relation with the behaviors of the person. If we examine the theories about incentive from past to present, it can be argued that the most important concept has been administrator. That's why İncir defines motivation as "The strategy of assigning the executives who are able to stimulate the motivation of the employees- in other words, leaders- to the administrative staff is an effective strategy in motivation management." (İncir, 2002:71).

In fact, when we look at the concept of leadership and administrator, we may say that the basic difference that separates leader from the administrator is the leader's function of motivating the employees and interacting with them. For the motives to occur, some needs in the person which he can't fulfill must come to the surface. Thus, it can be argued that the most important power source that forms the behaviors of the person is the motives. For a person to behave, these needs have to be fulfilled primarily. When he behaves, only this need is fulfilled. However, the most important thing here to know what is the need. Because, as long as the need is not known or clear, incentives won't occur. These needs may include the psychological and social needs that the person feels the absence of in a given period.

Whether in public or private sector, in every institution, the key to a successful administration is directly related to the success of the leader or the administrator and the success of the administrator is linked to the productivity, efficiency and commitment of the employees. On the other hand, the success of the employees are connected to being administered in the right way and motivated towards this. For an administrator to be able to motivate the employees, he needs to be informed about it and open to education. In fact, when looked at the studies done nowadays, it can be argues that one of the most significant incentive powers is letting the employees to improve themselves.

A RESEARCH ABOUT THE EFFECT OF THE LEADERSHIP QUALITIES OF PUBLIC ADMINISTRATORS ON THE MOTIVATION OF THE EMPLOYEES

4- Aims and Method: The aim of this study is to detect the administrator models that the administrators working as executives in different levels in public institutions use, to determine the effects of these models on the leadership behavior and to examine the reflections of these models on the motivation and job performances of the employees in the light of the understandings of administration that the administrators present. In the data collection process of the study, snowball method was used. The data used in the study was transferred to computer and decoded through SPSS 21.0. Before the statistical analysis, the validity and reliability of the questionnaire was tested and for the questions measuring the effects of the leadership qualities of the administrators on the motivation and job performances of the employees, the cronbach alpha value was detected as 0,73. After these results, the data was assumed to be reliable and

the decoding process began. In the research, firstly, frequency tables that indicate the distribution of socio demographic characteristics of public employees were included. Then, every question that measures the effect of the administrators' leadership qualities on the employees' motivation and job performance were analyzed separately and frequency tables were formed. In the decoding process, the relationship between the leadership types and qualities that increase motivation and the socio demographic characteristics of the employees was examined.For the conclusion of this study, Fisher Exact test which is an alternative for the chi square test was used. In the case where the rule of chi square test that the frequencies of the predictions shall be bigger than 5 wasn't fulfilled, Fisher Exact Test is conducted. Level of significance was selected as α=0.05.

4.1 Universe and Sampling: The study was conducted on 100 employees working in public institutions. The universe of the study was formed of 100 employees working in public institutions in Istanbul. The sample of the study includes the employees working in different public institutions in a district of Istanbul.

4.2 . Data Collecting: In this research, a questionnaire was used as a data collecting method. Before the application of the questionnaire, a short written notice was given to the participants about the aims of the study. A total of 27 questions were included in the questionnaire. In the questionnaire, questions measuring the demographic factors of the employees, the effect of the leadership qualities of the administrators on the motivation and job performance of the employees were used.

4-3 Analysis of the Data: The data derived from the questionnaire which was conducted on 100 single and married people with the age range of 15-56 and living in a district of Istanbul was transferred to computer and decoded through SPSS 21.0. Before the statistical analysis, the validity and reliability of the questionnaire was tested and for the questions measuring the effects of the leadership qualities of the administrators on the motivation and job performances of the employees, the cronbach alpha value was detected as 0,73.

4.4. The Analysis, Results and Interpretation of the Findings

Table:1 The Correlation Between the Socio Demographic Characteristics of The Public Employees and Leadership Models

		In Your Opinion, Which Leadership Model Increases the Motivation In The Institution More?									
		Participatory or Democratic Leadership		Charismatic Leadership		Transformational or Interactionist Leadership		Autocratic Leadership		Fisher Exact Test	
		Number	Percentage %	Number	Percentage %	Number	Percentage %	Number	Percentage %	χ^2	P
Gender	Male	31	57,4	8	66,7	15	57,7	4	50,0	0,670	0,908
	Female	23	42,6	4	33,3	11	42,3	4	50,0		
Age	25 or below	5	9,3	5	41,7	3	11,5	0	0,0	26,393	0,192
	26-30	10	18,5	0	0,0	7	26,9	1	12,5		
	31-35	11	20,4	4	33,3	9	34,6	2	25,0		
	36-40	12	22,2	2	16,7	4	15,4	2	25,0		
	41-45	5	9,3	0	0,0	1	3,8	2	25,0		
	46-50	7	13,0	0	0,0	1	3,8	0	0,0		
	51-55	2	3,7	1	8,3	1	3,8	1	12,5		
	55 or above	2	3,7	0	0,0	0	0,0	0	0,0		
Education at Background	Primary School	1	1,9	0	0,0	0	0,0	0	0,0	7,828	0,620
	Secondary School	11	20,4	2	16,7	9	34,6	3	37,5		
	University	30	55,6	9	75,0	14	53,8	5	62,5		
	Master sor above	12	22,2	1	8,3	3	11,5	0	0,0		
Position in The Institution	Manager	2	3,7	1	8,3	0	0,0	0	0,0	7,526	0,496
	Chief	3	5,6	1	8,3	2	7,7	2	25,0		
	Officer	42	77,8	10	83,3	20	76,9	6	75,0		
	Other	7	13,0	0	0,0	4	15,4	0	0,0		
Years Spent In Employment	0-5 years	18	33,3	5	41,7	10	38,5	0	0,0	23,747	0,163
	6-10 years	9	16,7	3	25,0	8	30,8	4	50,0		
	11-15 years	6	11,1	3	25,0	5	19,2	1	12,5		
	15-20 years	8	14,8	0	0,0	1	3,8	1	12,5		
	21-25 years	6	11,1	0	0,0	0	0,0	1	12,5		
	26-30 years	6	11,1	1	8,3	0	0,0	0	0,0		
	31-35 years	1	1,9	0	0,0	2	7,7	1	12,5		

H0: There is no correlation between the Socio Demographic (Gender, Age, educational background, position in the institution, years spent in employment) of the public employees and Leadership model types. **H1:** There is no correlation between the Socio Demographic (Gender, Age, educational background, position in the institution, years spent in employment) of the public employees and Leadership model types. In the Table, the relationship between the socio demographic characters of the public employees participated in the study and administrative leader types they assume are increasing the motivation was examined. Fisher Exact Test which is an alternative to Chi Square Test was used within 95% reliability. According to this, the result that the variables of gender, age, educational background,

position in the institution, years spent in employment in the socio demographic characteristics of the public employees participated in the study had a statistically meaningful correlation with administrative leader types they assume are increasing the motivation was not reached. (P>0,005, H0 hypothesis is accepted.)

Hypothesis of the Study: H0: The attitudes and behavior of the public administrators towards motivation aren't reflected in their motivational behavior towards the employees. **H1**: The attitudes and behavior of the public administrators towards motivation aren't reflected in their motivational behavior towards the employees.

Table:2 The Correlation Between The Attitudes of the Administrators Towards The Motivation of The Employees and The Case Where The Institution Is Motivational

		Do You Think That The Institution You Are Working In Has a Motivational Vision?									
		Yes		No		Undecided		Maybe		Fisher's Exact Test	
		Number	Percentage%	Number	Percentage%	Number	Percentage%	Number	Percentage%	χ^2	P
Do You Think That Administrators Should Be Informed About Motivating The Employees?	Yes	35	40,7	36	41,9	9	10,5	6	7,0	16,061	**0,016**
	No	0	0,0	3	75,0	1	25,0	0	0,0		
	Undecided	2	40,0	0	0,0	3	60,0	0	0,0		
	Maybe	0	0,0	3	60,0	1	20,0	1	20,0		

In the Table, the correlation between the employees' thought that the administrators should be informed about motivating them and the institution they work having a motivational vision was examined. According to this, there is a statistically meaningful relationship between the institution having a motivational vision and employees' thought that the administrators should be informed about motivating them (χ^2 =17,819 p<0,05). Amongst the public employees who think that administrators should be informed about motivating the employees, 41,9% thinks that their institution has no motivational vision and 40,7 % thinks that their institution has motivational vision.

Table:3 The Correlation Between The Case Where Public Employees Perform Their Tasks Completely and The Case Where The Power Source in Leadership is More Effective For Motivation

	Which Power Source Do You Think Is More Effective In Motivation In Leadership?									
	Rewarding Power		Coercive Power		Legal Power		Specialization Power		Fisher's Exact Test	
	Number	Percentage%	Number	Percentage%	Number	Percentage%	Number	Percentage%	χ^2	P

Do You Think You Can Display Your Own Style/Methods in The Frame of	Yes	22	34,9	5	7,9	4	6,3	32	50,8	3,630	0,943
	No	11	47,8	2	8,7	2	8,7	8	34,8		
	Undecided	3	37,5	0	0,0	0	0,0	5	62,5		
Your Personal Experience and Abilities When Performing your Duty?	Maybe	3	50,0	0	0,0	0	0,0	3	50,0		

H0: Public employees being able to use their authorities completely don't affect their view of the effect of the power source in motivation in leadership.

H1: Public employees being able to use their authorities completely affect their view of the effect of the power source in motivation in leadership. In the Table, the case where the public employees use their whole personal experience and abilities when performing their duties and which power source of the leadership effects their motivation when using those characteristics were examined. According to this, among the public employees who think they display their own methods in the frame of their own personal experience and abilities when performing their duties, 80.8% think that specialization power, 34,9% think that rewarding power, 7.9% think that coercive power and 6.3% think that legal power is the power source that enables motivation in leadership. There was no statistically meaningful correlation found between the case where public employees use their whole personal experience and abilities when performing their duties and which leadership power source is more effective in motivation while using those (χ^2 =3,630 p>0,05).

Table: 4 The Correlation Between Socio Demographic Characteristic of Public Employees and the Methods in the Institution That May Motivate Them

		Which Factor Do You Think Can Increase Your Motivation In The Institution You Are Working In?									
		People oriented approaches of the administrators increases my motivation		The case where I feel administrators pay attention to my problems increases my motivation		The case where I have adequate communication resources in my institution increases my motivation		The case where administrators make feel safe in my work environment increases my motivation		Fisher's Exact Test	
		Number	%	Number	%	Number	%	Number	%	χ^2	P
Gender	Male	19	32,8	17	29,3	5	8,6	17	29,3	5,757	0,124
	Female	19	45,2	5	11,9	7	16,7	11	26,2		
Age	25 or below	4	30,8	4	30,8	2	15,4	3	23,1	19,559	0,466
	26-30	5	27,8	3	16,7	4	22,2	6	33,3		
	31-35	13	50,0	3	11,5	4	15,4	6	23,1		
	36-40	9	45,0	5	25,0	0	0,0	6	30,0		
	41-45	2	25,0	4	50,0	0	0,0	2	25,0		
	46-50	4	50,0	2	25,0	1	12,5	1	12,5		

	51-55	1	20,0	1	20,0	0	0,0	3	60,0		
	55 or above	0	0,0	0	0,0	1	50,0	1	50,0		
Educational Background	Primary School	1	100,0	0	0,0	0	0,0	0	0,0	7,660	0,600
	Secondary School	9	36,0	3	12,0	5	20,0	8	32,0		
	University	20	34,5	16	27,6	5	8,6	17	29,3		
	Master sor above	8	50,0	3	18,8	2	12,5	3	18,8		
Position in The Institution	Manager	1	33,3	2	66,7	0	0,0	0	0,0	7,904	0,482
	Chief	4	50,0	0	0,0	1	12,5	3	37,5		
	Officer	31	39,7	17	21,8	9	11,5	21	26,9		
	Other	2	18,2	3	27,3	2	18,2	4	36,4		
Years Spent In Employment	0-5 years	12	36,4	7	21,2	6	18,2	8	24,2	8,567	0,984
	6-10 years	9	37,5	4	16,7	3	12,5	8	33,3		
	11-15 years	7	46,7	5	33,3	1	6,7	2	13,3		
	15-20 years	3	30,0	2	20,0	1	10,0	4	40,0		
	21-25 years	3	42,9	2	28,6	0	0,0	2	28,6		
	26-30 years	2	28,6	2	28,6	1	14,3	2	28,6		
	31-35 years	2	50,0	0	0,0	0	0,0	2	50,0		

H0: The factors that affect the motivation of the public employees in work place vary according to the socio demographic characteristics (gender, age, educational background, position in the institution, years spent in employment) of the person. H1: The factors that affect the motivation of the public employees in work place don't vary according to the socio demographic characteristics (gender, age, educational background, position in the institution, years spent in employment) of the person. In the Table, the case if the factors that affect the motivation of the public employees participated in the study vary according to the demographic characteristics of the person was examined. According to this, there was no statistically meaningful correlation found between the socio demographic characteristics (gender, age, educational background, position in the institution, years spent in employment) of the public employees participated in the study and the factors that increase motivation in the workplace. ($p>0,05$)

RESULTS AND EVALUATION

Administration in the public is determined with laws, regulations and rules. Generally, it's not important if the administrator is very talented and successful. Since it's prominent to apply laws and rules in the enforcement, success and performance are shaped in accordance with these variables. It's not always possible to be fair in public administration. In the study concerning this issue, 84% of the participants stated that applying disciplinary rules fairly to all of the employees in the institutions they work increases motivation.

In the results, it was observed that pressure as well as tedious mobbing have a significant effect in the motivation and performances of the employees and due to keeping silent against these factors because of underemployment, 13% of the employees said that they have psychological support. Additionally, in the cases where employees don't get organizational consultancy support about their jobs, they get consultancy from various organizations in the market.

The motivation and success of the employees is not possible if the administrator doesn't share information and experience with them. In the orders, transactions and actions based only on fear, administrations based on pressure, it is the employee who is harmed. However, the work of the state and public continue. It has to continue. In this sense, success and motivation of the employees is not a preferred option and evaluation. If the public administrator is not autocratic but democratic, specialized in the field, carries charismatic and interactionist leadership characteristics and uses these in their action, discourse and transactions, the employees will be motivated and their job performances will increase.

There is no correlation between socio demographic characteristics (gender, age, educational background, position in the institution, years spent in employment) of the public employees and leadership model types. The attitudes and behaviors of the administrators towards motivation are reflected in their motivational behaviors towards the employees. Public employees' complete usage of their authority affects their view of power resource in motivation in leadership. The factors that will increase the motivation of the public employees in the workplace don't vary according to their socio demographic (gender, age, educational background, position in the institution, years spent in employment) characteristics. There is no statistical correlation between the socio demographic variables such as gender, age, educational background, position in the institution, years spent in employment of the public employees participated in the study and which administrator leadership type they think increases the motivation.

If the institution in which the public employees participated in the study has a motivational vision and if the administrators are informed about the motivation of the employees, the morals of the employees are boosted, the employee and the administrator achieve success together. Because success and performance are matters of plan, program and team work in organizations and work places.

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4th International Conference on Leadership, Technology, Innovation and Business Management

Effetcs of New Product Development On Profitability Level of Firm: The Case of IGDAŞ

Muzaffer ERTÜRK

İGDAŞ, Turkey

Abstract

Main aim of this study is to investigate effects of new product development on the competitiveness level of firms by considering the innovations developed by IGDAS (Istanbul Gas Distribution Industry and Trade Incorporated Company). The global competitiveness level of the companies mainly depends on their new product development capability and capacity. Firms' competitiveness level improves as long as successful new product developments occurs. Main findings of the study are that new product developments in İGDAŞ decreases costs, increases efficiency, competitiveness and profitability level of the firms.

Introduction

Companies challenges to survive in a highly competitive ecosystem. A multi-dimensional competition especially from competitors, consumers, fast technological change, economic-social and political changes affects firms deeply. In order to cope with heavy competition, firms want to development new innovative products providing competitive advantage comparing their opponents.

In the global economic conditions, competition level is getting increase for the firms and countries by the time. Firms have to develop new products and innovations in order to survive. Firms developing successful new products and innovations can achieve higher consumer satisfaction, competitive advantage, global competitiveness, market share and profitability.

In this study, we mainly investigate effects of new product development on the competitiveness level of firms by considering the innovations developed by IGDAS (Istanbul Gas Distribution Industry and Trade Incorporated Company). As observing the İGDAŞ case, the global competitiveness level of the companies mainly depends on their new product development capability and capacity. For this reason we can say that firms' competitiveness level improves as long as successful new product developments occurs.

In order to achieve of the aim of the study, we first, analyse the determinants of innovation in the firm level by considering innovation literature and the innovation models. Then, we investigate the effects of the new product development. Finally we surveyed new product development and effects on profitability to understand the mechanism of new product development on the profitability level of the firm. Main contribution of the study is to prove that successful new product development decreases cost and increase the profitability of firm

Determinants of New Product Development

By developing new technological innovations, the firms can sustain their competitiveness lev in the increasing global competition conditions. For this reason, understanding the determinants of technological innovation and new product development in order to increase competitiveness of the firm is vital for the firms in highly competitive market conditions. On the other hand, there are many internal and external factors in the firm level affecting the technological innovation and new product development for the firms. OECD and EuroStat (2005) stated that "*an innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations. The minimum requirement for an innovation is that the product, process, marketing method or organisational method must be new (or significantly improved)to the firm. This includes products, processes and methods that firms are the first to develop and those that have been adopted from other firms or organisations. Table 1 shows the factors relating to the objectives and effects of innovation".*

Table 1: Factors Relating to the Objectives and Effects of Innovation

Relevant for:	Product innovations	Process innovations	Organisational innovations	Marketing innovations
Competition, demand and markets				
Replace products being phased out	•			
Increase range of goods and services	•			
Develop environment-friendly products	•			
Increase or maintain market share	•			•
Enter new markets	•			•
Increase visibility or exposure for products				•
Reduced time to respond to customer needs		•	•	
Production and delivery				
Improve quality of goods and services	•	•	•	
Improve flexibility of production or service provision		•	•	
Increase capacity of production or service provision		•	•	
Reduce unit labour costs		•	•	
Reduce consumption of materials and energy	•	•	•	
Reduce product design costs		•	•	
Reduce production lead times		•	•	
Achieve industry technical standards	•	•	•	
Reduce operating costs for service provision		•	•	
Increase efficiency or speed of supplying and/or delivering goods or services		•	•	
Improve IT capabilities		•	•	
Workplace organisation				
Improve communication and interaction among different business activities			•	
Increase sharing or transferring of knowledge with other organisations			•	
Increase the ability to adapt to different client demands			•	•
Develop stronger relationships with customers			•	•
Improve working conditions		•	•	
Other				

Source: OECD and EUROSTAT (2005), Oslo Manual Guidelines For Collecting And Interpreting Innovation Data, Third Edition, OECD and EUROSTAT Publication, p.108

OECD and EuroStat (2005) stated that four types of innovations are distinguished: *"product innovations, process innovations, marketing innovations and organisational innovations. Product innovations and process innovations are closely related to the concept of technological product innovation and technological process innovation. Marketing innovations and organisational innovations broaden the range of innovations".* Table 2 shows the factors hampering innovation activities in the firm level, cost, knowledge, market, institutional and other factors affects the innovation.

Table 2: Factors Hampering Innovation Activities

Relevant for:	Product innovations	Process innovations	Organisational innovations	Marketing innovations
Cost factors:				
Excessive perceived risks	*	*	*	*
Cost too high	*	*	*	*
Lack of funds within the enterprise	*	*	*	*
Lack of finance from sources outside the enterprise:				
Venture capital	*	*	*	*
Public sources of funding	*	*	*	*
Knowledge factors:				
Innovation potential (R&D, design, etc.) insufficient	*	*		*
Lack of qualified personnel:				
Within the enterprise	*	*		*
In the labour market	*	*		*
Lack of information on technology	*	*		
Lack of information on markets	*			*
Deficiencies in the availability of external services	*	*	*	*
Difficulty in finding co-operation partners for:				
Product or process development	*	*		
Marketing partnerships				*
Organisational rigidities within the enterprise:				
Attitude of personnel towards change	*	*	*	*
Attitude of managers towards change	*	*	*	*
Managerial structure of enterprise	*	*	*	*
Inability to devote staff to innovation activity due to production requirements	*	*		
Market factors:				
Uncertain demand for innovative goods or services	*			*
Potential market dominated by established enterprises	*			*
Institutional factors:				
Lack of infrastructure	*	*		*
Weakness of property rights	*			*
Legislation, regulations, standards, taxation	*	*		*
Other reasons for not innovating:				
No need to innovate due to earlier innovations	*	*	*	*
No need because of lack of demand for innovations	*			*

Source: OECD and EUROSTAT (2005), Oslo Manual Guidelines For Collecting And Interpreting Innovation Data, Third Edition, OECD and EUROSTAT Publication, p.113

Table 3 shows the relationship between internal factors and innovation in the firm level. Some of the factors have a positive effects and others have a negative effects.

Table 3: Internal Factors and Innovation

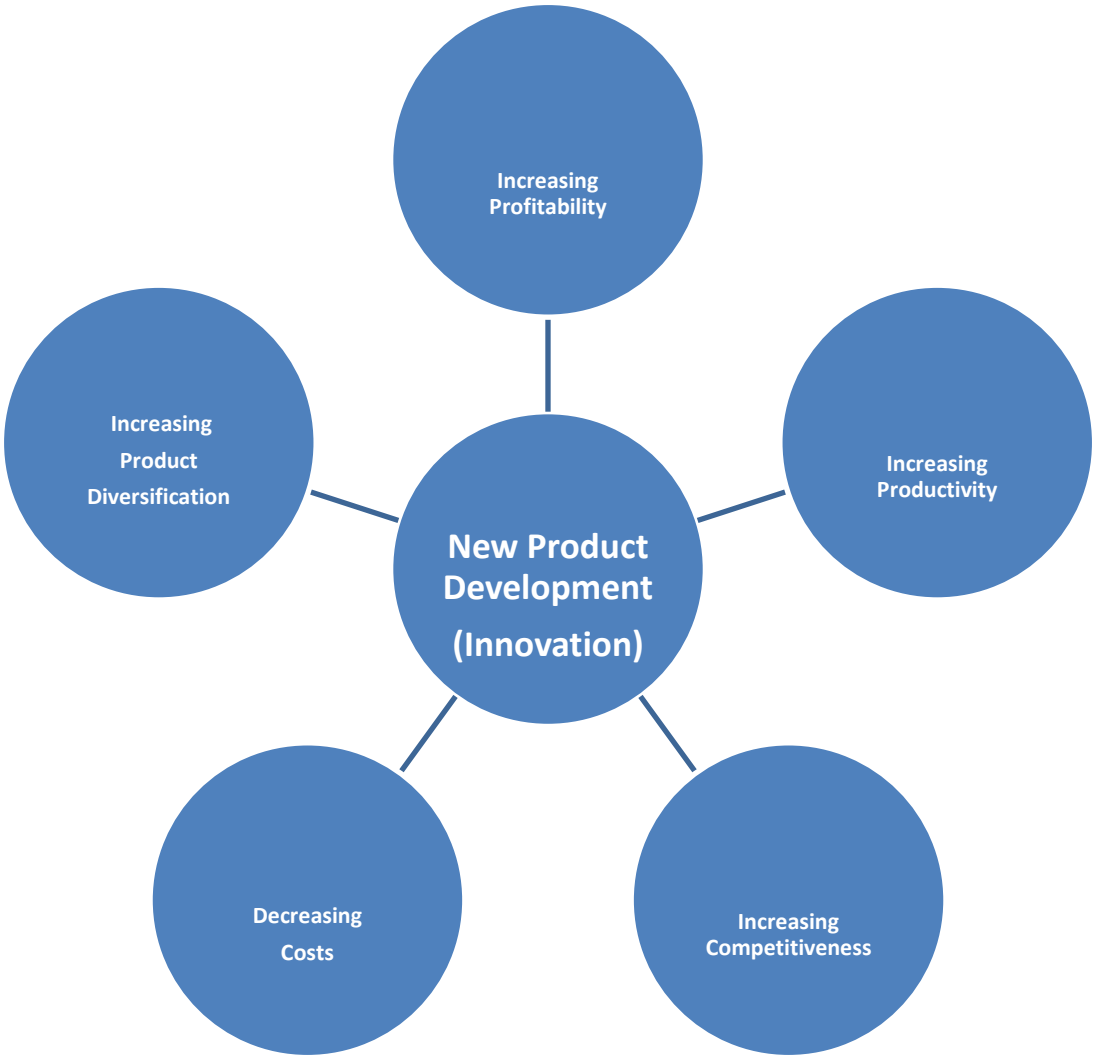
Factor	Theoretical	Empirical Studies
Size	**Large: Economies, Risk, Market, Appropriation**	Large: Horowitz (1962), Lunn And Martin (1986), Braga And Willmore (1991), Henderson And Cockburn (1996), Gumbau (1997), Arundel
	Small: Flexibility, Communication, Specialisation, Informal Controls	Small: Worley (1961), Mansfield (1964), Grabowski (1968), Adams (1970), Loeb And Lin (1977), Scherer (1984), Acs And Audretsch (1988), Graves And Langowitz (1993) Intermediate: Scherer (1965b), Mansfield Et Al. (1971), Smith (1974), Kumar And Saqib (1996) Both: Rothwell (1986), Pavitt Et
Debt	**Negative: Specificity, Risk, Information Asymmetries**	Negative: Grabowski (1968), Elliott (1971), Branch (1974), Kamien And Schwartz (1978), Hall (1990), Long And Ravenscraft (1993), Giudici And Paleari (2000)
Human Resources	**Positive: Qualification,**	Positive: Galende And Su´Arez (1998, 1999), Mart´Inez-Ros And Salas (1999)
Commercial Resources	**Positive: Reputation, Image, Complementary Resources, Information**	Positive: Freeman (1973), Rothwell Et Al. (1974), Doi (1985), Lunn And Martin (1986), Gumbau (1997)
Organisational Resources	**Positive: Co-Ordination, Communication, Integration,**	Positive: Freeman (1973), Rothwell Et Al. (1974), Rothwell (1986), Kleinknecht And Reijnen (1992), Busom (1993), Bughin And Jacques (1994), Kumar And Saqib (1996), Gumbau (1997), Kuemmerle (1998)
Diversification	**Negative: Formal And Financial Controls**	Positive: Mceachern And Romeo (1978), Link (1982), Chen (1996) Negative: Hoskisson And Hitt (1988), Baysinger And Hoskisson (1989), Hoskisson And Johnson (1992), Hoskisson Et Al. (1993)
Internationalisation	**Positive: Competitiveness, Market**	Positive: Meisel And Lin (1983), Lunn And Martin (1986), Braga And Willmore (1991), Busom (1991), Labeaga And Mart´Inez-Ros (1994), Kumar and Saqib (1996), Galende and Su´arez (1998, 1999)

Source : Galende A, Jesús, Juan Manuel De La Fuente, "Internal Factors Determining A Firm's Innovative Behaviour" Research Policy 32 (2003) 715–736

Effects of New Product Development On The Profitability of The Firm

When we analyse the mechanism of new product development on the profitability of the firm, figure shows this mechanism, increasing new product development and innovation increases productivity and product diversification, decreases the costs after that increasing competitiveness leading to increasing profitability of the firm.

Figure 1: Mechanism of New Product Development on the Profitability of the Firm



Source: Author

Knight (1967) stated that as a result of the rapid advances being made in science and technology innovation has become a key concept in today's society. Utterback (1971) stated that technological innovation has had an impact on international trade, industry structure, formation and development of new firms and industries, and the growth and the survival of existing firms and industries. Hannay (1980) stated that technological change is one of the most fundamental and powerful forces affecting both the economy and society.

Narayanan (2001:121) stated that primary objective of technology management should be the creation of value for a firm. Value creation is tied to the competitive advantages that a firm can create in the marketplace or more precisely in the firm's competitive domains.

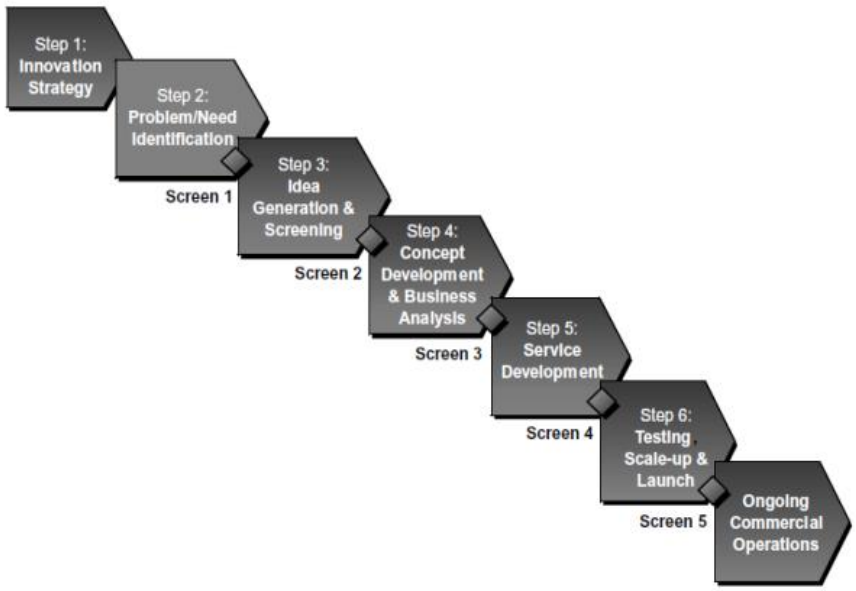
Huergo and Elena, (2006) stated that the planning and monitoring of the innovation process and the hiring of personnel with special skills for technological activities are significant sources of innovation, although with important differences regarding the type of innovation (process versus product).

