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The Influence of Internal Environment and Continuous Improvements on Firms' Competitiveness and Performance

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Abstract

This paper investigates the organizational internal environment, climate and continuous improvement implementations on competitiveness of firms in a developing country environment. The results indicated that of the ten Ekvall's creative climate factors examined only four had some positive influence on firms' competitiveness. Continuous improvements implemented by the firms were also found to have a significant positive influence on the firms' competitiveness. Furthermore, the firms' internal environment was found to have significant positive influence on the competitiveness of the firms. Finally, the firms' competitiveness in turn was found to significantly influence the firms' performance. Some managerial implications of the findings are also provided.

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1. Introduction

Innovation (whether radical or incremental, i.e. continuous improvement) is widely believed to be an important part of a healthy organization since it enables an organization to adapt to changing markets, thus retaining its competitiveness (Delbecq and Mills 1985). Research by Bessant and Grunt (1985) on the adoption of manufacturing innovations by the United Kingdom and Germany has shown that the adoption of innovations is essential to organizational survival and growth even if costs exceeded the return on the investment of the firm. Many pieces of research have also shown that firms that do well in their businesses are those that are responsive to change (Peters & Waterman, 1982; Kanter, 1983 and 1990; Foster, 1986). Thus, Qatari firms would lose ground to their competitors both within the country and globally if they were not responsive to innovations in their operations. With rising customer expectations and increasing competition in the era of globalization, the firms are left with no choice but to continuously innovate.

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Despite the earlier definition of innovation given by Schumpeter (1934), in order to cover a wide spectrum of changes occurring in organizations, i.e. not just limited to new radical products or processes, it is surprising that less research has been conducted by researchers on incremental innovations as compared to radical innovations, particularly in a developing country environment. Furthermore, despite many studies done in the past, because of the highly individual nature of the innovations, a reliable model of successful innovation has yet to emerge (Delbecq and Mills 1985). The lack of understanding was especially acute for the case of Qatar since there has not been much research done on this subject in the Qatari context. Therefore, more studies of the innovativeness of Qatari firms would add more knowledge to the literature. Furthermore, there was a dearth of information on the relationship between the creative climate and innovativeness of Qatari firms. Therefore, this research, which attempted to examine the creative climate and innovativeness of Qatari firms, represents an attempt to ascertain the innovativeness of these firms and the extent to which they influence the performance of the firms. By understanding the nature of creative climate and innovativeness in these firms, it would put them in a better position to face competition, particularly the global one.

2. Conceptual Framework And Hypotheses

2.1. Continuous Improvements

One of the common ways of measuring firm's innovativeness is by counting the number of incremental innovation or continuous improvement introduced by a firm within a certain time frame (for e.g. see Moch and Morse, 1977). Another common method of doing it is by measuring the time taken by an organization to adopt the innovation. This method is based on the theories of diffusion (see, for e.g. Rogers, 1983) where the investigation is focused on how fast the innovation is absorbed by the firm. Another way of measuring innovativeness is through the use of perceptual measures based on evaluation by qualified judges. As pointed out by da Rocha et al. (1990) this method has the advantage of the ability of the judges to evaluate the overall innovativeness of the firm instead of measuring a single or several specific innovations.

Tidd et al. (2001) assert that the ability of firms to innovate is increasingly viewed as the single most important factor in developing and sustaining their competitive advantage. It is no longer sufficient for firms to do things better but to do "new and better things" (Slater and Narver, 1995) on a continuous rather than once in a lifetime or occasional exercise. Organizational survival now depends on the firm's ability to build itself as innovative organizations as well as its ability to manage the innovation process (Brown, 1997, Humphreys et al., 2005) continuously without ending. Hence, our next hypothesis for this research is:

H1: Continuous improvements carried out by a firm positively influence the firm's competitiveness.