Damanpour et al (2009) stated that a firm's ability to acquire and exploit external knowledge is often critical to achieving and sustaining a competitive advantage. Annavarjula and Mohan (2009) stated that in the era of globalisation and with the advent of knowledge economies, organisational innovation has assumed a critical role in enhancing economic performance of firms.

Fariborz et al (2009) stated that the impact of innovation on organizational performance depends on compositions of innovation types over time. Liu et al (2009) stated that the firm's technological-innovation-based strategic capabilities were neither influenced by technological resources, nor by innovation resources, but by organizational culture, human resources and organizational structure, among which human resources is the most dynamic one (see also, Betz, 1993; Damanpour et al 2007, 2008; Edquist and Hommen, 1999; Galende et al 2003; Hannay, 1980; Huergo 20066; Knight, 1967; Little, 1981, Narayanan, 2001; Schilling, 2008; Utterback, 1971).

Figure 2 shows essential steps for a successful new services development process. Each step have to be designed carefully by considering market conditions, consumer preferences and competitors'' strategies.

Figure 2: Essential Steps for a Successful New Services Development Process.



Source: Kuczmarski Thomas D. and Johnston Zachary T., "Service Development", in the PDMA Handbook of New Product Development, Second Edition. Edited by Kenneth B. Kahn, John Wiley & Sons, 2005, p.92-107

New Product Development And Effects On Profitability In IGDAŞ

Data, Methodology and Empirical Results

In order to analyse the new products and innovations on profitability of the firm, we analyse the new products and innovations in İGDAŞ. We mainly focus a new product service box called IYS-08, on the firms' performance indicators. We collect the data by surveying the firms' managers and practitioners for the effects of IYS-08. The methodology we use is calculating the density distributions of the firms' managers and practitioners' opinions on the effects of the IYS-08.

Table 4 shows the result of the survey results on managers for the contribution of new product IYS-08 service box on the firm's performance indicators in İGDAŞ. When we analyse the performance indicators, density distribution of firms' managers and practitioners' opinions are generally concentrated between the range of 20-79%. Rarely outliers are two tails. As a result, we can conclude that, the contribution of new product IYS-08 service box on the firm's performance indicators in İGDAŞ is very good and important level.

Table 4: Survey Results on Managers for The Contribution Of New Product IYS-08 Service Box On The Firm's Performance Indicators in İGDAŞ

Performance Indicators		(Contribution rate %)				
		%0-19	%20-39	%40-59	%60-79	%80-100
1	New Technology Development		(%25)		(%50)	(%25)
2	New Product Development			(%50)	(%25)	(%25)
3	Innovation Rate		(%25)	(%25)	(%50)	
4	Costs		(%25)	(%50)	(%25)	
5	Productivity		(%25)	(%25)	(%50)	
6	Profitability		(%25)	(%25)	(%50)	
7	Competitiveness		(%25)	(%25)	(%50)	
8	Consumer Satisfaction		(%25)	(%75)	(%25)	
9	Employee Satisfaction	(%25)	(%25)	(%50)		
10	Market Share in Turkey	(%25)	(%25)	(%50)		
(% ..) shows density distribution of firms' managers and practitioners' opinions Source: Author Survey Results,						

CONCLUSION

In highly competitive market conditions, competition level increasing for the firms by the time. Firms have to develop new products and innovations in order to survive. Firms developing successful new products and innovations can achieve higher consumer satisfaction, competitive advantage, global competitiveness, market share and profitability. In this study, we mainly investigate effects of new product development on the competitiveness level of firms by considering the innovations developed by IGDAS.

The global competitiveness level of the companies mainly depends on their new product development capability and capacity. For this reason we can say that firms' competitiveness level improves as long as successful new product developments occurs. As a result, we can conclude that, the contribution of new product IYS-08 service box on the firm's performance indicators in İGDAŞ is very good and important level.

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Influence of Different Level of Service Characteristics and Personal Involvement towards Consumer Relational Response Behaviors

Tara Farina Srihadi[a], David Setiawan[b] *

[a,b] *Bina Nusantara University, Jl. Hang Lekir I No. 6, Senayan 10270, Indonesia*

Abstract

The purpose of this study is to empirically test the relationship between consumer personal involvement and perceived relational benefit in different industries that poses different level of customer contact. Examination on the influence of perceived relational benefit towards consumer relational response behavior was also conducted. The study used descriptive causal research design. Based on a sample of 225 customers of three different types of services, using MANOVA and multiple regression analysis, the study found that confidence is the most important benefit that consumers consider in building long term relationship with the service provider. Consumers of high contact services perceived social benefit as the second most important, whereas consumers of moderate contact and low contact services perceived special treatment benefits as the second most important in building long term relationship with the service provider. The study also found that confidence benefit is the predictor of consumer relational response behaviors in high contact, moderate contact and low contact services. Level of consumers' involvement with the service differentiates consumers' perceived relational benefits in high contact and moderate contact services, whereas consumers perceive the same relational benefit in low contact services regardless the level of consumers' involvement with the service.

Keywords: relational response behaviors; perceived relational benefits; services marketing

Introduction

Nowadays, service companies need to understand consumers' behavior related to different marketing activities and to build and maintain a good lasting relationship with customers. Companies need to deliver superior customer value and satisfaction in order to build customer loyalty. Furthermore companies also need to understand factors that influence consumers' decision process in choosing a service provider. This can be done through relationship marketing. For the past two decades, relationship marketing has undertaken greater importance than ever before. Cultivating and nurturing a long-lasting, mutually-beneficial relationship is fast becoming one of the most important agendas in the minds of most companies' marketing department. Customer retention is perceived as key in securing long-term sustainable profitability. Understanding these factors enables service firms to segment consumers in the marketplace and provide effective marketing strategies that build upon customer relationships (Parasuraman, Zeithaml, and Berry, 1985).

Jakarta is the capital city and the biggest city in Indonesia, with a population of more than 10 million. Gross domestic product income number per capita on Indonesian living in Jakarta is the highest in the country. Jakarta has the largest number of middle to higher income earners and is considered to be a developed market for high-end retail shopping and consumer spending (Lee, 2013). Household demographics and lifestyle trends of Indonesian urban

* Tara Farina Srihadi. Tel.: +62-816-114-9767.

E-mail address: TaraFarina@binus.edu.

people who live in Jakarta are changing. Middle to higher income earner cluster is wealthier, trendier and more brand conscious. They spend more on discretionary goods and services, and are able to afford a middle-class lifestyle. They are more adventurous in trying new concepts, products, and services, and are willing to pay higher price for better quality of goods and services that will reflect their social status. Examples of services that are widely consumed by middle to high income earners in Jakarta are hairdresser service, travel agent service and dry cleaner services.

The growth of service sector in Indonesia from confirms the importance of service retailers' contribution in supporting the country's economy, with 10 percent contribution to country's GDP in 2012. Taking into account changes in demographics and lifestyle patterns of consumers, it becomes necessary for retailers to know customers' preferences in using services and to know factors that would influence customers' choice of service provider. Customer retention is a key to sustainable growth, especially in service industries, where having a close relationship is essential in maintaining old customers and transforming new customers into repeat purchasers.

The objective of this research is to identify the impact of customer personal involvement on perceived relational benefits and relational response behaviors. For this study, the author selected three service industries: hairdresser, travel agent, and dry cleaning. Each service industry represents a different level of customer involvement. Hairdresser services involve tangible actions directed to people's bodies and require high interaction with service personnel, hence the service is considered as high contact customized. Travel agent services involved intangible actions directed to people's intangible possession where the interaction between customers and service personnel during service process is considered lower. Customers' travel purposes varies, hence travel agent service is classified as moderate contact customized. Dry cleaning services involved tangible actions directed to people's physical possessions, where the interaction between customers and service personnel during service process is limited. Hence dry clean service is classified as low contact non-personalized.

Through this research, the researcher would like to point out to the service industry practitioners in Indonesia, that (1) relationship marketing can actually be used to improve consumers relational response behaviors – namely: loyalty, word-of-mouth, satisfaction – and (2) different level of customer involvement and perceived benefits can influence relational response behaviors in the Indonesian service industry.

Literature Review

Service Characteristics

Services are characterized by inseparability and heterogeneity. Inseparability in services means that there must be simultaneous production of services by service provider and consumption of services by customer at the time the services are delivered (Berry et al., 2002). Heterogeneity in services refers to differences in service delivery that customers received from service providers. Customers may perceive differences in the process and the outcome of a particular service when it is performed by a different service provider, at different time or at different location. As an example, customers may experience different quality of service performed when they get a haircut from different hairdressers, or when service is delivered at different time or at different location. These service characteristics create opportunities for service providers to tailor the service offers to fulfill customers' need and to meet customers' expectation. Services that require higher degree of personal face-to-face interactions between customers and service provider will exhibit more relational benefits to customers than services that require less personal face-to-face interactions between customers and service provider. Therefore hypotheses related to these characteristics are:

H1a: Services requiring greater (less) face-to-face personal interaction are more (less) likely to exhibit relational benefits to consumers.

H1b. Service providers that offer a more (less) customized service are more (less) likely to exhibit relational benefits to consumers.

Perceived Relational Benefits

According to Gwinner et al. (1998) perceived relational benefits are benefits that customers received as a result of having a long-term relationship with a service provider. The benefit is advantages received by customers beyond the core service performed by the service provider and can be classified into three types of benefit: (1) confidence, (2) social and (3) special treatment.

By having a long term relationship with a service provider customer becomes more familiar with service performance of the provider and would gain more knowledge about the service as well as the provider. This will reduce customer's anxiety of any risk that customer may perceived from such service (Berry, 1995; Bitner, 1995). Another benefit that a customer gains from having a long term relationship with a service provider is customer will be recognized by employees of the provider, which may lead to building friendships with the employees and the service provider. Customers may also receive special treatments from a service provider as a result of having a long term relationship with them. Special treatments can be in any forms that give economic value to customers or customizations that will enhance the core service given to customers (Berry, 1995; Bitner, 1995; Gremler and Gwinner, 2000). Hence:

H2a. Confidence, social, and special treatment benefits positively influence customer loyalty with the service provider.
H2b. Confidence, social, and special treatment benefits positively influence customer word-of-mouth with the service provider.
H2c. Confidence, social, and special treatment benefits positively influence customer satisfaction with the service provider.

Personal Involvement

Since there must be simultaneous production and consumption of service, customer may have direct involvement on the delivery of the service. Customer involvement may vary between enduring activity/interest involvement, situational activity/interest involvement, enduring product involvement, situational advertising involvement and situational purchase/decision involvement. Customers get benefits from their involvement with service providers during service production. According to Park and Mittal (1985 in Kinard and Capella, 2006) involvement is a "goal-directed arousal capacity". Involvement occurs when there is a goal-directed stimulus to realize a perceived need or goal and involvement will not occur without needs. Zaichkowsky (1985, p. 342) defined involvement as a person's perceived relevance of an object based on inherent needs, values, and interests". Therefore the hypotheses are:

H3a. High (low) involvement consumers are more (less) likely to perceive relational benefits from a hairdresser.
H3b. High (low) involvement consumers are more (less) likely to perceive relational benefits from a travel agent.
H3c. High (low) involvement consumers are more (less) likely to perceive relational benefits from a dry cleaner.

Relational Response Behaviors

Relational response behaviors consist of three main aspects: (1) loyalty, (2) word-of-mouth, and (3) satisfaction level. Loyalty has both an attitudinal and behavioral dimension (Dick and Basu, 1994). It is assumed that customers who are behaviorally loyal to a firm will display more favorable attitudes towards the firm compared than to the firm's competitors. However, there are some instances where behavioral loyalty does not necessarily reflect attitudinal loyalty due to the presence of other factors that prevent customers from defecting (Aldlaigan & Buttle, 2005; Liljander & Roos, 2002; Reinartz & Kumar, 2002 in Leverin & Liljander, 2006). Behavioral loyalty focuses only on outcomes of loyalty, namely repeat purchase; whereas attitudinal loyalty focuses on the cognitive basis of loyalty and differentiates purchases driven by a strong attitude from purchases due to situational constraints. Attitudinally loyal customers are committed to a brand or company and they make repeat purchases based on a strong bond with the firm. Word-of-mouth (WOM) can be defined as any communication about a service firm's offerings (Freiden & Goldsmith, 1988; Hennig-Thurau et al., 2002; Harrison-Walker, 2001 in Ng, David& Dagger, 2011). Word-of-mouth is of paramount importance for service providers whose offerings are largely intangible, and experience or credence-based. In these instances, there is a certain degree of reliance on the suggestions or advice from others who have prior experience of the services (Kinard & Capella, 2006). Furthermore, consumers often trust each other more than they

trust communication from firms, thus emphasizing the importance of word-of-mouth (Zeithaml & Bitner, 1996 in Ng, David, & Dagger, 2011). Satisfaction is an attitude-like judgment following a consumption experience. At the time customers decided to buy a service, they have some predictions on the level of service that will be performed by a service provider and have expectations on the outcome of service consumption. During the service encounter customers make evaluations on the service performance and compare it with their predicted service performance. Customers will be satisfied when the service performance meets their expectations (Lovelock & Wirtz, 2011).

Method

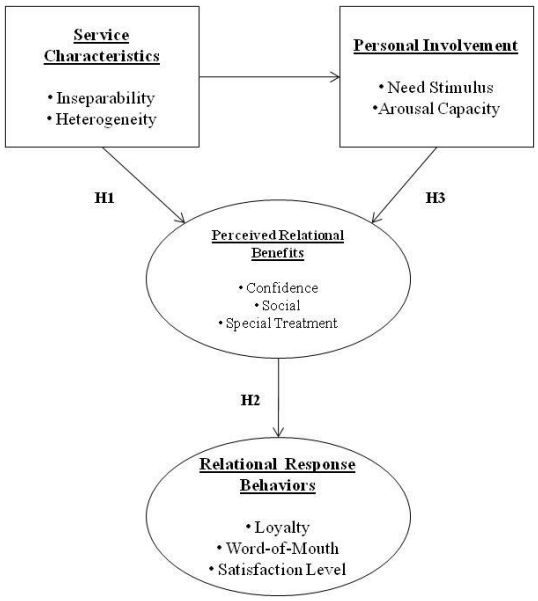
Our study is a replication of a previous study that was conducted by Kinard & Capella (2006).We adopted the proposed model (Figure 1) and tested it on Indonesian customers. The model consists of two latent variables, which are perceived relational benefits and relational response behaviors. In the original study, the model is tested on two type of services, namely high contact customized service (hairdresser) and moderate contact standardized service (fast food restaurant). In this study the influence of perceived relational benefits towards relational response behaviors is tested on three service categories that have different service characteristics (hairdressers, travel agent and dry cleaners). Hair dresser represents high contact customized service, travel agent represents moderate contact customized service and dry cleaner represents low contact non-personalized service. Respondents of each service category were asked to evaluate the involvement that they had with the service provider.

Sampling

This study was conducted in December 2012. Sampling technique used in this study was convenient judgment sampling. Target population of this study is consumers of hairdresser, travel agent and dry cleaner services who live in Jakarta. Data collection method was using structured questionnaires which were distributed using direct intercept interview. Data from a total of 225 respondents were collected comprising of 75 hairdresser business customers, 75 travel agent business customers and 75 dry cleaner business customers. Table 1 displays the characteristics of the respondents.

Measure

Perceived relational benefit was measured using confidence benefit, social benefit and special treatment benefit as proposed by Gwinner et al. (1998). Each of the benefits was measured by three items. Relational response behaviors were measured by customer loyalty, word-of-mouth and customer satisfaction. Each factor of relational response behaviors were measured by four items. Consumer involvement is measured using 8 items that were adopted and modified from the study of Zaichkowsky (1994). All measurement items for perceived relational benefit, relational response behavior and consumer involvement were assessed using a seven-point Likert scale that ranges from strongly disagree to strongly agree.



Source: Kinard & Capella, 2006

Fig. 1. The influence of service characteristics and service involvement on perceived relational benefits

Table 1. Characteristics of respondent (n = 225)

Characteristics	%
Gender	
Female	49%
Male	51%
Age	
20-24 years	44%
25-29 years	32%
30-34 years	14%
> 34 years	10%
Education	
High School graduate	36%
College graduate	4%
University graduate	60%

Reliability and Validity

Reliability of all constructs was individually measured using Cronbach's Alpha to check internal consistencies of items in measuring the constructs. Alpha value greater than 0.6 indicates a good reliability of the instrument (Sekaran and Bougie, 2009). Confirmatory Factor Analysis (CFA) was used to verify construct validity of the scale. Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) value greater that 0.5 and factor loading values greater than 0.5 indicates that the measurement scale is adequate and indicates good construct validity. As shown in Table 2, reliability and sampling adequacy for all constructs are good enough.

Table 2. Factor loading, Cronbach's Alpha and KMO

Variable	Number of Item	Items	Factor Loading	Cronbach's Alpha	KMO
Confidence	3	Trust service provider	0.898	0.947	0.765
		Service performed correctly	0.924		
		Knowing what to expect	0.889		
Social	3	Recognized by service provider's employees	0.774	0.906	0.728
		Develop friendship with service provider	0.880		
		Familiar with service provider employees	0.873		
Special Treatment	2	Discount deals	0.872	0.852	0.500
		Better price	0.872		
Loyalty	3	Commitment to continuing a relationship with service provider	0.940	0.933	0.770
		Feeling loyal to service provider	0.947		
		Intention to use service provider again	0.943		
Word-of-Mouth	4	Recommendation for someone who seeks my advice	0.874	0.929	0.829
		Say positive things to others	0.939		
		Recommendation to others	0.946		
		Tell others about positive experiences with service provider	0.884		
Satisfaction Level	4	Pleasing services	0.914	0.934	0.860
		Satisfying services	0.915		
		Happy with the provided service	0.947		
		Future visit would be a wise choice	0.884		
Involvement	6	Involvement is needed	0.792	0.930	0.911
		Involvement is essential	0.783		
		Involvement is important	0.796		
		Concern with involvement	0.797		
		Involvement matters to me	0.799		
		Involvement is significant	0.653		

Results and Discussion

Service characteristics on perceived relational benefits

The influence of service characteristics towards perceived relational benefits is analyzed using MANOVA. Composite means of each service type is treated as independent variable and composite means of each benefit type is treated as dependent variable. Table 3 shows the means for each benefit type and F-values and p-values of the analysis.

Table 3. Perceived Relational Benefits across three types of services

	Relational benefits (n=225)		
Service type	Confidence benefits	Social benefits	Special treatment benefits
Hairdresser (n = 75)	5.15	3.96	3.74
Travel agent (n = 75)	5.06	3.72	4.32
Dry cleaner (n = 75)	5.09	3.71	4.32
F-value	0.14	0.75	6.52
p-value	0.87	0.48	0.002

Note: The means of each type of relational benefit are measured by a seven-point Likert scale where 1 = strongly disagree and 7 = strongly agree.

The result of this analysis shows that consumers of the three different service characteristics (hairdresser, travel agent and dry cleaner) have the same perceptions on confidence benefit and social benefit (p-values = 0.87 and 0.48

respectively) and have different perceptions on special treatment benefits (p-values = 0.02). Confidence benefits is perceived the most important by consumers of travel agent and dry cleaner. Social benefits is considered as the least important benefits resulting from a long term relationship with the service provider. Consumers of hairdresser also perceive confidence benefits as the most important benefits resulting from a long term relationship with the service provider, followed by social benefits and special treatment benefits as the least important them.

Hairdresser services require greater face-to-face personal interaction with consumers than services provided by travel agents and dry cleaner. Composite mean scores for confident benefits and social benefits for hairdresser (5.15 and 3.96) are higher than composite mean scores for confident benefits and social benefits for travel agent and dry cleaner (5.06 and 3.72; 5.09 and 3.71). This shows that consumers of hairdresser have higher perception on confidence benefits and social benefits than consumers of travel agent and dry cleaner services. On the other hand, composite means for special treatment benefits for hairdresser (3.74) is lower than composite mean scores for travel agent and dry cleaner (4.32 and 4.32). This shows that consumers of travel agent and dry cleaner services have higher perception on special treatment benefit than consumers of hairdresser service. This suggests that services that required more face-to-face personal interaction and give more customized services are not necessarily exhibit relational benefits to consumers. Therefore hypotheses H1a and H1b are not supported.

Perceived relational benefits on relational response behaviors

The influence of perceived relational benefits towards relational response behaviors of different services is analyzed using multiple linear regression analysis. The composite means of each type of relational benefits were regressed on each composite means of relational response behaviors. Table 4 shows regression coefficients for perceived relational benefits in predicting relational response behaviors.

Table 4. Regression coefficients for perceived relational benefits in predicting relational response behaviors

	Hairdresser (n = 75)			Travel agent (n = 75)			Dry cleaner (n = 75)		
	Loyalty	WOM	Satisfac-tion	Loyalty	WOM	Satisfac-tion	Loyalty	WOM	Satisfac-tion
Confidence	0.711	0.560	0.732	0.630	0.574	0.781	0.553	0.335	0.644
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.024)	(0.000)
Social	0.247	0.540	0.354	0.191	0.346	0.170	0.141	0.173	0.040
	(0.009)	(0.000)	(0.000)	(0.046)	(0.000)	(0.063)	(0.098)	(0.167)	(0.770)
Special treatment	0.138	-0.049	-0.044	0.228	0.071	0.161	0.095	0.214	0.047
	(0.143)	(0.608)	(0.602)	(0.060)	(0.471)	(0.163)	(0.376)	(0.178)	(0.786)

Note: Unstandardized regression coefficients are reported,( ) indicates p-values for the regression coefficients.

The result of the regression analysis shows that confidence benefit is the predictor of consumer relational response behaviors in high contact customized, moderate contact customized and low contact non-personal services. This finding is consistent with Kinard & Capella (2006). Special treatment benefit, that actually intended to enhance services by giving extra value and appeal to consumers, failed to influence consumers relational response behaviors in all three types of services. This finding is consistent with Hennig-Thurau et al. (2002). Social benefit only influences relational response behaviors of high contact service consumers. Hence based on this result, H2a is supported for all type of services. H2b is supported only for high contact services, whereas H2c is not supported for all type of services.

Personal involvement on perceived relational benefits

The influence of consumer personal involvement towards perceived relational benefits is analyzed using MANOVA. Summated means of personal involvement items are calculated across the three service types, and are treated as independent variables. Composite means of each benefit type are treated as dependent variables. Table 5 shows the influence of consumers' personal involvement towards perceived relational benefits.

Table 5. Influence of personal involvement towards perceived relational benefits

	Hairdresser (n = 75)			Travel agent (n = 75)			Dry cleaner (n = 75)		
	Benefits			Benefits			Benefits		
	Confident	Social	Special treatment	Confident	Social	Special treatment	Confident	Social	Special treatment
High Involvement	5.93	4.88	4.19	5.86	4.48	4.65	5.34	4.01	4.60
Low Involvement	4.39	3.07	3.30	4.36	3.15	4.00	4.79	3.44	4.06
F-value	62.93	53.06	13.45	61.51	20.77	6.50	3.97	2.87	4.41
p-value	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.09	0.04

Note: The means of each type of relational benefit are measured by a seven-point Likert scale where 1 = strongly disagree and 7 = strongly agree.

The result of this analysis shows that there is significant difference of perceived relational benefits between high involvement and low involvement consumers. Hair dresser consumers and travel agent consumers who are categorized into high involvement group have higher perception on relational benefits than consumers who are categorized into low involvement group. Based on the F-values and p-values for dry cleaner service, confident benefits and social benefits are perceived the same for both high involvement and low involvement groups of consumers. However, dry cleaner consumers who are categorized into high involvement group have higher perception on special treatment benefit than consumers who are categorized into low involvement group. These findings show that H3 is supported for high contact and moderate contact services, and only partially supported for low contact service.

Conclusion

The results of this study suggest that consumers perceived confidence benefit when they purchase services from high contact customized (hair dresser), moderate contact customized (travel agent) and low contact non-personalized (dry cleaner) service provider. Consumers perceived confidence as the most important benefit that they will gain from consuming the services. In high contact customized service such as hairdresser, consumers perceive social benefit as the second most important. This is inline with the changing in Indonesian urban cluster demographic and lifestyle, where they consume better quality of services that reflect their social status and that will boost their confidence. Service providers try to enhance their services by offering special treatments to win customers. On the other hand consumers have a set of expectations on service performance and its result when they purchase a particular service.

In high contact customized service (e.g. hairdresser), consumers do not consider special treatment such as discount price or better deal as the benefit, because they are willing to pay premium price to have a better appearance and to boost their confidence. In moderate contact customized service (e.g. travel agent) and low contact non-personalized service (e.g. dry cleaner) consumers perceive special treatments as the second most important benefit. In moderate and low contact services, consumers have less interaction with the service providers. Therefore the noticeable benefit that consumers will value is the special treatment that gives economic value. Although special treatment benefits will not necessarily make consumers to be loyal to the service providers, consumers would choose service providers that offer special treatments.

The results of this study also suggest that consumers' relational response behavior in the three different types of service providers is triggered solely by confident benefit. Special treatment benefit is proven to be an insignificant predictor of consumers' relational benefit. Therefore it is important for service providers to build consumers' confidence in order to generate positive influence on loyalty, word-of-mouth and satisfaction level. Offering special treatments to consumers apparently is not an effective marketing activity that will generate positive influence on loyalty, word-of-mouth and satisfaction level.

Finally the results of this study also suggest that consumers obtain higher perceived relational benefits when they are highly involved with high contact customized service (hair dresser) and moderate contact customized service

(travel agent). In low contact non-personalized service (dry cleaner), consumers perceive the same relational benefits regardless of their degree of involvement with the service.

Managerial implications

Based on the findings of this study, it is important for service companies in Indonesia to focus on building consumers' confidence in managing the business. For example service provider should hire personnel that are knowledgeable and have qualified skills to deliver the services. Personnel should be able to act as consultants to consumers to give the best possible solution to satisfy consumers' needs. Personnel that have qualified skills will be able to produce good quality of service result that would build consumer confidence and deliver satisfaction. Service companies should also provide service environment that support building consumer confidence. For Indonesian consumers, confidence benefit is apparently the most important aspect required to build customer loyalty. Special treatments offer to consumers is not an effective way to retain loyal customers.

For consumers of moderate contact customized service (e.g. travel agent) and low contact non-personalized service (e.g. dry cleaner), special treatments that give economic value are considered to be the important benefit that consumers seek when they deal with a service company. Therefore, although special treatments benefit will not necessarily make consumers become loyal to a service provider, this benefit is required to help consumers choosing the service companies during consumers' decision making process. Therefore service provider for moderate contact customized and low contact non-personalized should also offer attractive programs in their marketing activities such as price discount, product bundle pricing and sales promotional programs.

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The Effect of R&D Intensity on Innovation Performance: A Country Level Evaluation

Mesut Savrul[a] , Ahmet Incekara[b] , a*

[a] *Canakkale Onsekiz Mart University, Canakkale, 17200, Turkey*
[b] *İstanbul University, Istanbul, 34452, Turkey*

Abstract

Globalization led to technological advances and increased information flow which has resulted in the knowledge to turn into be the main drivers of economic growth. Investments in technology and innovation are made to advance economic performance and living standards the innovation process of the countries can be guided by deliberate government policies rather than a spontaneous phenomenon in global economic environment. In this regards the countries willing to make progress in innovation are focusing on innovation investments.

However whether this approach which is accurate in terms of firm behavior, is eligible for a country is questionable. In this study the reasons that cause innovation performance and R&D intensity ranks of some countries deviate and regarding their R&D intensity values, why some countries have better or worse innovation outputs than their inputs are discussed in this study. It's concluded that positive environmental factors have great impact on a country in transforming its innovation investments to innovation performance.

Keywords: R&D Intensity, Innovation, Economic Growth

Introduction

Innovation is the process of knowledge into economic and social benefits. Companies increase productivity and profitability by the use of innovation. By the help of innovation firms can enter new markets easily and grow their share in existing markets. Efficient, profitable and highly competitive firms in the country, also gains a competitive advantage on a global scale via innovation. As a result innovation increases employment sustainable growth, social welfare and quality of life (Elçi, 2007: 38).

One of the widespread misconception is that innovation is that has to do with developing brand new, advanced solutions for sophisticated, well-off customers, through exploitation of the most recent advances in knowledge and it should be carried out by highly educated labour in R&D intensive companies with strong ties to leading centres of excellence in the scientific world. However there is another way to look at innovation that goes significantly beyond the high-tech picture just described. In this broader perspective, innovation may be the attempt to try out new or improved products, processes or ways to do things (Hall and Rosenberg, 2010: 835). And it includes not only technologically new products and processes but also improvements in areas such as logistics, distribution and marketing. Even in so-called low-tech industries, there may be a lot of innovation going on, and the economic effects may be very large (Fagerberg et.al., 2009: 1).

* Corresponding author. Tel. + +90 286 3358738 (1194)

E-mail address: msavrul@comu.edu.tr

Another point is that innovation is not only an enterprise thing, countries invest in innovation too. Investments in technology and innovation are not made for their own sake but to advance economic performance and living standards. Thus a successful innovation performance will test how well a country performs against such economic and social indicators as GDP and productivity growth, morbidity rates for major diseases, etc. The effect of innovation on such variables will not depend on the introduction of new products, processes, services and systems, but on their subsequent diffusion throughout the economy and social system (OECD, 2005: 8).

Within this framework this study discusses if the amount of investment in R&D a country made correlates with the innovation performance of the country such as an enterprise does. In this regards, firstly the relationship between innovation and economic growth is discussed part and then some county level data containing investments to R&D, number of researchers in R&D and innovation performance is evaluated. In the final section the findings are evaluated.

Innovation and Economic Growth

Traditionally, while a large part of economists argue that economic growth depends on factors of production the others are of the opinion that it will not be sufficient to explain the economic growth only with those factors. According to this second group of economists, the most important determinants of economic growth is technology (Helpman, 1998: 1). During the industrial revolution, new tasks such as financing, production, marketing, R&D came out as a result of development of industrialization and increase of division of labor and specialization in business. It is not possible to separate division of labor from the renewal. One of them is related to social organization and the other is mechanized production (Fukuyama, 1999: 90). In this process, new areas of expertise, new forms of governance and new sources of information have been developed and this gave rise to a new area of competition.

Emergence of globalization in the following period has led to increased competition in both national and international markets. Although this intense competition in international markets leads to some positive results in favor of consumers such as prices getting cheaper, it also brings a lot of challenges for manufacturers such as upgrading product quality, production technology, technological advances and marketing standards. In particular, the companies aiming to expand into the global market are forced to make their production more efficiently and with lower costs. One of the most effective ways of increasing competitiveness in the global markets is making production more efficiently and cost-effectively through technology and innovation. On the other hand the firms that don't invest or give proper attention to innovation and technology have to withdraw from the market after a period of time (Yves and Leblanc, 2002). Consequently the advances also let the emergence of new organizational forms by enabling large increase in access to information and the emergence of new markets. Technological advances and increased information flow on the other hand, have resulted in the knowledge to turn into be the main drivers of economic growth (European Commission, 2005: 10).

Knowledge economy is based on innovation. As one of the basic concepts that gave life to the concept of the new economy, innovation offers renewal of product, system, process, marketing and workforce (Kavak, 2009: 617-618). The Oslo Manual prepared by OECD and the European Commission defines innovation as implementation of a new or significantly modified goods or services or process, a new marketing method or a new organizational management in business practices, workplace organization or external relations (TÜBİTAK, 2005). New ideas are turned into commercial benefit through innovation. Although innovation is associated with products and services at the outset innovation can also be implemented in distribution, brand, customer experience, business models (Yücel, 2007: 36).

Innovation and exploitation of scientific discoveries and new technology have been the principle source of long-run economic growth for countries also and it helps increasing social well-being too. It is likely that the innovation performance of a country will be even more crucial to its economic and social progress. Countries whose firms fail to innovate will increasingly find themselves in direct competition with newly developing countries with lower labour costs and an increasing mastery of existing technologies and business methods. The development and exploitation of novel products, processes, services and systems, and the constant upgrading of those which a country already produces, is the only way in which the countries can maintain and increase their relative high levels of economic and social well-being (OECD, 2005: 7).

Consequently either developed or developing, countries all around the world is investing in innovation more or less. However the result they get from their investment is greatly affected by the embodiment, form and amount of their investment.

The Effect of R&D Intensity on Innovation Performance

Growth theory has for long established that improvements in technology have an effect on long-run growth (Aghion and Howitt, 1998). Although the advantages of technology is first seized by developed countries, by the participation of developing countries in the globalization process created an opportunity for them to better utilize their comparative advantages, introduce foreign capital, management experience and advanced technologies (Incekara and Savrul, 2013:14).

Today, one of the most important lessons learnt is about the extraordinary capacity of innovation to drive growth since it can play a critical role in sustaining national competitiveness in the medium to long term (INSEAD, 2010: 6) and improving national innovative capacity is important to ensure lung-run economic growth. Such national innovative capacity may be improved by fostering industrial R&D, by funding sufficiently academic research and by supporting effectively university-industry interactions to strengthen the linkage between R&D and product development. For what relates to government support to business R&D, this would be justified by the existence of market failures associated with R&D activities. The major policy tools used by government to support business R&D include grants, procurement, tax incentives and direct performance of research. The effectiveness of this support has also been long lastly debated in the literature (Mathieu and Potterie, 2010: 57).

Lately, rapid increase in the investment in information and communication technologies and the impact of these investments on productivity is one of the most important factors that show the role of technology on economy. However considering the recent growth performance of OECD countries, the new role of innovation is seen as quite beyond of information and communication technologies. Innovation is the essence of economic activities. In this framework the companies from all sectors have to be innovative in order to meet the needs of conscious consumers and to remain at the forefront in the global competition environment (Pilat, 2004: 3).

A notable case is that, differences in technology have been found to be an important determinant of differences in total factor productivity across countries. While most of them improve their technology by simply imitating or adapting existing production techniques to local conditions, others are truly engaged in the creation of new technologies (Almeida and Fernandes, 2006:2). In this regards country profiles show that some countries excel more than others at science and technology for the same level of public investment. In some countries, the challenge for efficiency starts at the reforms needed to achieve scientific and technological excellence. Growing investment has raised levels of excellence in science and technology in many countries, but the degree of improvement may still be lower than the EU average. For other countries the main challenge is to trigger fast-growing innovative enterprises and international competitiveness by disseminating knowledge (EC, 2013: 4).

Due to the problems encountered in measurement of technology and innovation, their contribution on economic growth didn't use to be included in the economic growth related studies, however recent studies of economic growth put technology and innovation in the center (Helpman, 1998: 2). Although technology and investment is measured through a number of variables R&D intensity is one of the most prominent.

The definition of R&D intensity is different for a firm and a country. While R&D intensity is the ratio of a firm's R&D investment to its revenue for an enterprise, it is defined as the R&D expenditure as a percentage of gross domestic product for a country. R&D is the main driver of innovation, and R&D expenditure and intensity are two of the key indicators used to monitor resources devoted to science and technology worldwide. Governments are increasingly referring to international benchmarks when defining their science polices and allocating resources (Eurostat, 2013). On country basis, beside a country invest in innovation efficient use of the existing innovation potential is also important. A comparison of innovation inputs with innovation performance of a country can provide preliminary information about how effective it can use the innovation. If the difference between these two indicators is too high it means that innovation efficiency of the host country is too high or low.

Expenditure on research and development is one of the most widely used measures of innovation inputs. R&D intensity (R&D expenditure as a percentage of GDP) is used as an indicator of an economy's relative degree of investment in generating new knowledge. Several countries have adopted targets for this indicator to help focus policy decisions and public funding (OECD, 2011).

Table 1.Top Ten Countries in Research and Development Expenditure 2000 – 2012 (% GDP)

Rank	Country	2000	2002	2004	2006	2008	2010	2012
1	Israel	4,17	4,43	4,15	4,22	4,40	3,97	3,93
2	Finland	3,35	3,36	3,45	3,48	3,70	3,90	3,55
3	Sweden	..	..	3,58	3,68	3,70	3,39	3,41
4	Denmark	..	2,51	2,48	2,48	2,85	3,00	2,98
5	Germany	2,47	2,50	2,50	2,54	2,69	2,80	2,92
6	Austria	1,93	2,12	2,24	2,44	2,67	2,80	2,84
7	Slovenia	1,38	1,47	1,39	1,56	1,65	2,11	2,80
8	United States	2,62	2,55	2,49	2,55	2,77	2,74	2,79
9	France	2,15	2,24	2,16	2,11	2,12	2,24	2,26
10	Belgium	1,97	1,94	1,86	1,86	1,97	2,10	2,24
	World	2,10	2,09	2,03	2,03	2,07	2,12	..

Resource: OECD, Research and Development Expenditure, 2014.

Table shows that with some exceptions global trend in research and development expenditures is growing year after year. Israel which invests in research and development more than any other country for many years is on the top of the list. The other countries ranking among in the top of the list are Finland, Sweden, Denmark, Germany, Austria, Slovenia, United States, France and Belgium respectively.

Table 2. Researchers in R&D 2000 – 2012 (per million people)

Rank	Country	2000	2002	2004	2006	2008	2010	2012
1	Finland	6732	7428	7843	7671	7686	7717	7482
2	Denmark	..	4758	4847	5302	6496	6744	6730
3	Singapore	4245	4381	4882	5425	5742	6307	6438
4	Luxembourg	3773	..	4497	4406	4694	5190	6194
5	Norway	..	..	4503	4836	5353	5408	5588
6	Sweden	..	..	5432	6131	5438	5256	5181
7	Portugal	1624	1826	1974	2340	3823	4368	4781
8	Austria	..	2981	3168	3528	4137	4312	4565
9	Slovenia	2179	2333	2020	2915	3460	3750	4398
10	Germany	3088	3176	3223	3342	3628	3950	4139
	World	1677	1490	1855	2102	2029	1916	3092

Resource: OECD, Researchers in R&D, 2014.

Another element affecting innovation performance of the countries is the number of researchers in the population. At first sight it draws the attention that the number of researchers increased fairly in most of the countries and it almost doubled globally. Finland performing more than twice of the global figures ranks first in the list with 7482 people and the following countries are Denmark, Singapore, Luxembourg, Norway, Sweden, Portugal, Austria, Slovenia and Germany.

A further aspect worth considering is that although their rankings differ, Finland, Denmark, Sweden, Austria and Germany appear also in the previous list showing top ten countries in research and development expenditure. In this

context it's obvious that rather than coincidence some countries are performing well in the tables as a result of intentional efforts. However whether the prominent factors such as investing more in R&D and having more researchers determine innovation performance and intensity is questionable. Table 3 presenting current innovation ranks of the countries may offer some answers to the investigation.

Table 3. The Most Innovative Countries in the World 2014

Economy	Total Score	Rank	R&D Intensity Rank
South Korea	92.10	1	3
Sweden	90.80	2	4
United States	90.69	3	10
Japan	90.41	4	5
Germany	88.23	5	9
Denmark	86.97	6	6
Singapore	86.07	7	17
Switzerland	86.02	8	8
Finland	85.86	9	2
Taiwan	83.52	10	7
Canada	83.21	11	24
France	82.42	12	16
Australia	80.79	13	14
Norway	80.39	14	25
Netherlands	80.32	15	19
United Kingdom	80.01	16	22
Austria	79.52	17	11
Russia	77.53	18	33
Belgium	77.02	19	18
New Zealand	75.09	20	29
Luxembourg	74.55	21	27
Italy	73.08	22	30
Czech Republic	73.07	23	20
Poland	71.23	24	40
China	70.51	25	21
Hungary	69.89	26	31
Hong Kong	69.61	27	44
Ireland	69.59	28	23
Portugal	67.83	29	26
Israel	67.77	30	1
Slovenia	67.29	31	13
Spain	66.40	32	28
Iceland	66.39	33	12

Malaysia	63.60	34	35
Greece	63.15	35	53
Turkey	61.00	36	38
Romania	60.87	37	56
Malta	59.29	38	45
Estonia	59.28	39	15
South Africa	58.98	40	37
Latvia	57.80	41	49
Bulgaria	57.26	42	54
Croatia	56.56	43	43
Lithuania	54.73	44	36
Brazil	54.41	45	32
Slovakia	54.15	46	50
Tunisia	53.82	47	34
Argentina	53.44	48	51
Ukraine	53.20	49	48
Iran	48.30	50	39

Resource: Bloomberg, The Most Innovative in the World 2014: Economies, 2014, http://www.bloomberg.com/visual-data/best-and-worst/most-innovative-in-the-world-2014-economies

Innovation performance of 82 countries with available data is examined and five countries with the most successful innovation performance were respectively Japan, Switzerland, Finland, and the USA between the years 2004-2008. In 2008-2013 period while innovation performance index of Japan did not change, Finland increased, Switzerland, USA and Sweden dropped in small proportions. Examination of innovation performance growth rates shows that the countries in the top of list are consist of developed countries five-year growth expectations of which are fluctuate within 0% to 1%. However in line with the convergence hypothesis, the developing countries which have the middle and lower ranks of the list may have growth prospect up to 11% (The Economist, 2009: 4).

Table 1 showing the most innovative countries of 2014, presents that South Korea, Sweden, United States, Japan and Germany Sweden, Denmark, Singapore, Switzerland, Finland and Taiwan are the top ten most successful countries in over all innovation performance. Except for minor changes the table accords with the figures mentioned before. However R&D Intensity Rank of the same countries tells us another story. Although innovation and R&D intensity ranks of many countries somehow overlap few others display great distinctions. For instance while South Korea ranking 1st in innovation ranked 3rd in R&D Intensity Rank and Sweden 2nd in innovation and 4th in R&D, Israel in the 1st position in R&D Intensity has 30th rank in innovation rank list and USA in the 10th position in R&D Intensity has 3rd rank in innovation rank list. Rather than South Korea and Sweden which have relatively more expected figures with overlapping ranks let's focus on the countries such as Israel and USA innovation performance and R&D intensity ranks deviate.

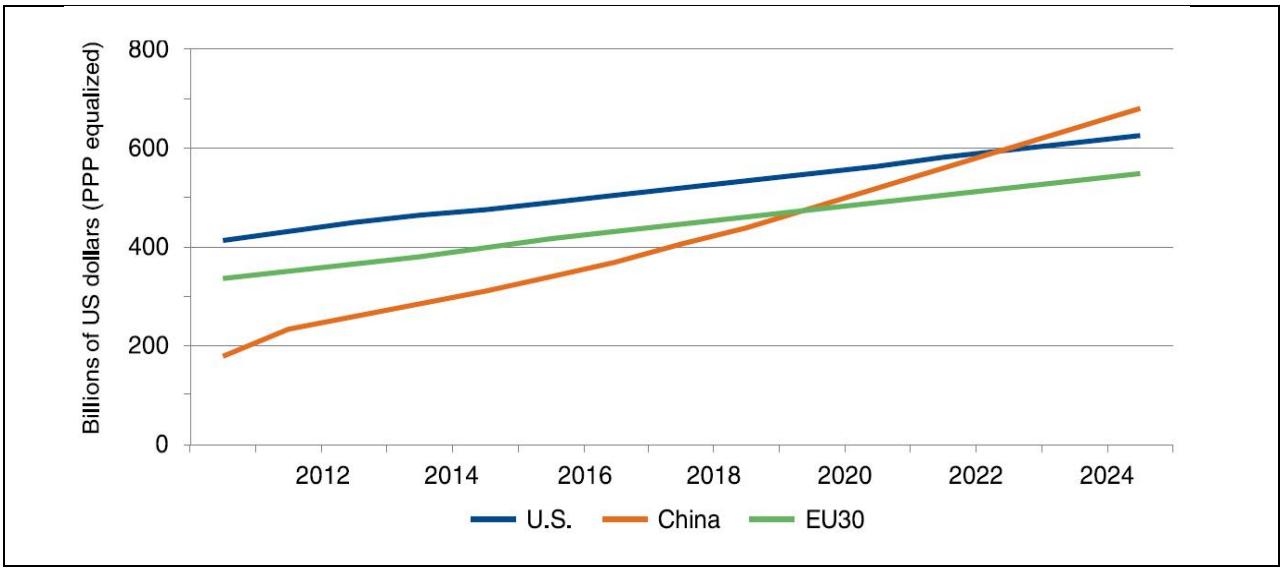
The countries such as USA, Germany, Singapore and Canada have better innovation performance scores than their R&D intensity scores. This favourable situation is the result of positive environmental factors which allow the countries use their innovation potential they obtained through relatively with lower investment more efficiently. The second group of countries such as Israel and Finland face the opposite case. Much of the innovation in these countries is produced by private sector, they have more scientists working in R&D industry and the quality of higher education is quite successful. Their economy is focused on high-tech companies and the general trend is on innovation-intensive activities. However, environmental factors and input constraints preclude their superior innovation potential to be

converted into same amount of output. As a result although they invest much more than any other country in the world they don't get the best results in over all innovation performance.

Similarly, the Central and Eastern European countries also get lower output than expected from their innovation inputs. The largest share in the reasons of this occasion include that the most of the educated workforce and major scientific organizations which are significant innovation performance indicators have been left in central government and failed to be fully integrated with the global economy. And this returns as a low innovation performance score. As it can be concluded from the current data, even though the progress in a positive direction in the last five-year period these countries fail to transform their potential to innovation output and they need creation of a more favourable environment to be able to use their inputs more efficiently.

China is also within the most debated countries which one of the most striking leaps in terms of innovation in the last decade. It moved up to 25th from 54th and it's also successful in converting its potential into use. When the reasons behind the success of China are examined it's seen that the primary factor is its efforts towards a more innovative economy. In the mentioned period the country invested in R&D and education a lot and innovation environment in China has developed accordingly.

Figure 1. Long-Term Outlook for R&D Expenditures



Resource: Battelle and R&D Magazine, 2014 Global R&D Funding Forecast, December 2013, p.13.

According to OECD data, private and public R&D expenditures of China were about $ 87 billion in 2006. Although the value fell behind Japan (139 billion) and EU (243 billion) when the increase of 19 percent between 2001-2006 is considered, the efforts of the country is notable (The Economist, 2009: 9). According to current trends displayed in Figure 1 China is investing almost as much as the EU at the moment and expected to be the leading country by 2024.

However as it is mentioned before the only factor underlying success is not the investment on innovation but China managed to support the investment with social support. As a result of investments in innovation in the last ten years, China had the largest number of people engaged in science and technology in the world. It has the second rank in published articles worldwide following USA and the number of students who graduate from university of science and engineering correspond to 40% of the total number of graduates. This value is more than twice the OECD average, while the US is over 15%. Finally, the foreign direct investment policy implemented in the country is aimed at innovation-intensive sectors (Smirnova, 2010: 4). When all these developments are evaluated collectively, it's apparent that successful results can be seen in the development of innovation deliberately conducted practice in innovation policy. However taking into consideration that innovation is a complex term having both economic and social sides, merely monetary investment may result in inefficiency.

Conclusion

Initially come out as a firm level term stating the ratio of a firm's R&D investment to its revenue for an enterprise, R&D intensity is the R&D expenditure as a percentage of gross domestic product for a country. R&D expenditure and intensity are two of the key indicators used to monitor resources devoted to science and technology worldwide. The data including innovation performance and R&D intensity ranks of the countries display that the most innovative eight countries are within the top ten investors of R&D sectors. This clearly shows that developments in the innovation process of the countries can be guided by deliberate government policies rather than a spontaneous phenomenon in global economic environment. In this regards the countries willing to make progress in innovation are required to focus on innovation investments.

In this framework from developed to the least developed, many countries are investing to innovation more or less. Particularly in the last decade some of the countries doubled or tripled their investments in R&D industry and the number of people working in it. Not much different from a company investing in R&D many of the countries got better results as they invest in innovation more but some didn't. The innovation rank and R&D intensity data evaluated in this study shows that innovation performance and R&D intensity ranks deviate. Some countries such as Israel may have a much worse innovation performance score than expected in return of its R&D intensity in contrast some other countries may have much better innovation performance with lesser investment.

This instance shows that the more investment input yields the more innovation output prospect has some shortcomings since the governments don't pursue the same goals as a firm. Except for the purpose of obtaining profit, a country should get use of its innovation in ensuring social welfare to its citizens. And in practice when innovation is diffused into social aspects such as education system, health services, governance and international relations rather than kept limited with some high tech firms, favourable environmental conditions are formed which let a country yield more innovation performance than it invested.

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The chaotic relationship between oil return, gold, silver and copper returns in TURKEY: Non-Linear ARDL and Augmented Non-linear Granger Causality

• Melike Bildirici[mm] , Ceren Türkmen[b]

[a]*Yıldız Technical University, Social Science Institute, Istanbul, 34349,Turkey.*
[b]*Sakarya University, Geyve Vocational School, Sakarya 54187, Turkey.*

Abstract

The structure of the relationship between oil prices, gold price, silver price and copper price are not only important for economists but also for policymakers since it contributes to the policy debate on the link between variables and co-movement of the variables. In this paper, the relationship between oil prices and the price of gold and silver was analysed by BDS test, non-linear ARDL approach and two non-linear Granger causality method for 1973:1 – 2012:11 period in Turkey. This study complements previous empirical papers. However, it differs from the existing literature with simultaneous use of nonlinear ARDL and two non-linear causality model: M-G non-linear causality and augmented granger causality developed by this paper. The main findings of this paper are: (a) the gold price level showed positive asymmetric response to changes in the oil price in the short-- and long-run. The gold price probably possesses some market power and it is a means of store of value. Because of the *exception of gold,* there is a substantial sluggishness in the adaption to changes in demand. In the long run the *exception of gold* lags and adjustment costs should play a smaller part; b) there is a unique long-term relationship between oil prices and the prices of gold, silver and cooper; and (c) there is a unidirectional Granger causality between oil price and precious metal price.

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Keywords: Oil Return, Gold Return, Copper Return, Silver Return, BDS Test, Non-linear ARDL, M-G non-linear Causality, augmented non-linear causality

1. Introduction

Crude oil and precious metals such as gold, copper, and silver are strategic commodities whose price—and volatility—have received much attention. The volatility of the price of strategic commodities is very important for economists, policy makers, individual investors, and financial institutions of the world.

Crude oil is traded internationally among many different players, such as oil producing nations, oil companies, individual refineries, oil importing nations and speculators. Although the crude oil price is basically determined by its supply and demand (Hagen, 1994; Stevens, 1995), it is strongly influenced by many irregular events such as supply levels, economic growth of the U.S., political instability, OPEC decisions, etc. (Yu et al., 2007, 2008; Bildirici and Ersin, 2013).

Gold and silver are important precious metals for all countries at all times. Gold (and silver in some cases and places) is used as an industrial commodity, money, and a monetary asset. In addition to an industrial commodity, gold

[mm]* Corresponding author. Tel. + 90-212-383-2527 fax. +90-212-259-4202

E-mail address: bildiri@yildiz.edu.tr

behaves as a way to store wealth, which is important especially in periods of political and economic instability. Gold value is accepted as a way of avoiding the increasing risk in financial markets, especially in crisis periods.

Baur and McDermott (2010) and Baur and Lucey (2010) found gold as a safe haven because of uncorrelated with financial assets during crises. Baur and McDermott (2010) determined that the return of gold is negative and related to periods of high volatility. According to their's results, gold is also a safe haven for US stocks during crises in 1987, 1997, and 2008. Sari et.al (2010) gold as a safe haven. Capie et al. (2005) tested the hedge ability of gold against exchange rate fluctuations. Their result determined a negative relationship between gold price and yen-dollar exchange rates. Levin and Wright (2006) investigated whether or not gold is a long-term hedge against inflation in Saudi Arabia, China, India, Indonesia, and Turkey.

Alternatively, the prices of precious metals and crude oil are influenced by common macroeconomic factors such as economic growth, political aspects, U.S. interest rates, exchange rates, inflation, and even people's psychological expectations, etc. (Hammoudeh et al., 2008).

The prices of crude oil and precious metals have great significance in determining the prices of other commodities; in contrast, the prices of precious metals depend on the rise-and-fall of oil prices. A sudden increase in oil prices causes an economic slowdown and the change of other commodity prices.

The importance of the economic behavior of crude oil and precious metals shows the economic importance of analyzing the relationship between these commodities. If the volatility of the prices of crude oil and precious metals (especially gold) is analyzed, information for forecasting the price trends of the whole commodity market can be obtained. The relationship between the price of crude oil and precious metals (especially gold) is one of the fundamentals that drives the prices of precious metals.

The aim of this paper is to analyze the relationship between crude oil return and the returns of precious metals such as gold, copper, and silver by using the non-linear ARDL and two non-linear Granger causality methods for Turkey. The price of crude oil and the price of gold, copper, and silver in Turkey exhibit a great deal of nonlinearity. On the other hand, some papers demonstrate that prediction performance might be very poor if traditional statistical and econometric models, such as linear regressions, are employed (Weigend, and Gershenfeld, 1994). This is because traditional statistical and econometric models are built on linear assumptions, which, as a result, fail to capture the nonlinear patterns hidden in the crude oil price series (Yu et al., 2008). It is a fact that the oil prices may not adjust instantaneously to newly available information. Further, low liquidity and the infrequent trading that occurs under imperfect markets could cause delays in response following the availability of new information (McMillan and Speight, 2006; Monoyios and Sarno, 2002; Lee, Liu and Chiu; 2008). Hamilton (1996) is an early study that drew attention to the nonlinear characteristics of oil prices by evaluating them in terms of regime changes in light of Markov Switching models. Barone-Adesi et al. (1998) suggested a semi-parametric approach for oil price forecasting. Adrangi et al. (2001) tested the presence of low-dimensional chaotic structure in crude oil, heating oil, and unleaded gasoline futures prices. Bildirici and Ersin (2013) employed LSTAR-LST- GARCH family models to examine the volatility of oil price.

The contribution of this paper is of several kinds. Present paper is the first one analysed the relationships between crude oil prices and the prices of precious metals such as gold, copper, and silver by using the non-linear ARDL and two non-linear Granger causality methods for Turkey. The non-linear ARDL and non-linear Granger causality methods are very important to explain the returns of precious metals. On the other hand, this paper uses nonlinear ARDL together with non-linear causality: M-G non-linear granger causality and augmented granger causality method developed by this paper. This paper aggregates two methods and provide their simultaneous use[nn].

Part II of this study is a literature review. Part III explore the relation between precious metals and oil Price in Turkey. Part IV discusses data and econometric methodology. Part V gives the empirical results, and Part VI concludes.

II. Literature Review

In the literature, oil prices were discussed from different perspectives. The literature are divided into two sub-groups as follows: a) the analysis of the relationship between oil prices and economic (and macroeconomic) variables; b) the analysis of the volatility of oil prices and the forecasting of oil prices. This paper is included into group 1

The oil prices have important effect on macroeconomic variables through different channels.

On the one hand, oil prices affect macroeconomic variables on the other hand the price of oil that is a key input for most of the industries effects the cashflows to businesses and firms. The response of the precious metals to oil price shocks may also differ according to the origin of the shock; a demand-side shock which results from an economic expansion will have effect on both oil and precious metals pricies. A supply-side shock that is the result of decisions

[nn] In the real world, the nonlinear Granger Causality test is very important because there are some deficiencies in the linear Granger Causality test, as determined by Hiemstra and Jones (1994).

of OPEC countries, the political tensions, global economic state etc cause to economic crisis and lead to effect on precious metal returns.

Some papers have discussed whether or not the prices of oil and precious metals move together. Escribano and Granger (1998) tested the relationship between oil and silver prices and found a long-run relationship. Cai et al. (2001) explored whether or not interest rates, oil prices, consumer demand, the Asian financial crisis, and tensions in South Africa determined price volatility in the gold market. Nakamura and Small (2007) found that gold prices and crude oil prices were essentially random. Hammoudeh et al. (2007) explored the impact of crude oil and interest rates on the volatility of the price of gold, silver, and copper; according to their results, the impact of past oil shocks on gold, silver, and copper are different. Zhang et al. (2008) tested the volatility spillover effect of the U.S. exchange rate on the price of oil. Bekiros and Diks (2008) investigated the linear and nonlinear causal linkages between daily spot and futures prices for maturities from October 1991–October 1999 and November 1999–October 2007.

Soytas et al. (2009) examined the relationship between world oil prices, interest rates, exchange rates, and gold and silver prices in Turkey and determined that world oil price does not lead to volatility of gold price in Turkey. Zhang and Wei (2010) tested the relationship between the gold and crude oil markets and determined that the influence of crude oil on global development is wider than gold and the two market prices do not face a significant nonlinear Granger causality. Zhang and Wei (2010), Hsiao et.al(2013), Simakova(2011), Yue-Jun and Yi-Ming(2010) are other papers that investigate the causality between crude oil and gold market.

Wang et al. (2011) analysed the short-term and long-term interactions between gold price, exchange rate, oil price and stock market indices in US, Germany, Japan, Taiwan and China. Lee and Chang (2011) analyzed the relationships between the prices of gold and oil and the financial variables (interest rate, exchange rate, and stock price) in Japan. Baur and Tran (2012) analyzed the long-run relationship between gold and silver prices from 1970 to 2010 and determined the role of bubbles and financial crises in the relationship between gold and silver prices. Apak et al. (2012) explored the relationship among gold prices and other macroeconomic and financial variables and tested the question of whether gold is a safe haven or a hedge for investors in the period between 2000 and 2011. Lee et al. (2012) investigated asymmetric cointegration and the causal relationships between West Texas Intermediate Crude Oil and gold prices in the futures market during the period between May 1, 1994 and November 20, 2008. Their results showed that an asymmetric long-run adjustment exists between gold and oil. Baig et al, (2013) tested the relationship between gold prices, oil prices, and KSE100 return with the use of Johansen and Jelseluis Co-integration test and variance decomposition methods for the period of 2000 to 2010. Basit (2013) analyzed the relationship between the KSE-100 Index and the oil and gold prices for Pakistan. Hussin et al. (2013) investigated the relationship between crude oil price, Kijang gold price, and the FTSE Bursa Malaysia Emas Shariah index (FBMES) by the VAR method in Malaysia. Gençer and Kılıç(2014) analysed return volatility for the Istanbul Stock Exchange (ISE), the conjoint impact of oil and gold returns with multivariate CCC M-GARCH model

III. Precious Metals and Oil Price in Turkey

In this section, the structure of precious metals - the gold, copper, and silver markets in Turkey - is explained. Gold acts as a store of wealth, a medium of exchange, and a unit of value in Turkey. Gold is used as a hedging against inflation, crisis, political risk, and geopolitical risk. The current financial role, in addition to social and economic roles, of gold in Turkey is very important. Gold, copper, and silver are used in industrial components.

Since financial deregulation in 1989, the Turkish gold market has become important and interesting for financial and precious metal markets around the world (Omag, 2012). In this process, many important steps were taken. The first step was the establishment of the Istanbul Gold Exchange in 1993. The Capital Market Board issued the general regulation and operation principles of precious metals exchanges[oo] (MDM; 2014). The second step, taken in 1995, the Istanbul Gold Exchange (IGE) (where gold is traded in an organized market) was opened and the authority to import gold was given to the IGE and The Central Bank of the Republic of Turkey. Thus, the gold price and gold exports and imports were liberalized. The IGE was a step to orient the metals into the financial system and to build the integration of the Turkish precious metals market with the international market. In the third step, in 1999, the trading of silver and platinum, in addition to gold, was initiated and/or released (IMMIB; 2014). With the IGE, local prices of precious metals conformed to international prices and the system gained a transparent structure. Borsa İstanbul A.Ş. was opened on April 4, 2013 through the merger of IGE and ISE (Istanbul Stock Exchange), under the provisions of the Capital Market Law No. 6362 (MDM: 2014, IAB; 2014 a and b).

Precious metals prices (especially gold prices) and oil prices have been volatile in Turkey and around the world since 1970 (especially after 1985). Oil and gold prices increased during the first and second oil crises, the Iranian revolution, and the 2008 crisis (Contuk et al., 2013). In 2009, gold reached is maximum price. In 2010, there was a 25 percent rise in the maximum price of gold, but the transactions volume decreased by 46 percent. The price of gold

[oo] 40/A of Code of Capital Markets, number 2499 as amended by law number 3794

continued a rising trend and a recovery in transactions volumes was observed after 2010 (IGE;2014). After October 2011, gold reached its maximum price and began to fall again. In October 2012, gold prices rose and reduced again.

IV. Data and Econometric Methodology

4.1. Data

The data set used in this study was obtained from the World Bank and The Central Bank of the Republic of Turkey (CBRT) for Turkey. Silver and copper return were calculated based on gold – silver parity and gold – copper parity in the World. CBRT and World Bank data from 1973:1 through 2013:11 were used to find the monthly prices of oil, gold, silver and copper. Brent crude oil spot price is used to test the effectiveness of the used methodology. The main reason of selecting oil price indicators is that this crude oil price is one of the most famous benchmark prices, which are used widely as the basis of many crude oil price formule. The return of oil price (b) is measured as b=log(oil price$_t$/ oil price$_{t-1}$) and other variables (x) were calculated as x=log(x_t/ x_{t-1}).

4.2. Methodology

The paper is used to three test: BDS test for nonlinearity, nonlinear ARDL and nonlinear Granger Causality test.

4.2.1 **BDS** *Test*

The BDS test developed by Brock, Dechert and Scheinkman (1987) is the most popular test for nonlinearity. The BDS test have power against a wide range of nonlinear time series models. It was designed to test for the null hypothesis of independent and identical distribution (iid) for the purpose of detecting nonlinearity and non-random chaotic dynamics. Brock et.al(1991) and Barnett et.al (1997) determined that BDS test has power against a wide range of linear and nonlinear alternatives. If BDS test applied to the residuals from a fitted linear time series model, it can be used to detect remaining dependence and the presence of omitted nonlinear structure. The computations of BDS test follow the following procedures:

Given a time series x_t for t=1,2,---, Z and consider its m-history as

$x_t^m = (x_t, x_{t-1}, ..., x_{t-m+1})$

The correlation integral at dimension m can be estimated as followed

$$C_{\varepsilon,m} = \frac{1}{Z_m(Z_m-1)} \sum_{m \le s} \sum_{< z \le T} I(x_t^m, x_t^m; \in) \qquad \textbf{(1)}$$

where, Z_m=Z-m+1 and I(.) indicator function which is equal to one if $|x_{t-i} - x_{s-i}| < \in$ for i=0,1,. . . ,m-1 and zero otherwise.

It is estimated the joint probability as follows:

$$\Pr(|x_t - x_s| < \in, |x_{t-1} - x_{s-1}| < \in, ..., |x_{t-m+1} < x_{s-m+1}| < \in) \qquad (3)$$

The BDS test statistic can be stated as:

$$BDS_{\varepsilon,m} = \sqrt{Z} \frac{C_{\varepsilon,m} - C_{\varepsilon,1}^m}{S_{m,\in}} \quad (4)$$

where $S_{m,\in}$ sm, is the standard deviation of $\sqrt{Z}\,(C_{\varepsilon,m} - C_{\varepsilon,1}^m)$ and it is estimated as showed by Brock et.al(1997). BDS test is a two-tailed test, we should reject the null hypothesis if the BDS test statistic is greater than or less than the critical values (e.g. if α=0.05, the critical value = ±1.96).

4.2.2. Nonlinear ARDL Test

Galeotti et.al (2003), Bachmeier and Griffin, Van Treeck(2008), Shin et.al (2009), Karantininis et al. (2011), Saglio and Lopez(2012), Shin et al. (2012), Nimmo et.al (2010;2013) and Nguyen and Shin (2013) following Pesaran and Shin (1998) and Pesaran et.al (2001) developed the asymmetric ARDL (NARDL) model.

In Nimmo et al.(2010;2013), the asymmetric ARDL model is essentially an asymmetric extension of the linear ARDL approach to modeling long-run levels. Shin, et.al (2012) made two important contributions. First, they derived the dynamic error correction representation associated with the asymmetric long-run cointegrating regression, resulting in the nonlinear autoregressive distributed lag (NARDL) model. Second, they developed asymmetric cumulative dynamic multipliers that allow them to trace the asymmetric adjustment patterns following positive and negative shocks to the explanatory variables.

It is possible to write ARDL model as follows

$$\Delta x_t = c + \delta x_{t-1} + \beta b_{t-1} + \sum_{i=1}^{m-1} B_i \Delta x_{t-i} + \sum_{i=0}^{m} \gamma_i \Delta b_{t-i} + \varepsilon_t \qquad (1)$$

$\Delta x = x_t - x_{t-1}$ is related to the last period's disequilibrium any variations induced by the changes in oil return. In ARDL model, when all variables are I(1), cointegration relationship is defined but variables mix I(0) and I(1), it is accepted that there is an evidence of a long-run relationship. ARDL model combine I(0) and/or I(1) variables in a long-run relationship rather than in a cointegrating relationship, bounds test methodology (Bildirici and Kayıkcı, 2012; Bildirici and Bakirtas, 2014). Granger and Yoon (2002) developed the concept of hidden cointegration, according to their theory when variables are not cointegrated in the conventional sense, their positive and negative of variables sums can be cointegrated with each other. The NARDL model allows one to examine the short- and long-run response of the oil return to each of the returns of gold, silver, copper and NARDL method detects hidden cointegration. NARDL employs the decomposition of the exogenous variable *X* into its positive and negative partial sums (Hammoudeh et. al:2014)

It is used to F test suggested by Pesaran and Shin (1998) and Pesaran, et.al (2001). F test based on the joint null hypothesis that the coefficients on the level variables are jointly equal to zero $H_0 : \delta = \beta = 0$

The asymmetric ARDL model may follow as:

$$x_t = \alpha + \beta^+ b^+ + \beta^- b^- + v_t$$

where β^+ and β^- are the associated long-run parameters . b_t is a kx1 vector of regressors decomposed as;

$$b_t = b_0 + b_t^+ + b_t^-$$

$$b_t^+ = \sum_{j=1}^{t} \Delta b_j^+ = \sum_{j=1}^{t} \max(\Delta b_j, 0) \quad and \quad b_t^- = \sum_{j=1}^{t} \Delta b_j^- = \sum_{j=1}^{t} \min(\Delta b_j, 0)$$

b_t+ and b_t- are partial sum processes of positive and negative changes in b_t. By associating to the ARDL, it is obtained the following model.

$$\Delta x_t = \delta x_{t-1} + \sum_{i=1}^{m} B_i \Delta x_{t-i} + \sum_{i=0}^{n} (\varphi_i^+ \Delta b_{t-i}^+ + \varphi_i^- \Delta b_{t-i}^-) + \vartheta^+ b_{t-1}^+ + \vartheta^- b_{t-1}^- + \varepsilon_t$$

where Δ and ε1t are the first difference operator and the white noise term. Superscripts "+" and "-" denote positive and negative partial sums computed following the previously mentioned decomposition method. bt is decomposed into b^+_t and b^-_t. The null hypothesis of no long-run relationship between the levels of x_t , b^+_t and b^-_t ($\theta = \theta^+ = \theta^- = 0$) is tested with the bounds testing procedure the irrespective if the regressors are I(0) and I(1) or mutually cointegrated. It follows two special states: $\theta = \theta^+ = \theta^-$ (long-run symmetry) and $\varphi = \varphi+ = \varphi-$ (short-run symmetry) for all i=0, - - - ,q.

Equation (3) determine possibility that the process exhibit asymmetries over both the short and long run and either only over long-run or only over short run. The second part of Equation (3) define the long-run relationship and first one contains the lags of the asymmetric all price in first differences. In Equation (3), it is possible to test rigidities in the short and/or in the long-run. F test of the joint null hypothesis is $H_0 = \delta = \theta^+ = \theta^- = 0$.

Accoding to Nimmo et.al(2010; 2013), this model has a number of advantages over the existing class of regime-switching models. First, once the regressors, bt, are decomposed into b^+_t and b^-_t, (3) can be estimated simply $H_0: \delta = \vartheta^+ = \vartheta^- = 0$ by standard OLS. Second, the null hypothesis of no cointegration among the variables in Eq.(3) are against the alternative hypothesis $H_1: \delta \neq \vartheta^+ \neq \vartheta^- \neq 0$. The null hypothesis of no long-run relationship between the levels of variables ($H_0: \delta = \vartheta^+ = \vartheta^- = 0$) can be tested with NARDL. Third nests the following two special cases: (i) long-run reaction symmetry where $\vartheta^+ = \vartheta^- = \vartheta$; (ii) short-run adjustment symmetry in which $\varphi_i^+ = \varphi_i^-$ for all i = 0,...,q. Both types of restriction can be tested easily using standard Wald tests; and (iii) the combination of long- and short-run symmetry in which case the model became the standard symmetric ARDL model developed by Pesaran and Shin (1989) and Pesaran et.al (2001) (For detailed information see Nimmo et.al (2013); Karantinnis et al. (2011).

Finally, the asymmetric ARDL model is used to obtain the asymmetric dynamic multiplier effects of a unit change in b+t and b−t on at defined by

$$z_i^+ = \sum_{j=0}^{i} \frac{\kappa x_{t+j}}{\kappa b_j^+}, \; z_i^- = \sum_{j=0}^{i} \frac{\kappa x_{t+j}}{\kappa b_j^-} \quad i = 0,1,2... \qquad (4)$$

$z \to \infty,\ z_i^+ \to \beta^+ \ and \ z_i^- \to \beta^- \ where \beta^+ = -\vartheta^+ / \delta \ and \ \beta^- = -\vartheta^- / \delta$ Long-run multipliers are determine as

$L_{op}^+ = \vartheta^+ / -\delta, \quad L_{op}^- = \vartheta^- / -\delta$ with long-run symmetry $L_{op}^+ = L_{op}^-$.

4.3. Non-linear Causality Analysis

Although non-linear ARDL approach determine whether or not existence of long-run relationship between variables, it doesn't show the direction of causality. The direction of causality is important for policy makers and governments. We used to two non-linear causality test: Varsakelis and Kyrtsou (2008) and Kyrtsou and Labys (2006) and the causality model developed by in this paper.

The linear causality tests have some shortcomings. Hiemstra and Jones (1994) who point out that one of the shortcomings of the linear causality tests showed their inability to detect the nonlinear relationships between macroeconomic variables. Baek and Brock (1992) and Hiemstra and Jones (1994) suggested the nonlinear Granger causality test approach. In pursuit of pioneering papers, some papers have found it favorable and used it in macroeconomic perspectives. For example, Ma and Kanas (2000), Kyrtsou and Terraza (2003), Kyrtsou and Labys (2006), Rashid (2007), Bildirici (2013), used non-linear Granger causality[pp].

Mackey Glass* (M-G) *Model

It was proposed a bivariate noisy Mackey-Glass model. Its general form is given in below

$$X_t = a_{11}\frac{X_{t-\tau 1}}{1+X_{t-\tau 1}^{c1}} - \delta_{11}X_{t-1} + a_{12}\frac{Y_{t-\tau 2}}{1+Y_{t-\tau 2}^{c2}} - \delta_{12}Y_{t-1} + \varepsilon_t$$

$$Y_t = a_{21}\frac{X_{t-\tau 1}}{1+X_{t-\tau 1}^{c1}} - \delta_{21}X_{t-1} + a_{22}\frac{Y_{t-\tau 2}}{1+Y_{t-\tau 2}^{c2}} - \delta_{22}Y_{t-1} + u_t \quad (5)$$

Where; $u_t, \varepsilon_t : N(0,1)$, $t = \tau, ..., N, \tau = \max(\tau 1, \tau 2), X_0, ...X_{\tau-1}, Y_0, ...Y_{\tau-1}$ and αij, and δij are the parameters to be estimated, τi are integer delays, and ci are constants.

M-G test is used in two steps; first the unconstrained model of the given series is estimated by using OLS. In the second step, a second M-G model under the constraint of "$\alpha_{12}=0$" is estimated in order to test for causality. M-G test statistic, which follows an F distribution, can be derived from the SSRs of the constrained and the unconstrained model, such that;

$$S_F = \frac{(S_c - S_u)/n_{restr}}{S_u/(N - n_{free} - 1)} : F_{n_{restr}, N-n_{free}-1}$$ [qq]

If the test statistic is greater than a specified value, then we reject the null hypothesis that Y causes X
The test requires prior selection of the best delays (τ1 and τ2) on the basis of likelihood ratio tests and the Schwarz criterion.

Augmented Non-linear Granger Causality Method

[pp] Ma and Kanas (2000) explored the interaction between exchange rate and macroeconomic variables, using non-linear Granger causality. Rashid (2007) tested the linear and nonlinear Granger causality between stock price and volume in Pakistan. Kyrtsou and Terraza (2003), Kyrtsou and Labys (2006), determined the nonlinear causal relationship between crude oil price changes and stock market returns.

[qq] Assuming; n_{free} is the number of free parameters in our M-G model and nrestr-1 is the number of parameters set to zero when estimating the constrained model. Further information can be found in Varsakelis and Kyrtsou (2008).

Non-linear ARDL approach tests whether or not the existence of long-run relationship between variables, but it does not determine the direction of causality. It is used to non-linear Granger causality method since this paper aimed to determine the direction of causality.

Baek and Brock (1992) and Hiemstra and Jones (1994) put forward the nonlinear Granger causality test approach, many authors have found it favorable and used it in many perspectives. Kyrtsou and Labys (2006) determined a small change in one variable can produce multiplicative and disproportionate impact on the variables in the presence of nonlinearity.

Ma and Kanas (2000) analysed the interaction between exchange rate and macroeconomic variables. Rashid (2007) discussed the linear and nonlinear Granger causality between stock price and volume in Pakistan. Kyrtsou and Terraza (2003), Kyrtsou and Labys (2006) used M-G approach to determine the nonlinear causal relationship between crude oil price changes and stock market returns. It was used the two-step procedure from the Engle and Granger model to examine the causal relationship between variables.

The Asymmetric Error Correction(AEC) model used to analyze relationships between the variables was constructed as follows:

$$\Delta x = A_{10} + \sum_{i=1}^{m} B_{1i}\Delta x_{t-i} + \sum_{i=0}^{m}(\varphi_i^{+}\Delta b_{t-i}^{+} + \varphi_i^{-}\Delta b_{t-i}^{-}) + \zeta ECT_{t-1} + \varepsilon_{1t} \quad (5)$$

$$\Delta b = \alpha + \sum_{j=1}^{m} \lambda \Delta b_{t-i} + \sum_{i=0}^{n}(\beta_i^{+}\Delta x_{t-i}^{+} + \beta_i^{-}\Delta x_{t-i}^{-}) + \zeta_2 ECT_{t-1} + \varepsilon_{2t} \quad (6)$$

where residuals εt are independently and normally distributed with zero mean and constant variance and ECTt-1 is the error correction term resulting from the long-run equilibrium relationship. ζ is a parameter indicating the speed of adjustment to the equilibrium level after a shock. It shows how quickly variables converge to equilibrium and it must have a statistically significant coefficient with a negative sign.

The error correction model (AEC) should be a starting point for the causality analysis. Granger causality can be examined in three ways: (1) short-run or weak non-linear causalities are detected by testing $H_0: \varphi_i^{+} = \varphi_i^{-} = 0$ and $H_0: \beta_i^{+} = \beta_i^{-} = 0$ for all i and j in Equations 5 and 6; (2) long-run non-linear causalities are represented by the ECMs in equations. The coefficients of the ECMs represent how fast deviations from the long-run equilibrium are eliminated following changes in each variable. Long-run causalities are examined by testing $H_0=\zeta=0$ and $H_0=\zeta_2=0$; (3) strong non-linear causalities are detected by testing $H_0: \varphi_i^{+} = \varphi_i^{-} = \zeta = 0$ and $H_0: \beta_i^{+} = \beta_i^{-} = \zeta_2 = 0$ for all i and j in Eqs. 5 and 6.

V. Econometric Results

The following unit root tests were used: the Augmented Dickey-Fuller (for which the null hypothesis is non-stationarity) as well as the Kwiatkowski-Phillips-Schmidt-Shin test (for which the null hypothesis is stationarity to determine the maximum order of integration).

Table 1. Unit Root and BDS Test Results

	Augmented Dickey-Fuller (*ADF*)		**Kwiatkowski- Phillips-Schmidt-Shin (*KPSS*)**		***BDS Test Statistics* *Embedding dimension (m)***				
	Level	*First Diff*	*Level*	*First Diff*	1	2	3	4	5
OP	-0.1475	-3.7586	0.95769	0.16996	18.62950	19.52922	21.87418	24.84141	29.04828
AP	-1.1753	-6.785	0.92072	0.17253	22.98321	27.19004	32.48792	40.17865	51.40859
SLV	-1.0078	-5.987	0.8843	0.16876	14.30119	14.77081	15.79473	17.18015	18.92521
COP	-0.9756	-4.753	0.8767	0.1178	16.66693	16.67532	16.87897	17.53170	18.48520
Critical values	1% level (-3.443442), 5% level (-2.867207), 10% level (-2.569850)		1% level(0.739000), 5% level(0.463000), 10% level(0.347000)						

The KPSS test was selected in order to have a cross-check. Both the unit root hypothesis and the stationarity hypothesis were examined by the KPSS test. This is distinguished between a series that appears to be stationary and series that appears to have a unit root.

Confirmatory analysis as joint testing accepts that the null of stationarity is accepted (rejected) and the null of non-stationarity is rejected (accepted); in this we have confirmation that the series is stationary (non-stationary) (Alimi and Ibironke, 2012).

The ADF and KPSS unit root tests concluded that the OP, AP, SLVR, and COP variables are stationary in the first differences.

Table 1 show the test statistic of BDS test for series analysed. The hypothesis of the test is as follow: *H_1: The data are not independently and identically distributed (i.i.d).* The first differences of the natural logarithm have been taken.

Table 1 show all the test statistics are greater than the critical values. In this condition, it is rejected the null hypothesis of i.i.d. The results determine that the time series in this paper are non-linearly dependent.

5.1. ***Non-linear ARDL Results***

Table 2 shows the estimated long-run coefficient of the most suitable asymmetric equation. Table 2 reveals the arguments for valid long-run relationships among the variables. According to the results of Table 2, the null hypothesis of long-run and short run symmetry is clearly rejected at the 1% level. For Model 1, the null hypothesis of only long-run symmetry is clearly rejected at the 1% level.

The F-test indicates cointegration in both cases, while the BDM t-test cannot reject the null hypothesis of no long-run relationship. The models show that the Wald test is unable to reject long-run asymmetry. Therefore, in the long run, price changes will converge toward a symmetric long run relationship between these two price levels in models.

For Model 1, an important point is that the change of oil return is passed through to gold in the long-run. The pass through coefficient is the highest in state of increase of oil return. The increase in oil return causes a 0.64 increase in gold return and a 0.21 increase in silver return. A decrease in oil return causes a 0.29 decrease in gold return and 0.12 in silver return. We found evidence of short- and long-run asymmetries acting in opposite directions. Gold return tends to overshoot the following increase of oil return rate, because it reacts more sluggishly in response to a decrease in oil return. The sign and coefficient of copper, in the case of a decrease in oil return, determines movement with oil return. However, in case of an increase in oil return, the coefficient of copper is not significant.

The behavior of oil return is asymmetric, meaning that economic agents in Turkey are more willing to increase gold return instantaneously in case of an increase in oil return. Lee et al. (2012) determined that an asymmetric long-run adjustment exists between gold and oil.

In the case silver return, economic agents are willing to increase silver return instantaneously, but they do not have strong incentives to decrease silver return. It is determined that silver return, when oil return decreases, remains persistent. However, gold returns exhibit more flexible behavior than silver in case of increase and decrease of oil return. The important point is that the short-run negative asymmetry is more persistent in Turkey. According to short-run coefficients, an increase in oil return is passed through to gold return. With a decrease in oil return, gold return shows persistent return behavior; that is, it gives a more sluggish response.

As noted by Shin, Yu, Nimmo (2012), the pattern of dynamic adjustment depends on a combination of the long-run parameters, error correction coefficient, and model dynamics. This means that in the short run only return increases and decreases are transmitted. The complete sluggishness of return reduction in the short run makes it possible to say that the market power might play a significant role in explaining the short run asymmetry.

op_{LR}^{+} and op_{LR}^{-} determines long-run multipliers. They indicate the speed of adjustment to the equilibrium level after the shock. This shows how quickly variables converge to equilibrium, and it must have a statistically significant coefficient with a negative sign smaller than one. The signs of the coefficient of the error correction terms range between -0.485 and -0.1075 for positive sign and between -0.31478 and -0.095907 for negative sign, which provides stability for the model. The error correction term shows a high speed of adjustment of any disequilibrium toward a long-run equilibrium state for gold, whereas equilibrium can be restated for copper after long periods.

Table2. Estimation Results

	Model 1: Dependent variable: AP			Model 2: Dependent variable: SLV				Model 3: Dependent variable: COP			
lx	0.96265 (2.3815)			.69829 (13.96)				-0.1834 (2.011)			
lop^{+}	0.637(1.785)			0.209(1.7387)				0.012(0.176)			
lop^{-}	0.285 (3.965)			0.077(1.656)				0.0162(1.8998)			
Δx_{t-1}	1.065 (2.997)			-0.1304(2.086)				0.123(0.046)			
Δop				-0.2008(2.18)				0.8314 (1.8507)			
Δop^{+}_{t-1}	0.389 (1.975)										
Δop^{-}_{t-1}	0.0113(2.065)										
op_{LR}^{+}	-0.485(2.2013)			-0.258(2.246)				-0.1075(1.989)			
op_{LR}^{-}	-0.31478(1.9785)			-0.1435(1.9901)				-0.09507(2.001)			
R^2	0.7687	F	9.001	R^2	0.7064	F	8.0574	R^2	0.6912	F	7.9874
SSE	0.08291	W_{Ls}	32.3546	SSE	0.00529	W_{Ls}	27.275	SSE	0.0089	W_{Ls}	29.1452
JB	1.287	W_{KS}	29.5126	JB	1.098	W_{KS}	1.1425	JB	1.07	W_{KS}	0.74523
$ARCH$	0.9245	t_{BDM}	-4.95	$ARCH$	1.56	t_{BDM}	-4.18	$ARCH$	3.33	t_{BDM}	-3.36
	Long-run and Short-run asymmetry			Long-run asymmetry				Long-run asymmetry			

Lop+ and Lop^{-} denote the long-run coeffcients associated with positive and negative changes of oil return. SSE = Standard Error of Estimate, SSR = Sum of Squared Residuals, JB = Jarque–Bera Test, ARCH = Autoregressive Conditional Heteroskedasticity. W_{LS} refers to the Wald test of long-run

symmetry while W_{KS} denotes the Wald test of the additive shortrun symmetry condition. F denotes the Pesaran-Shin-Simith F test statistic for k=2. Upper-bound test statistic at 1%, 5% and 10% are 5.30, 3.83, 3.19.

The probable cause is that the gold return possesses some market power as a means of storing value and as a monetary asset. Because of the exception of gold, there is a substantial sluggishness in the adaptation to changes in demand.

5.2. The Result for Granger Causality Test

Since there is a long-run relationship between variables, a causality relationship must exist in at least one direction. Table 4 summarizes the non-linear causality relationship between variables. Granger non-linear causalities were present implicitly via the ECT; however, the equilibrium indicates the presence of unidirectional causality going from one of the variables to another.

Table 3. M-G Causality Test Results TVAL

Lag	Δop→Δ ap Δap →Δop		Δop→Δ slv Δslv →Δop		Δop→Δcop Δcop→Δop		Δap→Δ slv Δslv →Δap		Δap→Δcop Δcop→Δap	
1	3.19093*	0.18580	2.940143	0.1112	2.10093	0.10012	3.01123*	0.04253	2.33453*	0.112
2	3.83508*	0.4124	3.66425*	0.1175	1.89998	0.11112	3.3375*	0.4124	3.00121*	0.1124
3	1.90745	1.0856	1.12361	0.11745	1.00012	0.0111	107.458	1.2245	1.00121	0.00816
4	1.10142	1.00745	1.04125	0.00115	0.00745	0.00775	1.01425	1.0011	1.00011	0.00115
5	0.9431	1.0004	0.91201	0.0001	0.00114	0.00014	0.0789	0.00114	0.00125	0.0004
6	0.01425	0.08569	0.01005	0.00019	0.00001	0.0001	0.00112	0.00089	0.00011	0.00019

The Table 3 show results of the asymmetric M-G causality test results. The application of Granger causality test to the residuals of the bivariate noisy Mackey-Glass model in Table 3 determine only 4 detected cases significant. The noisy Mackey-Glass model show dynamics of non-linearity between oil price and precious metal price. M-G model provide additional evidence about the presence of synchronicity in the feedback relationship dependence between variables analysed. The positive type of non-linear dependence can easily be viewed. Feedback has a non-linear sources. A rise of oil price can cause anormal behavior of precious metal price.

Table 3 determined that there is an important causal influence of dlop on dlap, dlslv and dlcop, because an increase in the delay is signal of high complexity. It is show a relatistic approximation of the dynamics that cause inherent non-linearity between oil price and precious metal price. Accoding to Kyrtsou and Labys (2005), the signifiance of the non-linear Mackey-Glass terms can provide additional evidence about the presence of synchronicity in the feedback relationship between variables analysed.

Table 4. Granger Causality

	Δop→Δ ap Δap →Δop		ECT→ Δop, ECT→ Δap		Δop, ECT → Δap, Δ ap , ECT→ Δ op	
Asymmetric Case for Positive Crude Oil Return Changes	8.425	0.956	12.756	10.756	107.586	1.123
Asymmetric Case for Negative Crude Oil Return Changes	15.746	1.789	16.758	15.623	12.456	1.756
	Δop→Δ slv, Δslv →Δop		**ECT→ Δop, ECT→ Δap**		**Δop, ECT→ Δslv, Δslv , ECT→ Δop**	
Asymmetric Case for Positive Crude Oil Return Changes	6.456	1.123	30.1698	1.998	76.536	0.1352
Asymmetric Case for Negative Crude Oil Return Changes	1.426	1.0789	10.1056	1.756	20.123	1.756
	Δop→Δ cop, Δcop →Δop,		**ECT→ Δop, ECT→ Δap**		**Δop, ECT → Δcop Δcop , ECT→ Δop**	
Asymmetric Case for Positive Crude Oil Return Changes	5.126	0.0756	1.123	0.789	1.1053	0.896
Asymmetric Case for Negative Crude Oil Return Changes	1.0013	0.456	1.19	0.07	1.765	1.326

According to the results, there are uni-directional causalities running from oil return to gold return in the asymmetric case for positive and negative crude oil return changes in short-long run and strong causality. Unlike this paper's results, Soytas et al. (2009) found the world oil return does not lead the volatility of gold return in Turkey. Lee et al. (2012) causality results determined that crude oil plays a dominant role. Baig et al. (2013) found no-causality between oil return and gold return in Malaysia.

In the case of negative and positive change of crude oil return, there is unidirectional causality running from oil return to silver return for weak, short, and long-run. In only negative change is there no-causality between oil return and silver return there is no causality between the returns of oil and copper in an asymmetric case for negative and positive crude oil return changes in all causality forms.

VI. Conclusion

This study used the asymmetric ARDL method and non-linear Granger Causality approach to analyze the relationship between oil returns and the returns of gold, silver and copper. It was used the two-step procedure to examine these relationships. The first step analyzed the long-run relationship between the variables by using the asymmetric ARDL approach. The second step used non-linear VEC model to test non-linear causal relationships.

The main findings of this paper are: there is a unique long-term or equilibrium relationship between oil returns and the return of gold and silver; non-linear causal relationships within dynamic non-linear error-correction model; M-G non-linear causality model determine additional evidence about the presence of synchronicity in the feedback relationship dependence between variables analyzed. Augmented non-linear causal relationship in the asymmetric case for positive and negative crude oil return changes. It is determined uni-directional Granger causality from oil return to gold return but in case of weak and strong Granger Causality.

The short-run return transmissions between the oil return and gold return have implications. Alternatively, for policy makers and for both local and global investors, the result of paper show that oil returns pass through gold returns

This analysis indicates unequivocally that the pass-through from the oil return to gold return exhibits for good monetary policy, the volatility of oil return should be controlled. CBRT must be used to monetary policy, when a crisis is caused by raising oil return and inflationary pressures arise, to alleviate the inflationary pressures in the gold return. Otherwise, the observed results in case of overshooting oil returns may affect the efficiency and credibility of the CBRT's policy. Moreover, oil return volatility leads to a deterioration in the balance of payments in Turkey, as in other oil importing countries

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Evaluating the nonlinear linkage between gold price and stock market index using Markov-Switching Bayesian VAR models

Işıl Akgül[a] , Melike Bildirici[b] *, Selin Özdemir[c]

[a] *Marmara University, Istanbul, 34400, Turkey*
[a] *Yıldız Technical University, Istanbul, 34349, Turkey*
[b] *Marmara University, 34400, Turkey*

Abstract

This study makes a contribution to the literature by applying the Markov-Switching Bayesian VAR models for the first time to investigate the nonlinear linkage between gold prices and stock market index. Analyses have been done in the period from 1986:04 to 2013:11. The Bayesian approach to econometrics provides a general method for combining a modeler's beliefs with the evidence contained in the data. In contrast to the classical approach to estimating a set of parameters, Bayesian statistic presupposes a set of prior probabilities about the underlying parameters to be estimated. We use gold prices (USD/oz.) and S&P 500 Stock Price Index as an endogenous, the crude oil prices (Brent-$/barrel) as an exogenous variable in the analysis. We investigate the number of regime by LR test and The Markov Chain Monte Carlo (MCMC) algorithm and Sims & Zha (1998) prior distribution are employed to estimate the models.

Keywords: Crude oil prices, Gold prices, S&P 500, Bayesian VAR model, Sims & Zha prior distribution

1.Introduction

Oil prices have acquired increasing attention of both academicians and policy makers, especially after the oil shocks in 1974, 1979, 1980, and the recent sharp increases in oil prices between 2002 and 2008. Oil plays an important role in both oil-exporting and importing countries. Recognizing that oil is the engine of economic activities, many studies have examined the impact of oil prices on different economic variables, such as gold prices, stock prices exchanges rates, growth, investment, inflation and unemployment.

In recent years oil and gold received much attention, due to the fluctuations in their prices. Crude oil is the world's most commonly traded commodity, of which the price is the most volatile and may lead the price procession in the commodity market. Gold has a critical position among the major precious metal class, even considered the leader of the precious metal pack as increases in its prices seem to lead to parallel movements in the prices of other precious metals (Sari et al, 2010). Gold is not only an industrial commodity but also an investment asset which is commonly known as a "safe haven" to avoid the increasing risk in the financial markets. As is known, investors in both advanced and emerging markets often switch between oil and gold or combine them to diversify their portfolios (Soytas et al, 2009).

It is known another effect of oil prices is on stock markets through several channels. First, the price of a share being equal to its discounted future cash flow, rising oil prices can increase the interest rate to limit inflationary pressure, tighten the cost of doing business, put pressure on output prices thus decreasing profits (Jones et al., 2004). High interest rates also make bond investments more attractive than stock ones (Chittedi, 2012). All these effects generally trigger a negative relationship between oil and stock markets, which parallels the one between high oil prices and macroeconomic indicators.

The above feature descriptions of crude oil, gold and stock markets justify the economic importance of revealing the relationship between these commodities. Various researches have investigated the effects of the oil prices on gold prices and stock market indexes. But only a very few studies have considered the relationship may be nonlinear.

* Corresponding author. Tel. + 90-212-383-2527 fax. +90-212-259-4202
E-mail address: melikebildirici@gmail.com

Whereas, time series may exhibit nonlinear behaviours due to different factors like policy changes, crises, OPEC decisions, etc. Thus, if the data exhibit structural regime shifts then a model assuming constant parameters, mean and variance is likely to yield misleading results. Therefore, modelling the relation between oil prices, gold prices and stock market index within a nonlinear framework is more suitable. Also nonlinear MS-VAR model, which is used in this study, provides to examine the effects of the oil prices separately during the periods of crisis and expansion.

This study makes a second contribution to the literature by applying the Bayesian technique to the MS-VAR model for the first time to investigate the effects of the oil prices on gold prices and S&P 500. The Bayesian approach to econometrics provides a general method for combining a modeller's beliefs with the evidence contained in the data. In contrast to the classical approach to estimating a set of parameters, Bayesian statistic presupposes a set of prior probabilities about the underlying parameters to be estimated.

The paper proceeds as follows: Section 2 presents a review of previous studies on the empirical evidence of oil price changes and its effects on gold price and stock market index. Section 3 deals with methodological issues and the data used in the empirical analysis and in Section 4 the empirical evidence are presented. Section 5 concludes summary.

– 2.Previous studies

Several researchers have investigated the relation between oil prices, gold prices and stock market indexes using different econometric approaches, countries and sample periods. According to Melvin and Sultan (1990)'s results, political unrest in South Africa in addition to oil price volatility is significant factors that constitute the gold spot price forecast errors. Cashin et al. (1999) test the correlations between seven commodities with the time period from April 1960 to November 1985. Empirical results from this study demonstrate that there exist significant correlation between oil and gold.

Jones and Kaul (1996) use quarterly data to test whether the reaction of international stock markets to oil shocks can be justified by current and future changes in real cash flows and changes in expected returns. Using a standard cash-flow dividend valuation model they find that the reaction of Canadian and US stock prices to oil price shocks can be completely accounted for by the impact of these shocks on real cash flows. Huang et al. (1996) use VAR approach to investigate the relationship between daily oil futures returns and daily US stock returns. They found that oil futures returns do lead some individual oil company stock returns but oil future returns do not have much impact on broad-based market indices like the S & P 500. Sadorsky (1999) show that oil prices and oil price volatility both play important roles in affecting real stock returns by using VAR model. However, the study by Ciner (2001) examines the nonlinear linkages between oil prices and the stock market. Relying on nonlinear causality tests, this study provides evidence that oil shocks affect S&P 500 stock index returns. Park and Ratti (2007) estimates the effects of oil price shocks and oil price volatility on the real stock returns of the U.S. and 13 European countries using a multivariate VAR analysis. They find that oil price shocks have a statistically significant impact on real stock returns in the same month or within one month. Nakamura and Small (2007) pointed out that both daily gold price and crude oil price data and S&P 500 are random walk series, and their first differences are independently distributed random variables or time-varying random variables. Odusami (2008) analyzed whether the nonlinear oil price effects on US stock exchange can be explained by the unexpected shocks in crude oil market. Even it is concluded that unexpected shocks have nonlinear effects. Choi and Hammoudeh (2010) applied a symmetric DCC-GARCH model and indicated increasing correlations among Brent oil, WTI oil, copper, gold and silver but decreasing correlations with the S&P500 index. Chang, McAleer, and Tansuchat (2010) based on a symmetric DCC-GARCH model investigated the conditional correlations and volatility spillovers between crude oil, FTSE100, NYSE, Dow Jones and S&P500 stock indices. Filis et. al (2011) investigates the time-varying correlation between stock market prices and oil prices for oil-importing and oil-exporting countries. A DCC-GARCH-GJR approach is employed on data from six countries; Oil-exporting: Canada, Mexico, Brazil and Oil-importing: USA, Germany, Netherlands. The results show that oil prices have negative effect in all stock markets. Also they find that the only exception is the 2008 global financial crisis where the lagged oil prices exhibit a positive correlation with stock markets. Lee and Chiou (2011) applied a univariate regime-switching GARCH model to examine the relationship between WTI oil prices and S&P500 returns. They concluded that when there are significant fluctuations in oil prices, the resultant unexpected asymmetric price changes lead to negative impacts on S&P 500 returns.

3. Methodology

3.1. Research Goal

In the study, we aim to evaluate the linkage between gold prices and stock market indexes by using Markov Switching Bayesian VAR models. We use gold prices (USD/oz.) and S&P 500 Stock Price Index as an endogenous, and the crude oil prices (Brent-$/barrel) as an exogenous variable in the analysis. We use crude oil prices as an exogenous variable because oil prices are affected by OPEC decisions, business cycles, political developments, but not by the variable used in study. The data set comprises monthly observations over the period from 1986:04 to 2013:11. The data are obtained from the Federal Reserve Bank of St Louis Data Delivery page and World Bank's World Development Indicators. We use all the variables as a growth rate; $\Delta LGOLD$ represents $\left(\ln GOLD_t - \ln GOLD_{t-1}\right)$, ΔLSP represents $\left(\ln SP_t - \ln SP_{t-1}\right)$ and ΔLOP represents $\left(\ln OP_t - \ln OP_{t-1}\right)$. This starting date is chosen due to the fact that the spot and derivative markets for oil were established in 1986.

3.2. Research Methodology: Markov Switching Bayesian VAR Models

Ever since the study of Hamilton (1989), Markov regime switching models have been utilized by researchers for modelling many macroeconomic time series which exhibits asymmetries and nonlinear behaviour (Hansen (1992); Goodwin (1993); Gray (1996); Cologni and Manera (2005). Thus the use of Markov-switching approach has become popular for determining asymmetries. Goldfeld and Quandt (1973) introduced Markov-switching model, in which the latent state variable controlling the regime shifts. Hamilton (1989), Krolzig (1997) made important contributions by developing MS-VAR model which is capable to characterize macroeconomic fluctuations in the presence of structural breaks or shifts. These approaches allow researchers to overcome the shortcoming of linear models to deal with the asymmetry between expansions and contractions.

Let $\mathrm{y} = \left(y_1, \mathrm{K}, y_T\right)'$ denote a time series of T observations, where each y_t is a N-variety vector for $t \in \left\{1, \mathrm{K}, T\right\}$, taking values in a sampling space $Y \subset ¡^N$. y is a realization of a stochastic process $\left\{Y_t\right\}_{t=1}^{T}$. We consider a class of parametric finite Markov mixture distribution models in which the stochastic process Y_t depends on the realizations, s_t, of a hidden discrete stochastic process S_t with finite state space $\left\{1, \mathrm{K}, M\right\}$. Conditioned on the state, s_t, and realization of y up to time $t-1, \mathrm{y}_{t-1}, y_t$ follows an independent identical normal distribution. A conditional mean process is a Vector Autoregression (VAR) model in which an intercept, μ_{st}, as well as lag polynomial matrices, $A_{st}^{(i)}$, for $i = 1, \mathrm{K}, p$, and covariance matrices, $\sum_{st}$, depend on the state $s_t = 1, \mathrm{K}, M$.

$$y_t = \mu_{st} + \sum_{i=1}^{p} A_{st}^{(i)} y_{t-i} + \varepsilon_t, \tag{1}$$

$$\varepsilon_t : i.i.N\left(0, \sum_{st}\right), \tag{2}$$

for $t = 1, \mathrm{K}, T$. We set the vector of initial values $\mathrm{y}_0 = \left(y_{p-1}, \mathrm{K}, y_0\right)'$ to the first p observations of the available data. The $\left(M \times M\right)$ transition probabilities matrix:

$$P = \begin{bmatrix} p_{11} & p_{12} & \mathrm{K} & p_{1M} \\ p_{21} & p_{22} & \mathrm{K} & p_{2M} \\ \mathrm{M} & \mathrm{M} & \mathrm{O} & \mathrm{M} \\ p_{M1} & p_{M2} & \mathrm{K} & p_{MM} \end{bmatrix}$$

In which an element, p_{ij}, denotes the probability of transition from state i to state j, $p_{ij} = \Pr\left(s_{t+1} = j \middle| s_t = i\right)$. All the transition probabilities are positive, $p_{ij} > 0$ for all $i, j \in \left\{1, \mathrm{K}, M\right\}$, and the elements of each row of matrix P sum to one, $\sum_{j=1}^{M} p_{ij} = 1$. The parameters of the VAR process, change with time, t according to discrete value hidden Markov process, s_t. These changes in parameter values introduce nonlinear relationships between variables.

We use complete-data likelihood function to estimate the models. Let $\theta \in \Theta \subset ¡^k$ be a vector of size k, collecting parameters of the transition probabilities matrix P and all the state-dependent parameters of the VAR process, $\theta_{st} : \mu_{st}, A_{st}^{(i)}, \sum_{st}$, for $s_t = 1, \mathrm{K}, M$ where $i = 1, \mathrm{K}, p$. The complete-data likelihood function is equal to the joint sampling distribution. This distribution is considered to be a function of θ for the purpose of estimating the unknown parameter vector θ. It is further decomposed into a product of a conditional distribution of y given S and θ, and a conditional distribution of S given θ:

$$p\left(S, \mathrm{y} \middle| \theta\right) = p\left(\mathrm{y} \middle| S, \theta\right) p\left(S \middle| \theta\right) \tag{3}$$

The Markov process is given by:

$$p\left(S\left|\theta\right.\right)=p\left(s_0\left|P\right.\right)\prod_{i=1}^{M}\prod_{j=1}^{M}p_{ij}^{N_{ij}(S)} \tag{4}$$

where $N_{ij}\left(S\right)=\#\left\{s_{t-1}=j,s_t=i\right\}$ is a number of transitions from state i to state $j,\forall i,\ j\in\left\{1,\mathrm{K}\ ,M\right\}$.

Classical estimation of the model consists of the maximization of the likelihood function with the EM algorithm. In this study the Bayesian inference which is based on the posterior distribution of the model parameters θ is used. The likelihood function is maintained by the choice of the prior distribution in the following form:

$$p\left(\theta\right)=\prod_{i=1}^{M}p\left(\theta_i\right)p\left(P\right) \tag{5}$$

The independence of the prior distribution of the state-specific parameters for each state and the transition probabilities matrix is assumed. This allows the possibility to incorporate prior knowledge of the researcher about the state-specific parameters of the model, θ_{st}, separately for each state.

The structures of the likelihood function and the prior distribution have an effect on the form of the posterior distribution that is proportional to the product of the two densities. The form of the posterior distribution is as follows:

$$p\left(\theta\left|\mathrm{y},S\right.\right)\infty\prod_{i=1}^{M}p\left(\theta_i\left|\mathrm{y},\mathrm{S}\right.\right)p\left(P\left|\mathrm{y},\mathrm{S}\right.\right) \tag{6}$$

When we decompose into a posterior density of the transition probabilities matrix:

$$p\left(P\left|S\right.\right)\infty\prod_{i=1}^{M}p\left(s_0\left|P\right.\right)\prod_{i=1}^{M}\prod_{j=1}^{M}p_{ij}^{N_{ij}(S)}p\left(P\right) \tag{7}$$

And the posterior density of the state-dependent parameters:

$$p\left(\theta_i\left|\mathrm{y},S\right.\right)\infty\prod_{t:S_t=i}p\left(y_t\left|\theta_i,\mathrm{y}_{t-1},\right.\right)p\left(\theta_i\right) \tag{8}$$

The commonly used strategy is to simulate the posterior distribution with numerical methods. In this study The Markov Chain Monte Carlo (MCMC) algorithm and Sims & Zha (1998) prior distribution are employed to estimate the models.

In the Bayesian framework, the exact posterior distribution of the model's parameters can be easily obtained. Under the informative prior of Sims and Zha (1998), the posterior distribution of parameter a has the form,

$$p\left(a/\mathrm{y}_{\mathrm{t}}\right)=\pi\left(a_0\right)\pi\left(a_+/a_0\right), \tag{9}$$

Where y_{t} denotes the data matrix up to time T,

$$\pi\left(a_0\right)\infty\left|A_0\right|^T\exp\left(-\frac{1}{2}trace\left(A_0^{'}SA_0\right)\right), \tag{10}$$

$$\pi\left(a_+\left|a_0\right.\right)=\varphi\left(\left(I\otimes U\right)a_0;I\otimes V\right),$$

and $\varphi\left(\mu;\Sigma\right)$ denotes the normal density function with mean μ and variance Σ. In equation (10), S, U and V are matrix functions of the data y_{t}.

6. Analyses and Results

The analysis was initiated by calculating the certain statistics of the series used in the study and the results are given in Table 1.

Table 1: Descriptive Statistics of Series

	LOP	**LSP**	**LGOLD**
Std.Deviation	11.68	3.27	1.14
Jarque-Bera	7.46	6.51	8.87
MS-ADF (*p-value*)	-6.54	-7.28	-7.06

	(0.01)	(0.02)	(0.00)

According to the Jarque-Bera test statistics in the table, series are not normally distributed. MS-ADF test which is a unit root test appropriate for MS models has been applied (Hall, Psaradakis and Sola, 1999) and it is confirmed that the series are stationary at the 5% level of significance. For the purpose of revealing the non-linear structure in the series, the approach suggested by Tsay (1989) is used and the linearity test results for different delay lengths are presented in Table 2.

Table 2: Results of Linearity Test

	d =1	***d =2***	***d =3***	***d =4***	***d =5***	***d =6***	***d =7***	***d =8***	***d =9***	***d =10***
LOP	0,18	**2,19**	1,11	1,34	0,97	1,01	0,63	0,45	0,24	0,29
p-value	0,46	0,02*	0,13	0,08	0,62	0,36	0,25	0,29	0,31	0,63
LSP	**2.18**	0,29	1.01	2.01	1.45	0,65	1,14	0,62	0,45	0,33
p-value	**0,02***	0,53	0,34	0,01	0,34	0,44	0,21	0,43	0,40	0,72
LGOLD	**3.29**	0,87	0.97	1.09	0,66	0,78	0.45	0,74	0,34	0,34
p-value	**0,01***	0,73	0,77	0.28	0,43	0,44	0,22	0,44	0,60	0,70

The probability values reported in Table 2 calculated for 10 delay show that linearity is rejected strongly in the second delay for LOP and in the first delay for LSP and LGOLD. Afterwards, LR test is made in order to determine the number of regimes of the models, which is the first stage of model selection.

Table 3: LR Test Results

LR Test	
	LGOLD-LSP
Ho: Linear VAR *Ha: Two regime MS-VAR*	14.13 (0.01)
Ho: Two regime MS-VAR *Ha: Three regime MS-VAR*	10.91 (0.03)
Ho: Three regime MS-VAR *Ha: Four regime MS-VAR*	2.43 (0.83)

According to the results, it is determined that the 3-regime MS-VAR model is appropriate for the analyses. By using the Schwarz Information Criterion (SCI), the delay lengths are selected and it is decided that MSIH(3)-BVARX(2) model is appropriate for the series.

Table 4: MSIH(3)-BVARX(2) Estimates

	Regime 1		**Regime 2**		**Regime 3**	
	$\Delta LGOLD_t$	ΔLSP_t	$\Delta LGOLD_t$	ΔLSP_t	$\Delta LGOLD_t$	ΔLSP_t
Constant	0.0069	0.0138 (2.42)*	-0.0029 (-2.90)*	0.0052 (4.81)*	0.0161 (4.26)*	0.0054 (1.91)
$\Delta LGOLD_{t-1}$	-0.0495 (-0.38)	-0.0202 (-0.12)	0.0128 (0.18)	-0.0122 (-0.17)	-0.0983 (-0.80)	0.0439 (0.48)
$\Delta LGOLD_{t-2}$	0.0038 (0.03)	0.0271 (0.21)	-0.0289 (-0.43)	0.0153 (0.21)	-0.0390 (-0.23)	0.0111 (0.09)
ΔLSP_{t-1}	0.0467 (0.62)	0.0149 (0.15)	-0.0890 (-1.82)	0.0494 (0.96)	-0.0825 (-1.11)	0.0636 (1.15)
ΔLSP_{t-2}	-0.0024 (-0.04)	-0.0382 (-0.50)	-0.0083 (-0.17)	-0.0255 (-0.51)	-0.0278 (-0.28)	0.0004 (0.00)
ΔLOP_t	0.0662 (0.74)	0.0372 (0.33)	0.0710 (2.53)*	-0.0117 (-0.39)	0.0536 (0.69)	0.0373 (0.65)
ΔLOP_{t-1}	0.0364 (0.35)	-0.0008 (-0.00)	0.0105 (0.36)	-0.0204 (-0.67)	0.0861 (1.07)	-0.0269 (-0.44)
ΔLOP_{t-2}	-0.0975 (-1.08)	0.1253 (1.11)	-0.0027 (-0.00)	-0.0467 (-1.70)	-0.1137 (-1.52)	0.0559 (1.00)
DU	0.0030 (0.20)	0.0183 (0.96)	-0.0225 (-0.71)	-0.0174 (-3.49)*	0.0136 (1.34)	-0.0009 (-0.12)

Transition probabilities	Regime1	Regime2	Regime3	Prob	Durations	Data marg log posterior	Coeff marg. posterior estimate	
Regime1	0.47	0.53	0.00	0.24	4.70	63.24	894.31	

Regime2	0.36	0.64	0.09	0.56	6.66	378.44	3724.65	
Regime3	0.10	0.19	0.71	0.18	3.45	74.66	1088.21	

LR linearity test: 91.85 Chi(10) =[0.0000] ** Chi(16)=[0.0000] **DAVIES=[0.0000] ** StdResids: Vector portmanteau(24): Chi(88)= 88.88 [0.45]
StdResids: Vector normality test : Chi(4)= 7.05 [0.13] StdResids: Vector hetero test: Chi(42)= 51.61 [0.26]

According to the regime probabilities shown in Table 4, it is seen that persistency is high at regime11, regime 22 and regime 33 where regime 22 is the highest. Regime 13 took the value of 00. This result made us think that there are two regimes, but the model with two regimes produced statistically insignificant results. Durations are consistent regarding the model. The aggregate of regime 2 and regime 3 is bigger than one. Probabilities are calculated as expected. The reason to use dummy variables is that beside the crisis on the oil prices have made fluctuation at gold prices and SP, gold prices and SP have their own volatility without the effect of the oil prices. Impulse-response analyses are made after the model estimated and the graphics are as follows.

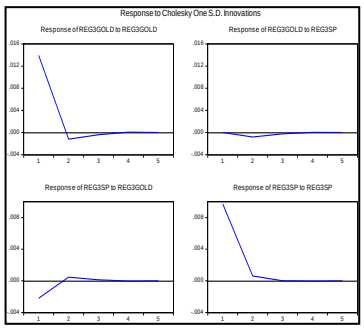

Figure 1: Growth Regime

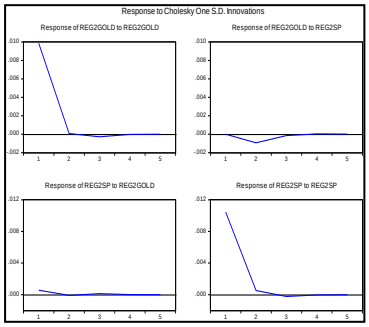

Figure 2: Pre-Crisis Regime

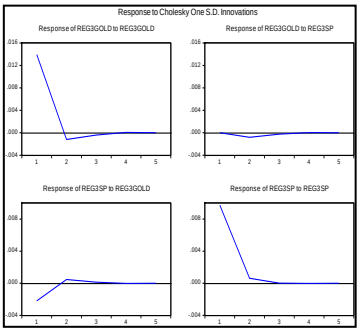

Figure 3: Crisis Regime

When the impulse-response graphics are examined, it is seen that, in the growth regime, gold prices gives and S&P 500 gives rising response to each other's during the second month, and this response finish in the third month. However in the precrisis regime, gold prices gives declining response during the second month, and this response finish in the third month and S&P 500 gives declining response until the second month . When the crisis regime graphic examined , it is seen that gold prices and S&P 500 gives declining response during the second month, and this response finish in the fourth month.

In this context, the finding of the study suggesting that the changes of crude oil affect the gold prices and S&P 500 and this effect differs according to regimes. This result is consistent with the finding of Ciner (2001) revealed the nonlinear linkages between oil prices and the stock market. However findings are giving conflicting results with Huang et al. (1996) use linear VAR approach to investigate the relationship between daily oil futures returns and daily US stock returns.

Conclusion

The aim of this study is to contribute to literature by studying the relationship between gold prices and stock market index. Analyses have been done in the period from 1986:04 to 2013:11 by Markov-Switching Bayesian Vector Autoregressive (MS-BVAR) model. We use gold prices (USD/oz.) and S&P 500 Stock Price Index as an endogenous, the crude oil prices (Brent-$/barrel) as an exogenous variable in the analysis. We investigate the number of regime by LR test and The Markov Chain Monte Carlo (MCMC) algorithm and Sims & Zha (1998) prior distribution are employed to estimate the models. By using of MS-BVAR analysis, it has been found that there are 3 regimes in the 1986:04 to 2013:11 analysis periods.

When the impulse-response graphics are examined, it is seen that, in the growth and crisis regime, gold prices and S&P 500 gives rising response to each other's but in the precrisis regime this relation becomes reversed.

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Baltic Dry Index as a Major Economic Policy Indicator: The relationship with Economic Growth

Melike E. Bildirici[a rr], Fazıl Kayıkçı[b] , Işıl Şahin Onat[ss],

[a, b] *Yıldız Technical University, Social Science Institute, Istanbul, 34349,Turkey.*

Abstract

Since its establishment, the Baltic Dry Index has become one of the foremost indicators on the cost of shipping and an important barometer on the volume of worldwide trade and manufacturing activity.Global factors also play important role in supply and demand of BDI index. BDI and global markets have common economical and financial movement due to market supply and demand which is as a result of turmoil's and crisis. After economic recessions and during economic growth, demand of raw materials increase as production and investments are also increase, as a result transportation volume grows accordingly. On the other hand, during economic slowdowns, demand of raw material decreases which creates utilized capacity. In this paper, MSIAH(3)-VAR(4) model is selected to analyze the relationship between BDI and economic growth for the United States. BDI and GDP are cointegrated for the United States. The crisis regime tends to last 3.13 years on the average, while the Regime 2 is comparatively more persistent with 3.11 years. Finally, Regime 3 which corresponds to the high growth tends to last 2.55 years on the average. Crisis regime of economy is the most persistent regime in the US. Thus, BDI can be used for an indicator of a crisis in GDP growth for the United States.

Keywords: BDI, Markov Switching VAR, Markov Switching Granger Causality ,Economic Growth

1. Introduction

The Baltic Exchange has a long history going back to 1744. In 1985, the Baltic Exchange developed the Baltic Dry Index (BDI) as a general indicator, consisting mainly of raw commodities such as grain, coal, iron ore, copper and other primary materials. Since its establishment, the BDI has become one of the foremost indicators on the cost of shipping and an important barometer on the volume of worldwide trade and manufacturing activity (Faqin Lina Nicholas C.S. Sim, 2013; 59:1-18.)

Investors are always looking for practical economic indicators that they can use to help them make informed investing decisions. Recently, Baltic Dry Index can be sources of economic indicator on a global scale. In addition to that the BDI depends on volatile of crude oil prices and port and docking fees which makes BDI to be sensitive for global demand and manufactured goods (Economic SYNOPSES, Federal reserve banks of St. Louis). Oomen (2012) mentioned that Baltic Dry Index (BDI) which is a source of measurement to determine cost of raw materials around

[rr] Corresponding author. Tel. + 90-212-383-2527 fax. +90-212-259-4202

E-mail address: bildiri@yildiz.edu.tr

ss PhD. Candidate, Yıldız Technical University, Department of Economics.

E-mail address: isilsahin81@gmail.com

the world such as iron, coal, cement, grain. Average of price of 23 different shipping routes around the world compiles daily to form the Baltic Dry Index. Economic indicators such as unemployment rate, inflation and oil prices that can be manipulated or influenced by governments and speculators, however, Baltic Dry Index is difficult to manipulate because it is driven by clear forces of supply and demand. One of the reasons for BDI to be difficult to manipulate and influence is number of ships around the world is limited with up to a certain extend therefore in order to manipulate and increase the supply, more ships need to be built which will be very costly.

After economic recessions and during economic growth, demand of raw materials increase as production and investments are also increase, as a result transportation volume grows accordingly. On the other hand, during economic slowdowns, demand of raw material decreases which creates utilized capacity. Global factors also play important role in supply and demand of BDI index. BDI and global markets have common economical and financial movement due to market supply and demand which is as a result of turmoil's and crisis. Iron ore, coal, phosphate, grain and alumina are main goods of dry bulk transportation. These goods are mostly dynamics of construction and energy sector. Moreover, freight rate is determined by raw material demand as transportation need continues to remain the same.

In this sense, our work is related to, among others, Korajczyk and Viallet (1989), Cutler, Poterba, and Summers (1991), Harvey (1991, 1995), Bekaert and Hodrick (1992), Campbell and Hamao (1992), Ferson and Harvey (1993), Heston and Rowenhorst (1994), Bekaert and Harvey (1995), Dumas and Solnik (1995), De Santis and Gerard (1997), Fama and French (1998), Griffin and Karolyi (1998), Rowenhorst (1998), Bossaerts and Hillion (1999), Jorion and Goetzmann (1999), Rangvid (2006), Guidolin and Timmermann (2008), Bekaert, Hodrick, and Zhang (2009), Pakthuanthong and Roll (2009), Rapach, Strauss, and Zhou (2009), Hjalmarsson (2010), and Henkel, Martin, and Nardari (2010).

The volatility of the bulk shipping market has gained wide attention, and much research regarding this volatility has been undertaken. In the past decades, econometric and statistical methods, such as VAR, GARCH and VECM models, have been widely used in shipping market analysis and forecasting. For example, Kavussanos and Alizadeh-M (2001) analysed seasonal volatility considering ship type, lease term, market environment, etc. Veenstra and Franses (1997) found that cointegration relations exist between several freight rate time series. Duru and Yoshida (2011) studied the lag and price elasticity of the bulk shipping market through the long-term freight index. The results indicate that the log-linear model is not a good method for bulk shipping market forecasting because of the spurious regression. Byoung-wook (2011) decomposed the bulk shipping market freight time series into a long-term trend component and a temporary particular component with a random model.

Bashi (2011) investigated the importance of the BDI growth rate as a predictor that stems from two findings. First, the BDI growth rate exhibits a positive and statistically significant relation to subsequent global stock returns, commodity returns, and industrial production growth. Second, the predictability is corroborated in statistical terms, in-sample and out-of-sample, as well as through metrics of economic significance, and in the presence of some alternative predictors. Movements in the BDI growth rate, thus, capture variation across the real and financial sectors, and the association appears stable across a multitude of economies. (Bashi et.all:2011).

Studies that focus on BDI have mostly used VAR-VECM models. However, MS-VAR model have been used in this study ecause of the nonlinear structure of the economic time series, especially GDP which has been used as the measure of economic performance fluctuates as the business cycles. In these models in perspectives of business cycles, the parameters are assumed to be constant over the sample period which means the relationship between GDP and BDI is stable. But the world has experienced many significant crises during the past decades. For this reason, the

relationship between BDI and economic growth must be analysed in perspectives of the business cycles because countries and the world experienced many significant crisis. If in time series analysis, phase of the business cycle must be taken into account, the estimated parameters would be incorrect and misleading. One way to overcome these problems is to divide the sample into sub-samples, based on the structural breaks; however, in most cases the exact date of these changes are not known and the researcher must determine it endogenously based on the data. But there is no guarantee that the relationship between GDP and BDI in the same date as the break dates of the variables itself (Falahi:2011;4165-4170; Bildirici:2012;179-205).

In this paper, MS-VAR model is selected to analyze the relationship between BDI and economic growth for the United States. Although this study can be defined as complementary to the previous empirical papers, it differs from the existing literature for some aspects. Firstly, as being distinguished from the previous works, it employs Markov Switching VAR method. Secondly, it is used Markov Switching Granger Causality analysis. MS-Granger causality approach allow analysis of the Granger Causality in different regimes of a business cycle.

2. Data

In this study, the relationship between BDI(BDI=ln(bdit/bdit-1) and economic growth (Y=ln(GDPt/GDPt-1) is investigated by MS-VAR method. Quarterly data covers the period of 1986(1)–2014(1) for the United States. The data are taken from Bloomberg. BDI is the value of the index and GDP is in terms of current U.S. dollars.

3. Methodology

3.1. MS-VAR Method

Hamilton (1989) proposed a simple nonlinear framework for modeling economic time series with a permanent component and a cyclical component as an alternative to a stationary linear autoregressive model. Clements and Krolzig (2002) and Holmes and Wang (2003), Cologni and Manera(2006) and Bildirici, Alp and Bakırtaş (2011) used to MS-AR and MS-VAR model to test impact on GDP of oil shock. Falahi (2011) and Bildirici (2012 a, b) used MS-VAR model for analysis of the relationship between energy consumption and economic growth.

MSI(.)-VAR(.) model is $$y_t = \mu(s_t) + \sum_{k=0}^{q} A_i(s_t) y_{t-1} + u_t, \qquad (1)$$

$u_t / s_t \sim NID(0, \sum(s_t))$. and $A_i(.)$ shows the coefficients of the lagged values of the variable in different regimes, and $\sum$ shows the variance of the residuals in each regime.

$\mu(s_t)$ define the dependence of the mean μ of the K – dimensional time series vector on the regime vairable s_t.

In an MS-VAR model, st is governed by a Markov chain and $$P_r\left[s_t \left| \{s_{t-1}\}_{i=1}^{\infty}, \{y_{t-1}\}_{i=1}^{\infty} \right. \right] = P_r\left\{ s_t \left| s_{t-1}; \rho \right. \right\}, \qquad (2)$$

where *p* includes the probability parameters. That is, the state in period t would depend only on the state in period t-1. On the other hand, the conditional probability distribution of y_t is independent of s_{t-1}, that is,

$$P(y_t \mid Y_{t-1}, s_{t-1}) = P_r(y_t \mid Y_{t-1}). \quad (3)$$

It is assumed that *s* follows an irreducible ergodic M state Markov process with the transition matrix defined as,

$$\mathbf{P} = \begin{bmatrix} p_{11} & p_{12} & \mathrm{L} & p_{1M} \\ p_{21} & p_{22} & \mathrm{L} & p_{2M} \\ \mathrm{M} & \mathrm{M} & \mathrm{L} & \mathrm{M} \\ p_{M1} & p_{MM} & \mathrm{L} & p_{MM} \end{bmatrix} \quad (4)$$

The Markov chain is ergodic and irreducible; a two-state Markov chain with transition probabilities pij has unconditional distribution given by:

$$\Pr(s_t=1)=(1-p_{22})/\Pr(s_{t-1}=2)\ ,\ \Pr(s_t=2)=(1-p_{11})/\Pr(s_{t-1}=1) \quad (5)$$

Pr(st=1)=(1-p) To estimate the MS models, there are available different ways as the maximum likelihood estimate(MLE) and the expectation maximization (EM) suggested by Hamilton. The EM algorithm has been designed to estimate the parameters of a model where the observed time series depends on an unobserved or a hidden stochastic variable.

To make inference, it was used iterative method for t= 1,2,..T, while taking the previous value of this probability $\xi_{it-1} = P_r\left[s_{t-1} = i \mid \Omega_{t-1}; \theta\right]$ as input.

3.2. Markov Switching Granger Causality

Warne (2000), Psaradakis et al. (2005) proposed a different approach to causality based on the Granger causality. Falahi (2011) utilized Short-run or weak Granger causalities for MSIA(.)-VAR(.) model by following the Granger causality in the concept of Markov Switching.

Based on the coefficients of the lagged values of Yt and BDIt in the equations it is determined the existence of causalities between these two variables. In the equation vector where the dependent variable is BDIt, if any of the coefficients of lagged variables of Yt are statistically different from zero, the obtained test process will result in the acceptance of the causality. In any of the regimes, based on the coefficients of the lagged values of Yt and BDIt in the equation for BDIt and Yt, we could determine the existence of nonlinear causality between these two variables. In the equation for BDIt, if any of the coefficients of Yt be significantly different from zero in any of the regimes,

$$Y_t = \alpha_1 + \sum_{i=1}^{m} \beta_i Y_{t-i} + \sum_{i=1}^{n} \phi_i BDI_{t-i} + \varepsilon_t \quad (6)$$

$$BDI_t = \alpha_2 + \sum_{i=1}^{m} \gamma_i BDI_{t-i} + \sum_{i=1}^{n} \lambda_i Y_{t-i} + e_t \quad (7)$$

It is concluded that LYt (LBDIt) is a Granger cause of LECt (LYt) in that regime. Granger causalities are detected by testing $H_0 : \phi_{12}^{(k)} = 0$ and $H_0 : \phi_{21}^{(k)} = 0$. The methodology requires the estimation of either an MSIA(.)-VAR(.) or a MSIAH(.)-VAR (.) model.

4 . Empirical Results

The integration order of the Y and BDI was determined by using the the test of Ng and Perron (2001). The results of unit root tests were given in Table 1. The results indicate that the Y and LBDI appear to be stationary. After unit root test, Johansen procedure was used to determine the possible existence of cointegration between BDI and Y. Johansen Cointegration result in Table 1 determined that the null hypothesis of no cointegration was rejected. If the variables are cointegrated, they can be used for test of MS- Granger Causality.

Table 1: Unit Root Test Results

	MZa	MZt	MSB	MPT
Y	-30.200	-3.718	0.123	1.328
BDI	-48.907	-4.929	0.101	0.541
1%*	-13.800	-2.580	0.174	1.780
5%*	-8.100	-1.980	0.233	3.170
10%*	-5.700	-1.620	0.275	4.450
Johansen Cointegration Test Rresult				
	r=0 0.097 r≤1 0.002		r=0 11.146 r≤1 0.183	

*Asymptotic critical Values

MSIAH(3)- VAR(4) model was selected based on the Akaike Information Criteria (AIC) and LR test. In selected models, in order to determine the number of regimes, first of all, a linear VAR is tested against a MSVAR with 2 regimes, and the H_0 hypothesis, which hypothesizes linearity, was rejected by using the LR test statistics. Since it was observed that two regime models overruling the linear model are insufficient in explaining the relationships between the mentioned variables, and models with 3 regime are considered. Therefore, secondly a MSVAR model with 2 regimes is tested against a MSVAR model with 3 regimes; H_0 hypothesis, which specifies that there are 2 regimes, was rejected and MSVAR with 3 regimes was accepted as the optimal model because of the LR statistic was greater than the 5% critical value of χ^2.

The transition probability matrix is ergodic and cannot be irreducible. Ergodic transition probability matrix confirms stationarity of the regime. As the details can be found at Hamilton (1994) and Gallager (1996), ergodic transition probabilities matrix is always covariance-stationary.

The MSIAH(3)-VAR(4) model was estimated for the United States and the results were given in Table 2. Regime 1 is recession or crisis regime. The moderate growth regime is regime 2 and high growth regime is regime 3. The model tracks fairly well the crisis of 1990-1991, 2001, 2008 and recent slow down. In the estimated MS-VAR model, the total time length of expansion period (Regime 2 and Regime 3) is longer than the total time length for recession (Regime 1) as expected. The results are signified the presence of significant level of asymmetries for the business cycles experienced by the United States.

The first regime tends to last 3.13 years on the average, while the Regime 2 is comparatively more persistent with 3.11 years. Finally, Regime 3 which corresponds to the high growth tends to last 2.55 years on the average. Crisis regime of economy is the most persistent regime in the US. As the calculated regime probabilities are Prob(st=1|st−1=1)=0.681, Prob(st=2|st−1=2)=0.679 and Prob(st=3|st−1=3)= 0.607, the persistence of each regime is significantly high. By moving from the conditions described above, the presence of important asymmetry in the business cycle in US is accepted. The computed probability (i.e. Prob(st = 3|st−1=1) = 0.107) reflects the chance that a recession is followed by a period of high growth and the computed probability (i.e. Prob(st = 2|st−1 = 1) = 0.211) reflects the possibility of entering the crisis regime from moderate regime of economy is higher than the possibility of entering the crisis regime of high growth phase.

Table 2: MSIAH(3)-VAR(4) Model Eestimates for USA

Estimation sample: 1965 – 2010								
Regime 1			***Regime 2***			***Regime 3***		
Variables:	***BDI_t***	***Y_t***	***Variables:***	***BDI_t***	***Y_t***	***Variables:***	***BDI_t***	***Y_t***
Regime –specific Intercept								
Constant	-14.52	0.19	*Constant*	-31.4	0.92	*Constant*	47.82	0.27
Regime –specific autoregressive coefficients								
Y_{t-1}	-16.37	0.42	Y_{t-1}	3.11	0.02	Y_{t-1}	-5.49	0.21
Y_{t-2}	9.89	-0.21	Y_{t-2}	23.67	0.03	Y_{t-2}	1.61	0.51
Y_{t-3}	28.73	-0.02	Y_{t-3}	-6.40	0.04	Y_{t-3}	-28.45	-0.27
Y_{t-4}	-6.52	0.63	Y_{t-4}	10.85	0.01	Y_{t-4}	-13.20	0.26
BDI_{t-1}	0.26	0.01	BDI_{t-1}	0.12	-0.01	BDI_{t-1}	-0.12	0.06
BDI_{t-2}	-0.22	-0.01	BDI_{t-2}	0.30	-0.001	BDI_{t-2}	-0.47	0.01
BDI_{t-3}	0.29	0.01	BDI_{t-3}	0.44	-0.001	BDI_{t-3}	-0.35	0.02
BDI_{t-4}	-0.79	-0.01	BDI_{t-4}	-0.05	0.001	BDI_{t-4}	0.53	0.01
Regime- specific standart error								
SE	0.116	0.004		0.105	0.003		0.143	0.004
Regime properties: Duration and Probablities of regimes				Transition probabilities				
	Prob.	***Duration***		***Transition p.***	***Regime 1***	***Regime 2***	***Regime 3***	
Regime 1	0.240	3.13		***Regime 1***	0.681	0.212	0.107	
Regime 2	0.415	3.11		***Regime 2***	0.057	0.679	0265	
Regime 3	0.345	2.55		***Regime 3***	0.154	0.239	0.607	
log-likelihood : 468.73 linear system : 400.24 ; AIC criterion : -7.40 linear system : -7.02 LR linearity test: 136.97 Chi(42) =[0.0000] ** Chi(48)=[0.0000] ** DAVIES=[0.0000] **								

4 . Conclusion

In the MSIAH(3)-VAR(4) model, the dependent variable in the first equation is the innovation of GDP. The estimated coefficients of BDI in equation 6 are statistically significant at the conventional level but not substantial in all regimes and parameter estimates in Regime 3 are positive which means that when the economy in a high growth regime, BDI improvements effects economic growth positively. The dependent variable of the second equation is BDI, the estimated coefficients of Y in equation 7 are both statistically significant at the conventional level and substantial in all regimes but parameter estimates in threee different regimes varies.

The MSIAH(3)-VAR(4) model was estimated for the United States and the results were given in Table 2. Regime 1 is recession or crisis regime. The moderate growth regime is regime 2 and high growth regime is regime 3. The model tracks fairly well the crisis of 1990-1991, 2001, 2008 and recent slow down. In the estimated MS-VAR model, the total time length of expansion period (Regime 2 and Regime 3) is longer than the total time length for recession (Regime 1) as expected. The results are signified the presence of significant level of asymmetries for the business cycles experienced by the United States.

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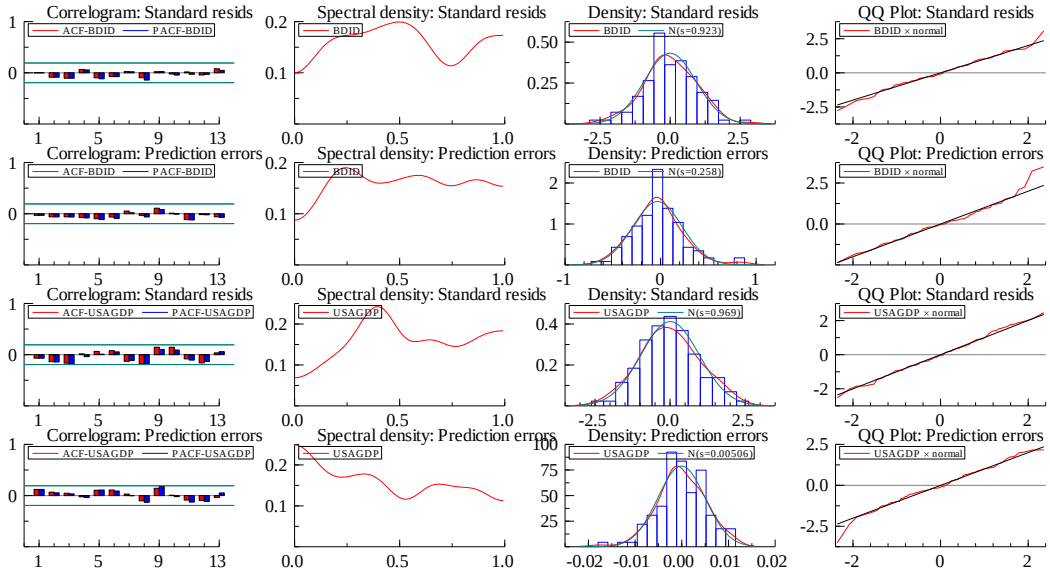
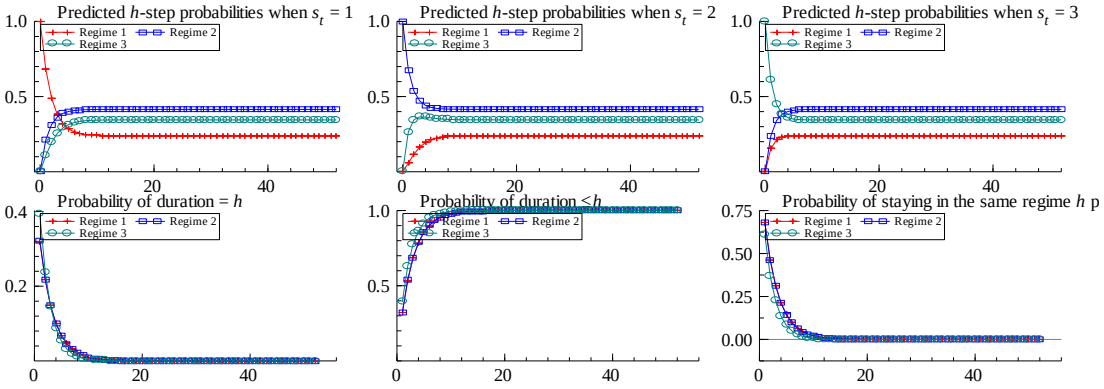
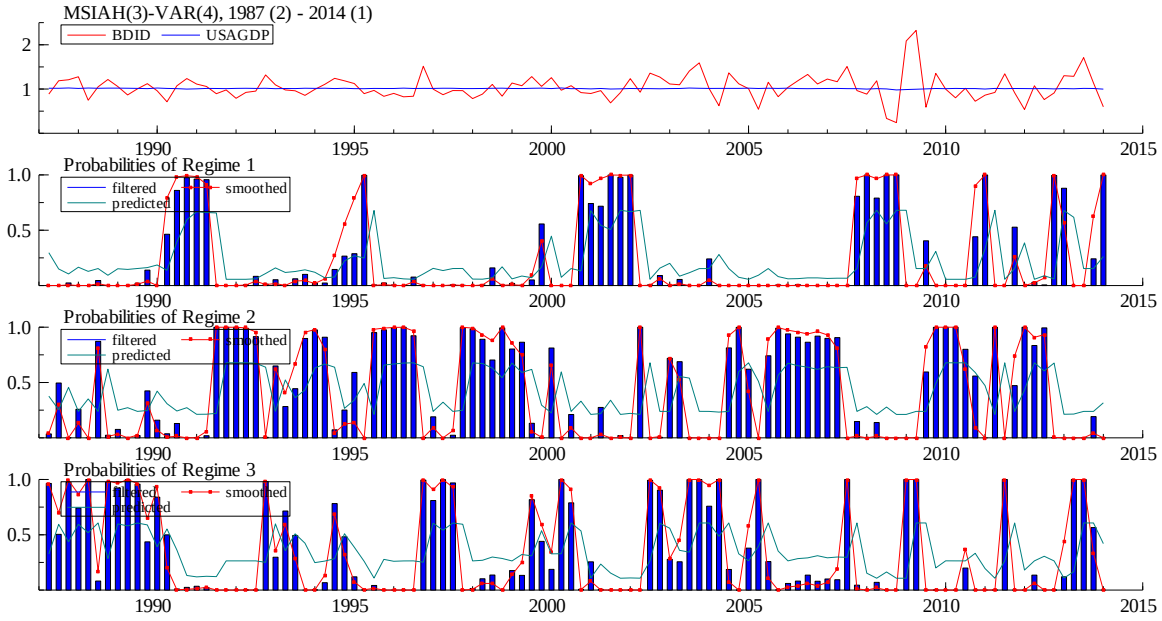
The Figure of Dynamics of MSIAH (3) – VAR(4) Model



The Figure of Predicted h-step probabilities of stability



The Figure of Probabilities of regimes for BDI and Y



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The dilemma of Mr. Sami: Case Study

Selva Staub[a], Selami Kardes[b]

[a,b] Halic University, Istanbul, Turkey

Abstract

In this case, an operational management analysis is made that adheres to the ethics of administrator and social responsibility. Mr. Sami, who was working as a senior executive in the Global Construction Firm, was promoted due to this merit within the company. However, this promotion is actually a fundamental question to him. The promotion that he receives will bring him extra responsibility and burden, but this promotion will also lead the company to future success. He is in a bind and is afraid of the responsibility level of this position. If he does not accept the offer, it will be viewed as a shirking of administrative responsibilities. This case finds itself under the title of ethics of morality and social responsibilities when it is discussed according to the literature. The probable results of the case points to social reasonability, but also it indicates the evasion of duty when rejecting a promotion. These are two significant threads in this case study.

Keywords: Work Ethic, Corporate Ethics, Morality

Introduction

Mr. Sami is an assistant general manager in one of Turkey's most well-known construction firms, Global Construction Incorporated. Mr. Sami has been working for this firm since Fall 2005. He has been an important addition to the company. For this reason, the founding partners have considered awarding him a small share in the firm. However, Mr. Sami declined the offer due to his reluctance to assume this financial responsibility. His reluctance to accept the offer was driven by concerns about professional development and moreover, personal family issues. A week later, the board of directors were surprised to hear of Mr. Sami's decision. They were taken aback by Mr. Sami's rejection of such an attractive offer. Once they learned of Mr. Sami's rationale, they were more tolerant to him. They evaluated this attitude as a sign of his responsibility and principles. Due to the board of director's reaffirmation of Mr. Sami, a productive meeting resulted and Mr. Sami was able to return home with a feeling of satisfaction.

It was 22:00 p.m. when he arrived home that day. As always, his wife didn't prepare dinner nor was she waiting at the table for him. He didn't have the same fortune in his marriage that had elevated him to his position in his professional life. His wife was not at home. He wished she could support him during these tough days that he had to make such a decision. This would help him to resist more. Mr. Sami was sometimes questioning himself at not being a good visionary. He had his dinner in silence and watched the news on TV. Again, there was news of a depressing economy, increasing currency value, and violence on TV. He went to his bed unaware of what tomorrow would bring to him.

When he went to work, there was a big surprise waiting for him. The board of directors decided to make him one of their members due to the incident they had experienced the other day. This was a big surprise for Mr. Sami. As a matter of fact, he did not want this promotion, but he was confused then. This promotion made him responsible for new groups and more organizations that he would have to coordinate and regulate.

After a month, another incident occurred. When the board of directors gave this position to Mr. Sami, he was promoted to the Director of Personnel. According to the information sent from the holding company, 20 employees would be released and these people would be selected from all levels of the organization. In brief, this meant that they

would fire 4 employees from support services, technical personnel, administrative staff and specialists and managerial staff. Despite this heavy burden, he identified the mid-level employees that were substantially chosen as the administrators. Moreover, the administrators would be selected according to their characteristics. The desirable administrators would have qualities such as ambition, open mindedness, and extraversion. These administrators required vision and were expected to turn the environmental context to their own advantage. The discharge of mid-level employees was handled quickly.

Mr. Sami spent the whole weekend observing the discharge criteria. He realized that Mr. Tamer was one of those with the fewest required qualifications. Mr. Tamer was both his close friend and had been the Accounting Director of the company for years. Mr. Tamer has introverted and had a pensive personality and charging him with this duty was actually surprising. He was just the right candidate since he avoided management activities but he was also Mr. Sami's friend. This was such a difficult decision to make and there was no one helping him. After a dilemma-filled week, he had the meeting with board of directors. The long meeting ended with a surprise. Mr. Sami was fired even though he was highly appreciated by the committee. The reason was simple. The committee had given him a position in which he was unable to succeed due to his private and insufficient formational training and other factors. He also ignored the existence of the management structure. He believed that he had sole responsibility for management. However, the committee had a higher structure.

Mr. Sami experienced many negative circumstances that resulted in his being released by the top management. They fired him due to his increasing lack of professionalism. In this case study, it is observed if the professionalism and the manner of conduct of an administrative officer cease, a change in the management level can be expected. In order to prevent these incidents;

- There should be a professional development program for the administrative staff
- Administrative staff should be selected from the candidates who demonstrate administrative ethics.
- The organization and the decision-making mechanism should not solely be in the hand of the administrative officer. Some of the decisions should rest with the board in order to prevent any future failure and to diminish the burden of the administrative officer.

Literature Review

What is Work Ethics?

Work ethics is an applicable moral science and it analyzes all ethical problems in business life. In a business enterprise, ethical issues are divided into two groups: ethical dilemmas and ethics deviations. Even if legal arrangements facilitate the moral conduct in business enterprises, they are insufficient to solve the problems.

Work ethics is a special field of study, which morally points to what is correct or wrong. Work ethics concentrates on the application of the standards to operation policies and its institutions and its treatment. Working morally, performing according to promises, preference of environmentally friendly productive process, supply of employee rights, ceasing unlawful activities and providing justice are topics which are emphasized in work ethics. These fields of studies identify broadly, therefore, it is difficult to identify trust, respect and justice precisely.

According to work ethics, businessmen should have responsibility and they should think not only of their own benefits. A businessman should provide welfare and security both to himself and to his employees. If he has this awareness, then he substantially has a work ethic. Moreover, if he internalizes the work ethic, he can be called trustworthy, loyal, virtuous and hardworking.

Work ethics, which is also referred to as an application of ethical principles to the problems during the administration of a business is about individuals in an organizational position and a representative business operator. One of the reasons why work ethics has become widespread is the harm that has been given to nature. The pollution of lakes and rivers, the increase in acid rain results in the increase of public opinion and this also leads to public and government pressure on the business enterprises. Hence, business enterprises must act ethically.

Ethical Dilemma

In an ethical dilemma, a concept should be determined if it is ethical or not. For instance, the cigarette industry encourages cigarette consumption by advertising on TV and radio, which is an unsanitary act. Conversely, to ban such advertising will be a limitation on the companies' freedom and sales.

Ethical Deviation

The decision given in the ethical deviation is unethical. However, that issue has still been sustained. To exemplify, a sales executive in a auto company provides a larger distribution ratio for a best-selling car to a particular retailer after accepting a bribe, is an ethical deviation.

Moral Conduct of Administrators

The success of the business enterprise and the institution has close links between the administrator's attitudes and manners. Today, business enterprises are in competition. In order to be successful in this competition, the organization should not only have strong capital but also a powerful administrator to guide the organization.

The role of the administrator is to intend a resolution proposal under the circumstances of obscurity in the welfare of the organization and to monitor whether the objective is fulfilled or not. The responsibility of the administrator is to solve the problems on time as a satisfactory politician rather than following some crucial objectives in a rationale way. That is, to fulfil the expectations of the employees.

The administrators are the people who hold the most important position. It is the administrator's responsibility to represent the organization and lead by example. Consequently, an administrator should primarily be aware of the fact that he is a role model. Then he should act in accordance with work ethics.

Ethics have many managerial functions. Administrators are faced with many complex issues and by the help of ethics, an administrator gains a handbook on how to overcome these problems. Furthermore, morality identifies how the administrator handles the issues of rights, benefits and freedom.

The first requirement in administration is to put the experienced and competent administrator in charge. This is not only about administrational and institutional issues. This should also be stated in a municipal administration as well. If the person in charge is not competent or experienced enough, then lawful decisions cannot be made or there will not be sufficient production and malfunctioning will start within the administration of the firm or even the municipality. Thus, the responsible ones will lose the control of the board of directors and ethical deviations will ensue.

According to research by Posner and Schmidt, there are number of work ethics that administrators need to pay attention to:

- Providing an organizational activity is the primary responsibility of the administration;
- It is not a primary objective to put the company's owners or stakeholders' decisions above all other decisions;
- Paying attention to customer opinions is highly crucial;
- Sincerity and honesty are ethical values that every administrator should have in every level of the organization;
- The employees should be motivated or should the occasion arise, they should be forced to obey to standards that are formed by the company or the institution.

Characteristics of Ethical Decisions according to administrators

Administrators usually have a dilemma when they deal with ethical administrative decisions. Administrators have to know some of the ethical decisions in order not to have a dilemma. Hosmer (1991) indicates the characteristic ways of ethical decisions:

- When an ethical decision is given, it should include not only a single level but also all levels of the organization or the society. That is to say, ethical decisions include pervasive results.
- The responses towards ethical decisions are not concrete. There can be different kinds of responses towards the results of ethical decisions. For instance when a nuclear power station is established, it will pollute the environment but it will also supply energy. Hence, responses to acceptance of setting a nuclear power station will increase.
- When an administrator makes an ethical decision, he should be aware of its social, economic, political and environmental effects. If a decision is given in terms of economy, it may have ethical and political results.
- An administrator should take the risk of his decision since its result is uncertain.
- Many ethical decisions have subjectivity. That is to say that the decision maker's tendency is also crucial.
- Consequently, when an administrator makes a decision, he should pay attention to the accounts given above.

Thesis of the Case

In terms of ethical dilemma

The main character of the case, Mr. Sami will have more responsibility. He is unwilling to take this responsibility. However, this promotion will carry the company to success. He has the dilemma of accepting the promotion and taking that much responsibility. On the other hand, his and the company's success are concerned.

In terms of administrators' ethical course of action

Providing an organizational activity is the primary responsibility of the administration. However, Mr. Sami cannot provide an organizational activity due to long term effects of his decision-making. Moreover, employees should be motivated to obey standards that are formed by the company or the institution. In this exemplification, not warning Mr. Tamer to work more effectively is a significant issue.

Conclusion

This case refers to many incidents that relate to the release of Mr. Sami, who could not act as professionally as expected. In this case, if the professionalism and the manner of conduct of an administrative officer cease, a change in the management level is observed. In order to prevent these incidents:

- There should be a professional development programme for the administrative staff;
- Administrative staff should be selected out of the candidates who demonstrate; administrative ethics.
- The organisation and the decision-making mechanism should not solely be in the hands of an administrative officer.

Some decisions should be taken by the board or a committee in order to prevent any future failure, and to diminish the ethical burden of the administrative officer.

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The effect of joint ventures on airline competition: the case of American airlines, British airways and Iberia joint business

Temel Caner Ustaömer[a] , Vildan Durmaz[b] , Zheng Lei[c]

[a] *Istanbul Medeniyet University, Istanbul, 34700, Turkey*
[c]*Anadolu University,Eskisehir,26555, Turkey*
[c]*Cranfield University,MK43, UK*

Abstract

Regulatory obstacles have led international airlines to make extensive cooperation in the provision of service. The global airline alliances that link U.S. airlines to members in other states is the most visible form of cooperation. Moreover, when the alliance members obtain antitrust immunity, they can determine fares for interline trips that were not possible under traditional pricing arrangements. This research attempts to explain the effect of BA, AA and IB joint venture on transatlantic competition.

Paired samples t-test results indicate that there is no significant difference in AA's economy airfare after the introduction of joint venture. Similarly, there is no significant difference in AA's business airfare. As for BA, the picture is vice versa in terms of economy airfare. There is a significant difference in BA's economy airfare. On the other hand, there is no significant difference in BA's business airfare.

Keywords: Joint ventures,Airline competition, Airline joint venture drivers

Introduction

Globalization in most industry sectors, the fall of the eastern block, the improvement of living standards of the most part of the world population and the limitation of widespread war have all made air travel more affordable and accessible to the average person. People have been using airplanes to meet their different needs such as business, visit to friends and relatives or tourism. Therefore, the air transport service has turned from a luxury service to service directly related to the current way of life. The high demand has led to the quest for cheaper fares as well as to an ever-spreading network. The answer to this demand came from the evolving international economic conditions which have led to a full deregulation of the air transport industry, in certain areas of the world (Iatrou, 2004).

As international airline traffic has increased in recent decades, international airlines have made extensive cooperation in the provision of service. This cooperation aims to get over regulatory obstacles that hinder any one airline from extensively enlarging its international route network. The international airline alliances that connect U.S. airlines to members in other states is the most visible form of cooperation. These alliances provide the international passenger with a seamless travel experience by eliminating some of the troubles of a traditional multicarrier trip. Gate proximity at hub airports along with schedule coordination by the alliance members facilitates passenger connections between the airlines. Moreover, when the alliance members obtain antitrust immunity, they can cooperate on pricing.

Thanks to immunity, the members can team up to determine fares for interline trips that was unlikely under traditional pricing arrangements (Brueckner, 2003).

This research is focusing on quantifying the impact of cooperation on international airfares. For this purpose, the effect of British Airways (BA), American Airlines (AA) and Iberia (IB) joint venture on transatlantic airfares will be examined to determine whether there is a significant change in transatlantic airfares after joint venture was formed.

Literature Review

2.1. Theories behind Formation of Joint Ventures

A transaction cost explanation for joint ventures deal with the question of how a company needs to form its boundary activities with other firms. Williamson (1985) argues that companies decide how to transact according to the criterion of minimizing the sum of transaction and production costs. Other explanation for the use of joint ventures is strategic behaviour theory. Strategic behaviour presumes that companies transact by the aim which maximizes profits through enhancing a firm's competitive position against competitors (Kawagoe, 2008). The main motivation behind joint venture formation is the strategic behaviour to prevent entry of rivals. Vickers (1985) examines joint ventures in research as a method to block entry through pre-emptive patenting.

2.2. Motivations Leading to Airline Joint Venture Formation

2.2.1. Overcoming Regulatory Constraints

All commercial aspects of international air transport have been governed by bilateral air service agreements since the 1944 Chicago Convention. Each international carrier deals with a complex web of bilateral agreements signed by its home country. The existence of the bilateral agreements has substantially limited the freedom of individual scheduled carriers, and has constrained competition in the international air transport industry. Facing these restrictions, entering into joint ventures is the major means for international airlines to obtain access to new markets, and to offer new services (Wang, 2002).

Since the increasing privatization of airlines in Europe and the deregulation of the US airline market, the desire to expand route networks internationally has increased competition between carriers. However, existing regulatory policies that limit the takeover and use of foreign resources pose challenges to international air travel.
Although there are examples of firms holding equity stakes in international airlines, most governments do not allow complete foreign ownership of domestic carriers and airport facilities. Therefore, alliances become an essential recourse for carriers to expand internationally. The industry has seen the formation of several alliances between airlines, especially during the 1990s. Estimates show that more than 80 per cent of global airlines conducted some form of alliance in 2000 (Lazzarini, 2007).

2.2.2. Customer Benefits

Airline strategic alliances can benefit passengers in two ways: (1) through scale effects; and (2) through link effects. Scale effects are related to the size of the network, particularly geographical scope, containing proportion of direct flights and access to new services in the post alliance period. On the other hand, link effects are related to service connectivity, such as the ease for passengers in making connections where multiple members are involved (Wang, 2007).

AA, BA and Iberia joint business enhanced service in non-hub markets. Open skies agreement enables AA and BA to operate four flights a day between New York City and Paris. Similarly, direct flights are available from Boston, Miami, Chicago and Dallas. Great connections available via London Heathrow and Madrid enable joint business to serve a larger network. In terms of network depth, the joint venture offers more convenient timings for flights to its passengers. As an example, in 2010, there was no schedule coordination between London and New York. Therefore, American Airlines and British Airways were departing at similar times. This created 3 hour gap in the schedule. However, the joint venture enabled carriers to expand their flights more equally across the schedule (Grunow, 2012).

2.2.3. Cost Reduction

Alliances enable partners to increase efficiency, reducing expenses by cutting back on fixed costs and wedding out redundant operations. By coordinating aircraft and schedules, members can reduce their fleet requirements or take more advantage of the capacity available, as operating a larger aircraft is more suitable for matching the aircraft size with the demand of a particular route. Shared use of ground handling arrangements and airport facilities and staff , joint procurement of fuel and amenities, cooperative advertising and promotional campaigns, mutual handling of baggage transfers and passenger check-in, and combined development of computer systems and software are some of the ways alliances help foster economies of scale. For instance, oneworld Alliance has 12 members with access to 664 airports in 134 countries and carries annually over 318.5 million passengers. It also employs 275,991 staff members at various offices and airports on its behalf. This range of facilities enables partners to combine usage of airport facilities, including airport terminals, check-in counters, and lounges that provide one-stop check-in, which reduce duplicated activities among partners, hence, decrease cost. Moreover, due to global presence and coordination of activities, oneworld membership enabled members to boost sales by 20% to gain $900 million in 2006. More so, oneworld also benefited from cost reductions of about $250 million in 2006 through joint purchasing (Amoah, 2011).

2.2.4. Reducing Level of the Competition

Alliances have allowed carriers to increase their ability to exercise market power and reduce the level of competition. Carriers which previously competed on a route can agree to cooperate and thus obtain competitive advantages over their incumbent. Traffic feed boosts each carrier's dominance at its respective hub, creating network effects that increase entry barriers (Iatrou, 2007).

2.2.5. Efficiency Gains form Density Economics

Another key reason for airline cooperation is the importance of economies from the density of passenger flows. Although economies of scale in operations seem to be relatively limited, there are very clear economies to be obtained from generating denser flows of passengers, which boosts seat utilization and enables the use of larger and lower unit cost aircraft (Pearce, 2011).

3. Research Methodology

3.1. Research Goal

We aim to analyse the effect of transatlantic joint venture on AA, BA and IB airfare. Paired samples t-test is utilized to measure whether there is a significant change in joint venture partners' airfare.

3.2. Sample and Data Collection

For analysis, secondary data were collected through Marketing Information Data Transfer (MIDT). Original airfare data were obtained for fifteen parallel joint venture routes between January of 2008 and December of 2012. Appendix A illustrates these parallel joint venture routes.

3.3. Analyses and Results

Statistical analysis focuses on paired samples t-test. Lind (2010) states that paired samples t-test is used for hypothesis testing to two samples. Random samples from two different populations are selected to determine whether the population means are equal. Paired samples t-test was applied to BA's and AA's economy airfare and business airfare. For comparison reason, January of 2008 and January of 2012 were selected. These two dates represent the time period which covers two years before and two years after the joint venture formation. The month January was preferred because it does not reflect extremes in airfare on holiday seasons. Paired samples t-test could not be applied to Iberia because its observation number was too small for this kind of analyses.

3.3.1. AA's Economy Airfare

There are two related populations, a population consisting of AA's January of 2008 average economy airfare and a population consisting of AA's January of 2012 average economy airfare. Firstly, H0 and H1 need to be identified. The null hypothesis is: ''There is no difference in AA's 2008 economy airfare and AA's 2012 economy airfare.'' The alternate hypothesis is that the two airfares are not equal. The .05 significance level was chosen. According to p-value of .062, it is concluded that the null hypothesis cannot be rejected. That means there is no significant difference in AA's economy airfare during this period.

Table 1: AA's Economy Airfare Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair AA 1 Economy Class Fare in Jan 2008 - AA Economy Class Fare in Jan 2012	225,961	261,313	98,767	15,713	467,635	2,288	6	,062

3.3.2. AA's Business Airfare

There are two related populations, a population consisting of AA's January of 2008 average business airfare and a population consisting of AA's January of 2012 average business airfare. Firstly, H0 and H1 need to be identified. The null hypothesis is: ''There is no difference in AA's 2008 business airfare and AA's 2012 business airfare.'' The alternate hypothesis is that the two airfares are not equal. The .05 significance level was chosen. According to p-value of .000, it is concluded that the null hypothesis should be rejected. That means there is significant difference in AA's business airfare during this period.

AMR Corporation, American Airlines' parent company, filed for Chapter 11 bankruptcy protection in 2011. Chapter 11 refers to a section of the U.S Bankruptcy Code. It protects a firm from its creditors, giving time to reorganize its debts (BBC, 2014). Because of this, AA might have needed urgent cash. Therefore, it might have decreased its business airfare during this period.

Table 2: AA's Business Airfare Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	AA Business Class Fare in January 2008- AA Business Class Fare in Jan 2012	1825,186	329,445	124,519	1520,500	2129,872	14,658	6	,000

3.3.3. BA's Economy Airfare

There are two related populations, a population consisting of BA's January of 2008 average economy airfare and a population consisting of BA's January of 2012 average economy airfare. Firstly, H0 and H1 need to be identified. The null hypothesis is: ''There is no difference in BA's 2008 economy airfare and BA's 2012 economy airfare.'' The alternate hypothesis is that the two airfares are not equal. The .05 significance level was chosen. According to p-value of .026, it is concluded that the null hypothesis should be rejected. That means there is significant difference in BA's economy airfare during this period. This shows that BA was able to increase its economy airfare after the introduction of joint venture.

Table 3: BA's Economy Airfare Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	BA Economy Class Fare in Jan 2008- BA Economy Class Fare in Jan 2012	-66,692	73,671	24,557	123,321	-10,063	-2,716	8	,026

3.3.4.BA's Business Airfare

There are two related populations, a population consisting of BA's January of 2008 average business airfare and a population consisting of BA's January of 2012 average business airfare. Firstly, H0 and H1 need to be identified. The null hypothesis is: ''There is no difference in BA's 2008 business airfare and BA's 2012 business airfare.'' The alternate hypothesis is that the two airfares are not equal. The .05 significance level was chosen. According to p-value of .820, it is concluded that the null hypothesis cannot be rejected. That means there is no significant difference in BA's business airfare during this period.

Table 4: BA'S Business Airfare Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	BA Business Class Fare in Jan 2008- BA Business Class Fare in Jan 2012	26,765	342,213	114,071	236,283	289,814	,235	8	,820

4. Conclusion

The goal of this thesis is to quantify the impact of cooperation on international airfares. The effect of BA, AA and IB joint venture on transatlantic airfares were examined to determine whether there was a significant change in airfares after joint venture was formed.

Paired samples t-test results indicate that there is no significant difference in AA's economy airfare after the introduction of joint venture. On the other hand, there is significant difference in AA's business airfare. In terms of BA, there is a significant difference in BA's economy airfare. On the other hand, there is no significant difference in BA's business airfare.

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Appendix A: AA, BA and IB JV Routes

				JV Effective	
Origin	Destination	Operated By	American Airlines	British Airways	Iberia
JFK	London(LHR)	AA and BA	November 2010	November 2010	
Chicago(ORD)	LHR	AA and BA	November 2010	November 2010	
Miami(MIA)	LHR	AA and BA	November 2010	November 2010	
Dallas(DFW)	LHR	AA and BA	November 2010	November 2010	
Boston(BOS)	LHR	BA		November 2010	
LHR	Mexico(MEX)	BA		November 2010	
V ancouver(YVR)	LHR	BA		November 2010	
San Diago(SAN)	LHR	BA		April 2011	

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Dysfunctional Communities of Practice – Thread for Organization.

Ludmila Mládková[a]

[a,] *University of Economics Prague, W. Churchilla 4, Prague 3, 130 00, Czech Republic*

Abstract

The paper is dedicated to the problematic of dysfunctional behavior of communities of practice. Community of practice is a group of people who have some common interest (domain) and are able to share knowledge, experiences, tools and best practices to solve problems. Human relationships in a community are friendly and supportive. Organizations usually profit from communities of practices but these groups of people can also jeopardize organizational objectives when behave in dysfunction way. The paper provides the review of literature on communities of practice and dysfunctions they may suffer with. The importance of the problematic is demonstrated on a case on dysfunctional behavior of community in telecommunication organization in post communist European country.

Keywords: Knowledge, Community of practice, Classification of communities of practice, Dysfunctions of Communities of practice,

Introduction

Community of practice (community) is a group of people who have some common interest (domain) and are able to share knowledge, experiences, tools and best practices to solve problems. Human relationships in a community are friendly and supportive. Organizations usually profit from communities of practices in many directions; communities accelerate collaboration, increase innovation, increase speed and quality of decision making, improve organizational learning and performance, flexibility, enable better work with knowledge and an ability to envision the future. Community members benefit from the transfer of knowledge, collaboration, pleasant environment, place of stability, and the feeling of being part of something.

But role of community may also be negative to organizational objectives. This happens when community suffer with so called dysfunction. Typical dysfunctions of communities are knowledge monopolies, elitism, arrogance, jealousness or behavior that directly leads against the interest of organization.

The problematic of dysfunctional communities is very sensitive. The troubles such community causes may be accelerated when members of community are knowledge workers. Knowledge workers are clever educated people for whom knowledge is a basic tool and resource. Due to the tacit dimension of knowledge, knowledge as a whole is of intangible character and we cannot control how knowledge workers use it to create values. Community created by

knowledge workers may stay unrecognized for the organization. If dysfunctional behavior occurs, managers discover it late.

The paper discusses the problematic of dysfunctional communities. First the review of literature on chosen topic is done. The theory and dangers related to this topic are then demonstrated on the example of dysfunctional behavior of community from telecommunication organization in post communist European country.

In this paper we do not make difference between community of practice and community of interest or other types of communities. We understand and use the world community (community of practice) in its broadest sense.

Literature Review And Hypotheses

Knowledge Workers

Although all different types of employees can create and participate in community of practice, knowledge workers are major protagonists of case study in this paper. That is why the literature review starts with specification of term knowledge worker. Peter Drucker was the first who mentions knowledge workers and he argues: 'Today the centre is the knowledge worker, the man or woman who applies themselves to productive work ideas, concepts, and information rather than manual skill or brawn.' (Drucker, 1968). Knowledge workers often posses knowledge that is not widely available and even their managers do not have it. They are well educated or experienced, create their own work standards, and make decisions independently. Many of them make the final control of their product or service themselves (Mládková, 2011).

The literature on knowledge workers classifies knowledge workers to three groups (Brinkley, Fauth, Mahdon, Theodoropoulou, 2009); conceptual approaches, data (industry) driven approaches, and job content approaches. Conceptual approaches explain the term knowledge worker from the point of view of employees' importance for an organization, and his style of work with knowledge. Drucker (1954), Vinson (2009), Reboul (2006) support this approach. Data driven approaches see knowledge workers as all those who work in particular organizations or in particular sectors or institutions. Representatives of this approach are K. E. Sveiby (1997), M. Alvesson (1995). Job content approaches see knowledge workers as people who do a certain type of job. This approach can be identified in the works of A. Toffler (1990), R. Reich (1992), A. Kidd (1994), G. E. Nomikos (1989).

As J. Vinson (2009) summarizes it – knowledge worker is a person who uses his brain more than his hands in his job and whose ability to learn is critical to what he does, even if he works with his hands (Mládková, 2012, Mládková, 2014).

Despres and Hiltrop (1995) say that knowledge workers differ from other workers because they manipulate and orchestrate symbols and concepts, identify more strongly with their peers and professions than their organizations, have more rapid skill obsolescence and are more critical to the long-term success of the organization. Suff and Reilly (2005) add the following characteristics. Knowledge workers are:

- Highly mobile and quick to change jobs.
- Driven by accomplishment.
- Sensitive to peer-group assessment and praise.
- Responsive to being 'pulled' rather than being 'pushed'.
- Part of a network of peers, both inside and outside the organization.

Knowledge workers tend to get job satisfaction from

- Challenging work.
- Continuous training and coaching.
- Tangible results and organizational values.
- Organizational values or missions that mirror their own (Suff, Reilly, 2005).

Gummesson (2002) thinks that a significant proportion of knowledge workers' activities consist of problem solving and non-standardized production but routine handicraft is also necessary; production of interesting and novel ideas, approaches, solutions and recommendations; strong reliance on the individual and a high degree of independence and integrity; creativity, both individually and in the organized setting; and an ability to communicate the results to selected audiences.

Due to their specifics, dysfunctional behavior of knowledge workers may be difficult to identify and eliminate. Knowledge is a major working tool and asset of knowledge workers. Knowledge is, due to its tacit dimension, of intangible character. The intangibility of knowledge is responsible for the difficulties managers face when managing knowledge workers. First, the work of knowledge workers is hidden. The observer cannot see how a knowledge worker uses knowledge when working. For example, surgeons who operate on patients make their incisions using a tool they hold in their hands but the major part of their work is done in their heads where they analyze large numbers of variables in any moment of the operation and adjust their work to the development of these variables (Kelemen, 2010). Managers who cannot control what happens in the heads of their knowledge workers when they work have a limited chance to interfere in the process and intervene in the case of problems. Even worse, knowledge workers usually do not work in a linear way and it is very difficult to manage their productivity. Managing knowledge workers may also be tricky because the results of knowledge work may differ from a short-term and long-term perspective (Bell, 1973, Mládková, 2012). Dysfunctional behavior of the community of knowledge workers may be very clever, subtle and secretive. It may be very difficult to identify and eliminate it.

Community of Practice

In this paper we do not make difference between community of practice and community of interest or other types of communities. We understand and use the world community (community of practice) in its broadest sense. Communities of practice are groups of people who have some common interest (domain) and are able to share knowledge, experiences, tools and best practices to solve some problem. Human relationships in community are friendly and supportive. To be a community, the group of people must meet three requirements:

- A domain - whole group must share an interest in some topic.
- Friendly relationships (a community) - people organized in the group must like and trust each other. They have strong feeling of identity.
- Knowledge sharing - people organized in the group must be willing and able to share their knowledge.

The group that does not meet these three requirements is not a community of practice (Wenger, 1998a, 2014, Mládková, 2012).

Lave and Wenger (1991) define community of practice as an aggregate of people who come together around mutual engagement in an endeavor. Ways of doing things, ways of talking, beliefs, values, power relations, in short, practices, emerge in the course of this mutual endeavor. For Lave and Wenger (1991), the community of practice is one component of a social theory of learning, and Wenger (1998a) uses it to critique traditional models of learning (Holmes, Meyerhoff, 1999).

Huysman and Wenger et. al. (2003) define communities as social entities whose actors share common needs, interests, or practices: they constitute the basic unit of social experience. A community of practice, then, is a particular type of community in which practices are shared. Communities can exist to develop the expertise of their members, to take action (solve problems), and/or to satisfy member needs for group interaction.

Communities of practice are characteristic by voluntary participation. Community members participate due to the "value added", the excitement of building new ideas, and the satisfaction of relationships. Members must keep connected through face-to-face meetings, Web forums, e-mails, and list servers, teleconferences. Community of practice cannot be dominated; members of community define domain, rules, language, principles, and communication channels. Managers can only facilitate its activity and support it.

Communities may be created purposefully or emerge naturally from volunteers. Communities can be efficient only when there is a good connection and communication between people. People join communities to fulfill their emotional, intellectual and other needs.

Communities are not teams. The table below shows basic differences between community and team.

Table 1 Basic difference between community and team

	Community	Team
Purpose	Domain	Organizational objectives
Members	Volunteer participation	Assigned by management
Creation	Self-selection based	Assigned by management
Glue	Passion, commitment	Organization or project plan
Nature	Goals are self-generated	Organization interests, deadlines
Existence	As long as members want	Until the project is completed
Resources	Resources of community	Resources of organization

(Wenger, 2002)

Domain is a major purpose of community existence. It depends on priorities of community members and may change during community life cycle. On the contrary, team objectives are assigned by managers, only minority of teams can generate their objectives themselves. Tasks, time schedules, budgets and other resources of teams are more institutionalized, e.g. linked with organizational strategies and plans.

Community membership is voluntarily and cannot be ordered, community members decide themselves (often intuitively) who will and who will not take part in community activities. Team members are chosen by managers of the organization and it is very difficult for team to exclude an unwanted member. Communities are based on friendly relationships among people. Friendly relationship builds trust necessary for knowledge sharing. People do not share their knowledge, especially the tacit dimension with people who they do not trust. Friendly relationships positively influence team work but they are not basic prerequisite of team existence. Community members always share knowledge. Team members may or may not share knowledge. Community is not a team; properly working team may be a community (Wenger, 2002, Mládková, 2012).

Basic classification divides communities of practice to formal and informal. Informal communities emerge naturally. Their members meet because they solve some problem, have same interest or are friends. There are many such communities in any organizations. Informal communities can be found where people meet and informally communicate – in closed offices, by coffee machines, in kitchens. Managers usually do not know about them and do not use their potential. Formal communities are communities intentionally created by managers of the organizations or by community members. When creating formal community, managers determine community domain and members; they define community vision, rules of communication, and style of work. Then they supervise the creation of relationships, development of community and its work. Members of formal community are chosen by knowledge and position in the organization, their tasks and roles are clearly defined. Formal community has more structured agenda and functions than informal one and is managed by manager appointed by organization. As formal communities have their formal budgets, organizations measure their outputs. Successful creation and performance of formal community depends on many factors – choice of convenient members, style of support provided to the community, help of facilitator, character of both corporate and community objectives and visions.

Communities can work in physical and virtual spaces. Virtual communities require special attention because communication in virtual space lacks some aspects of body language necessary for tacit knowledge sharing.

Vestal (2003) classifies communities to following types:

- Helping communities - provide a forum for community members to help each other solve everyday work problems.
- Best practice communities develop and disseminate best practices.

- Knowledge stewarding communities organize, manage and steward a body of knowledge from which community members can draw.
- Innovation communities create breakthrough ideas, knowledge, and practices, almost all communities have innovation as an objective.

In organization, communities can be:

Table 2 Relationships to Official Organization

Relationship	Definition	Challenges typical of the relationship
Unrecognized	Invisible to the organization and sometimes even to members themselves	Lack of reflexivity, awareness of value and of limitation
Bootlegged	Only visible informally to a circle of people in the know	Getting resources, having an impact, keeping hidden
Legitimized	Officially sanctioned as a valuable entity	Scrutiny, over-management, new demands
Strategic	Widely recognized as central to the organization's success	Short-term pressures, blindness of success, smugness, elitism, exclusion
Transformative	Capable of redefining its environment and the direction of the organization	Relating to the rest of the organization, acceptance, managing boundaries

(Wenger, 1998b)

Dysfunctional Behavior of Community of Practice

Communities of practice, as every human institution, also have downside. They can hoard knowledge, limit innovation, and hold others hostage to their expertise and knowledge. Most community disorders are of two general types. The first is obvious; the community may simply not be functioning well. The other kind of disorder is more subtle; it reflects the human frailties of its members. The potential for this downsize is inherent in all communities - they are after all composed of people – even then when they are ostensibly functioning well. In fact, disorders may appear when some aspects of community are functioning too well. The very qualities that make the community an ideal structure for learning – a shared perspective on domain, trust, a communal identity, long standing relationships, an established practice are the same qualities that can hold it hostage to its history and its achievements (Wenger et al., 2002).

Dysfunctions caused by the fact that the community is not functioning well are not a topic of this paper; we will explore in more detail the other type of dysfunction when the community functions well but acts against objectives of the company it belongs to. Such communities can be very harmful, especially when created by knowledge workers.

Typical dysfunctions of community of practice are based in its three basic factors, the domain, friendly relationships (the community) and knowledge sharing. The domain raises the temptation of ownership. Sometimes, the enthusiasm for domain leads to zealousness. Or the legitimacy of the community's hold on its domain is so widely recognized and well entrenched that arrogance sets in. Community may also think that their domain is more important than others; we call it imperialism. Communities sense such a strong sense of ownership of the domain that they believe that anyone working in the domain, should consult them, even be forced to do so. This leads to narcissism of the community; members are interested in them and forget that are the part of bigger whole.

Dysfunctions concerning domain may lead to dysfunctions in relationships and knowledge. Strong relationship to domain and each other makes the community of practice behave like clique. Members of community perceive themselves as elite and keep distance from other employees of organization. They also may make impermeable borders; they do not allow new members to join.

Finally all these dysfunctions may lead to knowledge monopolies; community does not share their knowledge with the rest of organization even when they are obliged to (Wenger et al, 2002, Mládková, 2012).

Methodology

Research Goal

The literature on dysfunctions of communities of practice is very limited. It is natural for human beings to join in communities. Majority of communities in organizations are informal unrecognized communities and their dysfunctional behavior may cause great harm to their organizations. The goal of this paper is to highlight problematic of this topic on example of dysfunctional behavior of concrete community in concrete organization.

Sample and Data Collection

The survey of this study describes dysfunctional behavior of community of practice. It was conducted around year 2000 in national telecommunication operator in the Czech Republic, the post communistic country in the Central Europe. The national telecommunication operator was undergoing great technological and managerial changes. As for the technology, the organization changed from old copper network to modern optical cables. This new technology computerized the operation and enabled the transformation of business from voice services to modern data services. It also led to big organizational changes and huge downsizing. From 35 000 of employees around 1994, the operator employed approximately 10 000 people around year 2000. The downsizing and other dramatic changes were supposed to continue. The author of the paper personally experienced the whole nightmare story as a member of group of consultants who were advising the operator during the transformation.

Description of Situation and Analyses

Around the year 2000, the national telecommunication operator in the post communistic country in the Central Europe (The Company) nearly finished modernization of their technology. As every national operator, The Company was responsible and obliged for maintenance and use of backbone telecommunication network in the country. The great change of technology was ongoing. Old copper wires and technology related to them (exchanges, etc.) were built to support voice services. They were extremely faulty and did not have capacity to meet requirements of rapidly evolving data services. Old copper network was being removed and changed for new one working on optical cables. It dramatically increased the capacity and reliability of the whole network and enabled fast development of data services. Since 1994, The Company also underwent great managerial changes. It was partly privatized, the organizational structure was changed few times, processes were defined and strengthened; certain parts of organization were managed on principles of process management. Both technological and managerial changes led to huge downsizing. New optical network was computerized and automated so it did not need so many people to operate it and maintain as the copper one. New managerial procedures and processes also required less people. About 15 000 employees left the company between years 1994 and 2000 and other changes and downsizing were planned.

The International Exchange was a department responsible for connection of the country to external world. Actually it was the only point that connected the country with abroad telecommunication networks for over 40 years. Around 60 employees were highly qualified top knowledge workers owning special tacit knowledge on both operation and partners from abroad telecommunication networks. Employees of the International Exchange were carefully chosen and usually spent their whole carrier working in the International Exchange, they knew each other very well They had a reputation of the elite of the company, they were paid better than other employees, and have special benefits. Other employees of The Company envied them but respected them. During the old regime, employees and operation of the International Exchange were strictly supervised by intelligence services and the army. After the collapse of communism, this was not necessary but the International Exchange remained located in special premises, isolated from home exchange and other parts of The Company. It was locked and special permit was required to be allowed to go there.

Due to political changes, changes in technology (optical wires), changes in markets (another telco could provide international services though on very low capacity) and implementation of process management reasons for the separation of the International Exchange vanished. Management of The Company decided to link directly the operation of the International Exchange with the operation of home network through one process and move the International Exchange employees from their traditional premises to the new Control Network Centre (CNC) where

they were suppose to work together with employees responsible for home telecommunication services. On the top of this, new manager of the International Exchange was appointed. He was young, slightly over 30 and with secondary education. Majority of the International Exchange employees had university education. Due to the obsession with university titles in the country, this decision turned out to be very sensitive.

Management of The Company, together with the newly appointed manager of the International Exchange knew that the change of status and style of operation will not be easy to accept for its staff. They were aware of their importance for smooth operation of international calls and data services. They were also aware of importance of knowledge employees of the International Exchange developed for decades for The Company. E.g. in eyes of the management of The Company, employees of the International Exchange were important knowledge workers with unique knowledge (even tacit) who could not be replaced.

Based on this the management of The Company decided to support the move by very reasonable conditions; no one would get dismissed, all salaries and benefits would stay as they were. As there was not enough of new managerial position for all managers of formal departments of the International Exchange, those who lost their managerial posts were supposed to serve as coaches in the new CNC. The Company management asked the consultancy company that was helping with transformation to send a consultant to discuss proposed changes and conditions with representatives of the International Exchange, to enquire their requirements, learn about their fears and help them define their new role in the CNC. On one late Friday afternoon (actually 6 p.m.), the new manager of the International Exchange sent a fax to the office of formal International Exchange manager announcing that the consultant is coming on Monday to discuss matters concerning the move of employees of the International Exchange to the CNC.

It is necessary to stress that the new manager of the International Exchange did not meet his new subordinates and explain everything personally not because of fear or being rude. At this very moment, he was finishing the kick off of major business process in the role of the process owner. It was of the top priority for The Company. After the kick off, he was supposed to pass the process to the new process owner and fully concentrate on the management of the International Exchange. But as the transformation went on quickly, he did not want to miss precious time and asked the consultant, his friend, to help.

On Monday morning, the consultant was welcomed by representatives of the International Exchange. His mission was planned for two weeks. The first meeting for negotiations was arranged for Wednesday. On Wednesday the consultant arrived to the office of manager who was chosen to negotiate for employees of the International Exchange. He was cordially invited and offered the coffee. The manager himself went to prepare it. It lasted 20 minutes. Than the manager explained technical details of pipe post, interesting historical solution, the International Exchange was caring for. It took the rest of planned 2 hours. Any attempt to direct the discussion to the topic of move and conditions failed. The consultant was a bit concerned but he had another meeting arranged for Friday, this time even with the former director of the International Exchange.

The Monday meeting was the last meeting of the consultant and the member of the International Exchange for very long time. On Friday, the manager excused himself at the very latest moment and moved the meeting for Wednesday. On Wednesday, the consultant was waiting for him for one hour in his secretary office. Then the manager called and apologized that he had to go to the corporate training centre which was some 100 km far in the country. He had also nice explanation, why he had to go there. Two weeks passed and the consultant had no results. He contacted his boss and the new manager of the International Exchange and very concerned, informed them about the situation. Nobody was angry. The new manager wanted him to go on and he promised to talk to the International Exchange mangers himself to make his mission easier. Still, the situation was unclear, The Company was under the transformation and everybody was busy.

After two months, everyone in The Company knew that the International Exchange people are in the war with The Company. They did not jeopardize services they provided, but they were resisting any serious meeting with both the consultant and their new manager. Even top management of The Company tried to find out what happened and settle the matter but failed. There was one big mystery; why are they resisting and to what. The new conditions seemed to be extremely beneficial for all of the International Exchange employees.

One more month passed and the consultant decided to break rules of his company and find out what happened himself. He asked employee of The Company, his friend from previous project to help. The employee was known to have friends in the International Exchange. Consultant asked him to find out what happened in informal way. The answer was shocking; the resistance turns out to be part of the strategy how to negotiate good conditions for the move to the CNC. The International Exchange people knew that they could not stop the move but they decided to delay it till they negotiate the best possible condition. Avoiding meetings was the first part of the strategy. Again, informally via the common friend, the consultant sent them the conditions of the move. Managers of the International Exchange immediately initiated the meeting. All important people actively participated and the deal was made soon. They actually accepted the conditions without change; it was much more than they were hoping for.

It also became clear what happened on that first Friday and why the International Exchange staff behaved as one man. The new manager of the International Exchange sent the message about the consultant coming to the Exchange by fax and late on Friday because he did not want it to be found before the weekend. He also suspected that if somebody finds it so late, he would let it be as it was difficult to communicate it in this form (it would be much easier to circulate e-mail). Unfortunately, one manager was still at office and found it. He immediately called the rest of managers, they met over the weekend and prepared the strategy how to negotiate the best conditions.

Analysis of Situation

The International Exchange was a community of practice. The domain of this community was the service they were providing for the country and their international partners. The community members had very strong relationships. The hiring process was complicated, only carefully chosen people were allowed to work there. High focus was put on professionalism; all employees were experts in their field. As knowledge workers they highly cared for their knowledge and quality of services. Internal knowledge sharing was strong.

The community of the International Exchange developed independently of the rest of The Company and suffered typical dysfunctions. First, the strong relationship to domain, the service and quality, caused the doubts whether the move to the CNC would not jeopardize it. Employees of the International Exchange were also afraid that other employees of The Company might interfere into the domain once it would be part of one common process. As for the domain and their knowledge, the community was a bit narcissistic. It was their business and they did not want other people to participate in (including the top management of The Company). As for relationships and membership, members of the community perceive themselves as an elite and kept distance from other employees of organization. Finally, the community developed the knowledge monopoly; they did not have and did not want to share their knowledge with the rest of the company.

The community of the International Exchange included approximately 60 people and evolved and worked as unrecognized. Managers of department of the International Exchange were key members of the community. The rest of employees respected them and obeyed them.

The managers of The Company, including the new manager of the International Exchange did not know about this unrecognized community which led to mistakes in the process of communication during move of the International Exchange to the CNC.

Conclusion

Communities of practice are natural human groups. They are characteristic by domain, strong personal relationships among members and knowledge sharing. We can find communities in every organization. Majority of them are communities informal and physical; sometimes organizations create so called formal communities. Especially informal communities may jeopardize interests and objectives of managers and organizations. They are usually unrecognized, e.g. managers do not know about them. In case of conflicting interests, community tends to behave as one individual. The resistance or harmful activity may stay hidden and cause difficult situations.

The example of the resisting community of the International Exchange shows strengths of communities. The resistance delayed the part of the transformation program of The Company at least for three, four months. All types of

measures, including the intervention of top managers of The Company failed, and negotiations started only thanks to the informal personal contacts of consultant who was not employee of The Company. After the situation was cleared up, the move and further cooperation of the International Exchange staff went on smoothly.

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Use of Public Debt Mezzanine Instruments in the Czech Republic

Jan Svedik[a], Libena Tetrevova[b], a*

[a,b] *University of Pardubice, Studentska 95, 532 10 Pardubice, Czech Republic*

Abstract

This paper deals with use of public debt mezzanine instruments, which include participating bonds, subordinated bonds, convertible bonds and bonds with warrants, by non-financial corporations and financial corporations in the Czech Republic. It aims to analyse and evaluate use of mezzanine financing instruments in the form of public debt mezzanine by selected economic entities in the Czech Republic in 2006 – 2012, and identify factors affecting the scope of their utilization. The performed research implies that public debt mezzanine instruments are used in the Czech Republic marginally only. Within the monitored period, these instruments were issued in the total volume of CZK13.43bn (i.e. about EUR0.49bn), where subordinated bonds got a share of CZK13.26bn (i.e. about EUR0.48bn). The share of newly issued public debt mezzanine instruments in the total financial sources of non-financial corporations and financial corporations within the monitored period was on the top in 2009, when it amounted to 0.08%. Wider utilization of public debt mezzanine instruments is particularly prevented by the fact that potential issuers are afraid of high costs relating to the process of issuance, but also to the life cycle of such an issue, and they are also afraid of lack of interest of investors (in the case of subordinated bonds and participating bonds), the owners' fear of extension of control (in the case of convertible bonds and bonds with warrants), or the fact that it is difficult to estimate the cost of capital (in the case of participating bonds).

Keywords: Mezzanine capital, Public debt mezzanine, Participating bonds, Subordinated bonds, Convertible bonds, Bonds with warrants

Introduction

The hard conditions of the today's turbulent economic environment place increased demands on all economic entities. The need for a quick response to changes is contingent on a sufficient volume of available financial sources. The financial market thus invents more and more new financial instruments to satisfy the changing needs of creditors, debtors, and investors. And mezzanine capital, in short just mezzanine, can be considered as an innovated financial instrument.

Although some mezzanine financing instruments were already launched in the USA in the 80's of the 20th century, in Europe in the 90's (Vasilescu and Popa, 2006), they still have not been used widely in a number of countries. In view of the fact that the paper authors specialize in the problems of the financial market in the Czech Republic, their attention is focussed on utilization of a selected group of mezzanine financing instruments in this country. In view of the European tradition of debt financing (Hobza, 2009; Hucka, Kislingerova and Maly, 2011; Svedik and Tetrevova, 2013), the research was focussed on alternative financial instruments, i.e. public debt mezzanine instruments. The research question is to what extent these financial instruments are used in the Czech Republic and what facts affect the scope of their utilization.

* *Corresponding author. Tel. + 420-466-037-789*

Email address: jan.svedik@upce.cz

It aims to analyse and evaluate use of mezzanine financing instruments in the form of public debt mezzanine by selected economic entities in the Czech Republic in 2006 – 2012, and identify factors affecting the scope of their utilization.

The benefits of this paper can mainly be seen in the fact that the given problems have not been dealt with by any other research so far, and that its outcomes can be used as a valuable source of information for international comparisons, especially on the level of the European Union.

Literature Review and Hypotheses

Mezzanine capital represents a hybrid form of financing combining the features of equity and debt (Welz, 2006; Konecny, 2013; Silbernagel and Vaitkunas, 2014). The name mezzanine has been derived from architecture, where mezzanine refers to an intermediate storey. As for the financial concept, it refers to a financial source that is inserted into a corporation´s capital structure between the "floor" of equity and the "ceiling" of senior, secured debt (Anson, Fabozzi and Jones, 2010).

Mezzanine capital can have different forms, such as the forms of debt mezzanine and equity mezzanine (Meluzin and Zinecker, 2009; Volkmann, Tokarski and Grünhagen, 2010), or the forms of public mezzanine and private mezzanine (Vasilescu and Popa, 2006; Tetrevova, 2009; Baker and Filbeck, 2013). Debt mezzanine represents mezzanine capital where the features of debt prevail (Meluzin and Zinecker, 2009; Mäntysaari, 2010; Volkmann, Tokarski and Grünhagen, 2010). Its instruments include participating loans, participating bonds, subordinated loans, subordinated bonds, convertible bonds and bonds with warrants (Svedik and Tetrevova, 2014). Equity mezzanine represents mezzanine capital with prevailing features of equity (Meluzin and Zinecker, 2009; Mäntysaari, 2010; Volkmann, Tokarski and Grünhagen, 2010), and its instruments include silent participations and preferred stocks. Public mezzanine includes mezzanine financing instruments that are publicly tradable on the capital market, i.e. participating bonds, subordinated bonds, convertible bonds, bonds with warrants and preferred stocks (European Commission, 2007; Tetrevova and Svedik, 2013). Private mezzanine includes mezzanine financing instruments that are not publicly tradable on the capital market, i.e. participating loans, subordinated loans and silent participations (European Commission, 2007; Tetrevova and Svedik, 2013).

Public debt mezzanine instruments include participating bonds, subordinated bonds, convertible bonds, bonds with warrants. Participating bonds represent the type of bonds where the yield is specified as a predetermined share in the issuer's profits (Johnson, 2010). Therefore, the yield on this debt security depends on the issuer's economic result like the yield on common stocks. The above characteristics show the combination of debt and equity features, which is typical for mezzanine instruments. Subordinated bonds are bonds whose liabilities (the principal sum and appropriate interest) will be, in the case of bankruptcy, settled after settlement of liabilities towards any other creditors; with the exception of liabilities with the same condition of subordination (Iannotta, 2010). The reason why these bonds are classified as mezzanine financial instruments is their subordination typical for equity. Convertible bonds represent bonds connected with the right of exchange for preferred or common stocks of the given issuer at the time of the bond maturity, or as at any other preagreed dates, using a predetermined conversion rate (Fabozzi et al., 2008). In such a case, the rights connected with holding of a classic bond are combined with the right of exchange of this bond for property securities of the given issuer (Vesela, 2011). Bonds with warrants are bonds connected with the possibility of buying newly issued stocks of the given issuer (Poloucek, 2006). Even this is a case of combination of debt (due to holding of a classic bond) and equity (due to the possibility of buying stocks). The reason why the above instruments are classified as public mezzanine instruments is the fact that bonds usually represent a publicly tradable security (Tetrevova, 2004; Tetrevova, 2006).

Although mezzanine financing instruments represent instruments combining the features of equity and debt and it is possible to assume that they combine their advantages, which should result in the fact that they are used by economic entities to a significant extent, it is, on the other hand, also possible to expect that in the conditions of the Czech Republic the companies' aversion to use of publicly tradable instruments will prevail, as it was the case of classic bonds in the past (Tetrevova, 2006). The reason for this aversion in the case of classic bonds can be seen in the issuers' fear of high issuance costs (Valach, 2005; Tetrevova, 2006; Svedik and Tetrevova, 2012), but also in the fact that it is necessary to release a wider range of information. Therefore, we can formulate the following hypotheses:

H1: In the Czech Republic, public debt mezzanine instruments are used marginally by selected economic entities.

H2: Wider use of public debt mezzanine instruments by selected economic entities in the Czech Republic is prevented by the potential issuers' fear of high issuance costs.

Research Method

The paper draws on a secondary analysis, which aimed to draw up an overview of the present state of knowledge in the area of mezzanine financing instruments, focussing on their typology, characteristics, advantages, disadvantages, and risks. The secondary analysis was conducted in the form of a critical analysis of professional books, articles, conference papers, but also bachelor, diploma, and dissertation theses. The research team applied a multidisciplinary approach, where the analyzed secondary sources included sources from the areas of the financial theory, banking, corporate finance, or corporate economy. The research team also used the relevant statistics, e.g. of the Ministry of Industry and Trade of the Czech Republic and the Czech Statistical Office. At the same time, the choice of sources for literature research was influenced by the importance and currency of the given source. The secondary analysis was followed by a qualitative research, which was divided into two phases.

In the first phase, the research team analyzed and evaluated use of mezzanine financing instruments in the form of public debt mezzanine by selected economic entities in the Czech Republic in 2006 - 2012. The monitored economic entities were non-financial corporations and financial corporations within the concept of the classification of institutional units of the European System of Accounts – ESA 2010 (Eurostat, 2013). The other institutional units were disregarded due to the fact that they do not generate, or they cannot distribute, profit, and they also cannot issue stocks in the conditions of the Czech Republic, and so they could issue only one public debt mezzanine instrument, subordinated bonds. In view of the fact that there are no publicly available statistics concerning utilization of individual financial instruments, the information about utilization of public debt mezzanine instruments in the area of the Czech Republic were obtained through directed interviews with representatives of the Czech National Bank (CNB). The Czech National Bank is a regulatory institution without whose consent it was not possible to issue bonds in the area of the Czech Republic within the monitored period. In the case of a publicly offered issue, it was the bond prospectus what was subject to approval by CNB, in the case of non-public issues it was the bond issuance conditions. Three directed interviews, each about 50 minutes long, were conducted with employees of the Department of Securities and Regulated Markets in May and June 2013.

The second phase of the qualitative research was focussed on identification of factors affecting the rate of utilization of public debt mezzanine instruments by economic entities in the Czech Republic. The research was conducted in the form of directed interviews with representatives of selected commercial banks and organizations involved in financial counselling and mediation of financial trade mediating bond issues in the Czech Republic on the one hand and, on the other hand, with representatives of selected entrepreneurial entities. This qualitative research carried out with banking entities involved representatives of banks doing business in the area of the Czech Republic and ranking, in accordance with the CNB methodology, among large banks, i.e. banks with the total assets of over CZK250 billion, i.e. Ceskoslovenska obchodni banka, Ceska sporitelna, Komercni banka and Unicredit Bank. The qualitative research carried out with consulting firms involved representatives of Broker Trust and WOOD & Company. From the point of view of entrepreneurial entities, the interviews were conducted with representatives of the companies which have issued the given mezzanine instruments, i.e. Ekorent and Orrero. These directed interviews were conducted from June until September 2013 and were 60 minutes long on average.

Results

As for utilization of individual mezzanine financing instruments in the form of public debt mezzanine, i.e. in the form of participating bonds, subordinated bonds, convertible bonds and bonds with warrants in the Czech Republic, the situation in 2006 - 2012 was as follows.

Within this period, two subordinated bond prospectuses were approved to Ceska sporitelna (a universal bank) and Wüstenrot (a building saving company). In this period, CNB also approved subordinated bond issuance conditions to Raiffeisenbank (a universal bank) and Ceska sporitelna (a universal bank), and to Ekorent (a company dealing with financing private medical facilities in the form of a lease purchase or a loan). For more detailed information about the issues of subordinated bonds in the Czech Republic in 2006 - 2012, see Table 1.

In 2006 - 2012, no convertible bond prospectuses were approved. However, in this period CNB approved convertible bond issuance conditions to CONSTRUCT A&D, V. K. INVEST and Orrero. Company CONSTRUCT A&D deals particularly with mechanical vehicle anti-theft systems and in the monitored period it implemented in total two convertible bond issues, in 2006 and in 2007. Company V. K. INVEST operates in the area of lease of non-residential facilities and real estate and real estate administration and maintenance, and in the monitored period it issued convertible bonds in 2006. Company Orrero produces cheeses, and within the monitored period it implemented

in total two convertible bond issues, in 2010 and in 2011. For more detailed information of convertible bond issues implemented in the Czech Republic in 2006 - 2012, see Table 2.

Table 1 Subordinated bond issues in the Czech Republic in 2006 - 2012

SUBORDINATED BONDS						
Issuer	**Date of issue**	**Maturity date**	**Par value (CZK thousand)**	**Total volume (CZK million)**	**Yield**	**Comment**
Ceska sporitelna	2/10/2006	2/10/2016	1,000	3,000	6M PRIBOR[a] + 0.45% p.a.	premature as at 2/10/2011, in the case of non-use, the yield increases to 6M PRIBOR[a] +1.40% p.a. from this date on
Ceska sporitelna	12/3/2009	12/3/2019	10	2,000	5% p.a.	premature as at 12/3/2014, in the case of non-use, the yield increases to 6.5% p.a. from this date on
Ceska sporitelna	23/3/2009	23/3/2019	10,000	6,500	6M PRIBOR[a] + 1.50% p.a.	premature as at 23/3/2014, in the case of non-use, the yield increases to 6M PRIBOR[a] + 3% p.a. from this date on
Wüstenrot	29/1/2010	29/1/2020	1,000	500	5Y IRS CZK[b] + 3% p.a.	premature as at 29/1/2015, in the case of non-use, the yield increases to 5Y IRS CZK[b] + 4.40% p.a. from this date on
Ceska sporitelna	24/3/2010	24/3/2020	10	1,000	6M PRIBOR[a] + 0.40% p.a.	premature as at 24/3/2015, in the case of non-use, the yield increases to 6M PRIBOR[a] + 1.9% p.a. from this date on
Ekorent	1/7/2011	1/7/2013	1,000	10	6M PRIBOR[a] + 7.3% p.a.	
Raiffeisenbank	21/9/2011	21/9/2016	10	125	4.75% p.a.	
Raiffeisenbank	21/9/2011	21/9/2018	10	125	4% p.a.	yield specified for the first yield payment, for next payments from this date on yield specified as 6M PRIBOR[a] + 2.50% p.a.

Note: [a]6M PRIBOR (Prague InterBank Offered Rate) is the interest rate on loans which banks provide to each other on the Czech interbank market with the fixation period of six months; [b]5Y IRS CZK is the interest rate representing the average of the current quotations of the "Offer" rates for a five-year interest rate swap for the Czech crowns.
Source: Own

Table 2 Convertible bond issues in the Czech Republic in 2006 - 2012

Issuer	**Date of issue**	**Maturity date**	**Par value (CZK thousand)**	**Total volume (CZK million)**	**Yield**	**Convertible into stocks**
CONSTRUCT A&D	9/5/2006	31/12/2008	500	16.50	4% p.a.	preferred
V. K. INVEST	1/6/2006	1/6/2010	1,000	21.00	7% p.a.	common
CONSTRUCT A&D	10/1/2007	31/12/2008	500	24.00	4% p.a.	common
Orrero	10/3/2010	30/6/2013	5	78.74	average the CNB Lombard rate for previous 12 months + 2.5% p.a.	common
Orrero	15/6/2011	30/6/2013	5	26.24	average the CNB Lombard rate for previous 12 months + 2.5% p.a.	common

Source: Own

In the monitored period, CNB did not approve any prospectuses or issuance conditions of participating bonds or bonds with warrants, which means that these mezzanine financing instruments were not used in the Czech Republic in the monitored period.

For a summary overview of utilization of public debt mezzanine instruments by the defined entities in the Czech Republic in 2006 - 2012, see Table 3.

Table 3 Utilization of public debt mezzanine instruments by non-financial and financial corporations in the Czech Republic in 2006 - 2012

PUBLIC DEBT MEZZANINE (CZK million)	2006	2007	2008	2009	2010	2011	2012	Total
Participating bonds	0.00	0	0	0	0.00	0.00	0	0.00
Subordinated bonds	3,000.00	0	0	8,500	1,500.00	260.00	0	13,260.00
Convertible bonds	37.50	24	0	0	78.74	26.24	0	166.48
Bonds with warrants	0.00	0	0	0	0.00	0.00	0	0.00
Total	3,037.50	24	0	8,500	1,578.74	286.24	0	13,426.48

Source: Own

As Table 3 shows, subordinated bonds represent the most widely used public debt mezzanine instrument in the Czech Republic in 2006 - 2012. The total volume of this instrument reached, thanks to the bank issues, CZK13,260 million. The second most widely used public debt mezzanine instrument was a convertible bond, whose total volume in the monitored period reached CZK166.48 million. The remaining two public debt mezzanine instruments were not issued in the Czech Republic in the monitored period.

Table 4 shows comparison between the volume of newly issued public debt mezzanine instruments and the volume of financial sources of non-financial corporations (with 100+ employees) and financial corporations in the Czech Republic in 2006 - 2012.

Table 4 Comparison between the volume of financial sources and the volume of newly issued public debt mezzanine instruments from the point of view of non-financial and financial corporations in the Czech Republic in 2006 - 2012

FINANCIAL SOURCES (CZK billion)		2006	2007	2008	2009	2010	2011	2012
Non-financial corporations		3,403.80	4,065.00	4,191.50	4,204.60	4,972.00	5,381.10	5,785.10
from that	***Equity capital***	1,709.90	2,131.30	2,168.80	2,193.70	2,516.00	2,676.90	2,911.90
	Debt capital	1,631.40	1,910.60	1,979.90	1,918.80	2,354.40	2,610.50	2,771.80
	Other	62.50	23.20	42.80	92.10	101.50	93.70	101.40
Financial corporations		4,967.60	5,670.60	6,228.00	6,211.70	6,393.30	6,662.40	7,033.30
from that	***Equity capital***	533.80	641.00	808.60	722.30	866.90	929.50	1,047.70
	Debt capital	4,327.90	4,934.00	5,334.00	5,423.90	5,470.80	5,674.10	5,934.10
	Other	105.90	95.60	85.40	65.60	55.60	58.80	51.50
Total volume of financial sources (CZK billion)		8,371.40	9,735.60	10,419.50	10,416.30	11,365.30	12,043.50	12,818.40
Total volume of public debt mezzanine instruments (CZK billion)		3.04	0.02	0.00	8.50	1.58	0.29	0.00
Share of public debt mezzanine instruments in total financial sources (%)		0.04	0.00	0.00	0.08	0.01	0.00	0.00

Source: (Ministry of Industry and Trade of the Czech Republic, 2013; Czech Statistical Office, 2014)

Table 4 shows that the rate of utilization of public debt mezzanine instruments by the defined entities was marginal in the monitored period compared to the total financial sources.

As for the reasons for the limited use of the mentioned mezzanine financing instruments, we can divide them into general ones – valid for all types of public debt mezzanine instruments, and specific ones – valid for particular types of public debt mezzanine instruments. The generally valid reason is the fear of the potential issuers of high costs relating to the process of issuance, where a significant part is represented by fixed costs. This means that an issue of public debt mezzanine instruments (i.e. bonds) does not become profitable unless reaches a certain volume. Moreover, a

failure to allocate a bond issue would subsequently lead to serious financial impacts on the issuer as a result of the necessity of settlement of these costs.

The specific reasons from the point of view of subordinated bonds can be particularly seen in the unwillingness of economic entities to pay higher costs, which are required by this instrument, in combination with high issuance costs, and also the fear of lack of interest of investors resulting from the bond subordination.

From the point of view of convertible bonds, the reason for their limited use can be found mainly in the owners' fear of extension of the control over the corporation, accompanied by a decreased profit per stock resulting from an increase in the number of stocks. The same reasons also lead to non-utilization of bonds with warrants, where another reason resides in the fact that in the case of exercise of the option to purchase stocks, the issuer is obliged to continue with payment of the yield on these bonds, including their principal sum.

The reasons why participating bonds are not used mainly refer to the fear of companies of high interest connected with this financial instrument in the case of their rising profitability or, by contrast, the fear of lack of interest of potential investors, who might not be interested in this type of bonds due to the expected low return on the provided capital in the case of the issuer's bad economic results. Another reason resides in the fact that it is difficult to estimate the cost of capital acquired in such a way (from the point of view of the issuer) on the one hand and, on the other hand, the rate of return of such an instrument (from the point of view of investors). A significant reason is then the fact that an interest payment defined in such a way is not, in accordance with the legislation currently valid in the Czech Republic, a tax deductible expense, and so it increases the cost of capital.

Conclusion

The performed research implies that public debt mezzanine instruments (participating bonds, subordinated bonds, convertible bonds and bonds with warrants) were used marginally by non-financial corporations and financial corporations in the environment of the Czech economy in 2006 - 2012. H1 (In the Czech Republic, public debt mezzanine instruments are used marginally by selected economic entities.) was thus proved true. Within the monitored period, these instruments were issued in the total volume of CZK13.43bn (i.e. about EUR0.49bn), from which CZK13.26bn (i.e. about EUR0.48bn) went to subordinated bonds, and CZK0.17bn (i.e. about EUR0.01bn) went to convertible bonds. The above mentioned implies that participating bonds and bonds with warrants were not issued in the monitored period at all. The share of newly issued public debt mezzanine instruments in the total financial sources of non-financial corporations and financial corporations was, in the monitored period, reached the peak in 2009, when it amounted to 0.08%, and the second largest share was achieved in 2006, when it amounted to 0.04%.

A wider use of public debt mezzanine instruments is mainly prevented by the potential issuers' fear of high costs relating to the process of issuance, but also to the life cycle of the issue, and also the fear of lack of interest from the side of investors (in the case of subordinated bonds and participating bonds), the owners' fear of extension of control (in the case of convertible bonds and bonds with warrants), or the fact that it is difficult to estimate the cost of capital (in the case of participating bonds). So, H2 (Wider use of public debt mezzanine instruments by selected economic entities in the Czech Republic is prevented by the potential issuers' fear of high issuance costs.) was proved true. The performed research implies that this factor can be considered as deciding when finance managers are making decisions about potential issues in the case of any public debt mezzanine instruments.

The paper deals with utilization of public debt mezzanine instruments in the Czech Republic. Its limiting factor is the national orientation creating space for further follow-up surveys mapping utilization of these instruments internationally, e.g. within the European Union countries.

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