2.2. Organization's Internal Environment and Creative Climate

The role of the internal environment in shaping the competitiveness of the firm is crucial (Hine and Ryan, 1999). According to Tang (1998), the internal environment "is typically described by its organizational structure, resources, climate and culture" (p. 301). Organizations need to develop a climate that is conducive to creativity (Ahmed, 1998a), with a strong external focus on multiple stakeholders (Cagliano et al., 2001). A recent research by Prajogo et al. (2011) has found that culture is good predictor of organizational performance. It has been argued that employees' creativity makes an important contribution to organizational innovation, effectiveness and survival (Ahmed, 1998; Amabile, 1996; Kanter, 1983). Therefore, organizations need to create the organizational contexts that are most supportive to idea generation and creative thinking (Amabile, 1998; Eyton, 1996; Goldsmith, 1996). Thus, for employees to be creative there must be an internal work environment that supports and nurtures the process of creativity. Furthermore, Alange et al. (1998) stress the important role of the factors "inside" the firm and of non-market mechanisms for transfer of organizational innovations. A research by Mohamed (2002) in United Arab Emirates has discovered that organizational internal variables such as managerial attitudes, decentralization, supervisory support, group satisfaction, diversity, exposure to management thinking and committee membership were found to be significantly related to departmental innovative behavior. Also, in an effort to adopt and implement green commitments López-Rodríguez (2009) has found that a firm's internal organizational activities have contributed to the success of the implementation. Hence, our third hypothesis for this research is:

H2: Firm's internal environment positively influences its competitiveness.

A major effort at measuring creative organizational climate was done by Ekvall et al. (1983). They define organizational climate as "a conglomerate of the attitudes, feelings and behavior which characterize life in an organization." This definition is based on the assumption that every individual in an organization has his/her own perceptions of the climate and can describe it on that basis. Following some suggestions from previous research, Ekvall managed to construct and validate an instrument (Creative Climate Questionnaire or CCQ) for measuring creative organizational climate. The instrument contains 50 questions were administered to various organizational employees. Eight indices that constitute organizational climate measures emerged from his research. These are: challenge, support for ideas, trust, freedom in the organization, dynamism, tension, and "global". The global index consisted of 12 items isolated from the first six of the listed factors. After applying the instrument to certain departments in a number of companies, Ekvall discovered that the organizational climate (as perceived by organizational employees) in successful departments differed significantly from that in the unsuccessful departments. Thus, the CCQ scores suggest the extent to which an organization or a department within an organization is innovative or stagnated (Talbot et al., 1992).

While there is no single optimal organizational design that fits all, there should be some organization designs that favor innovation more than others do (Tang, 1998). For example, Tang (1998) said that organic organization is more appropriate since the structure is more responsive to decision making and it encourages freer flow of information and ideas. For an organization to be effective, they need to have a structure as well as climate that allows beneficial coexistence between operation and innovation, as well as a structure and climate which allows the flow of knowledge and people from one function to another (Galbraith, 1982; Nonaka and Takeuchi, 1995 in Tang, 1998, p. 303). Zain and Rickards (1996) have found that the more innovative firms were found to have more creative climates when compared to the less innovative ones. Furthermore, a number of researchers (e.g. Payne et al., 1971; Ekvall et al., 1983; Anderson and West, 1994; Amabile et al., 1996; and Rickards and Moger, 1999) have developed an instrument that can be used to assess the creative climate of an organization. Thus, our next hypothesis for this research is:

H3: Firms' creative organizational climate positively influences its competitiveness.

2.3. Organizational Performance

In their research involving small service firms in Australia, Hine and Ryan (1999) found significant differences between groups of firms, indicating that the more innovative firms are of greater potential value to their industry. In another study on SMEs in Taiwan, Lin and Chen (2007) found that innovations, particularly administration innovation, turned out to be the most crucial factor in explaining sales. Nevertheless, previous studies of the relationship between innovation and performance have produced mixed results, some positive, some negative, and some showed no relationship at all (Capon et al., 1990; Chandler and Hanks, 1994; Li and Atuagene-Gima, 2001). Thus, this study is another attempt at re-examining this relationship. Pratali (2003) found that incremental technological innovations help improve company competitiveness with the ultimate aim of increasing company value. In another study, Soderquist (1996) reported that continuous work process innovation was the most important action for improving the short-term profitability. Also, Terziovski (2002) found that an incremental strategy is the major driving force behind any improvement effort. Adopting radical innovation has mixed results (Lin and Chen, 2007) as well. Leifer et al. (2001) said that radical or breakthrough innovations provide the engine for long-term growth. A study by Terziovski (2002) on Australian and New Zealand companies found that a "bottom-up" continuous improvement strategy is the preferred strategy to improve customer satisfaction and productivity and a "top-down" strategy is considered appropriate for increasing relative technological competitiveness. A more recent study on the implementation of structural changes to firms in the form of downsizing has produced negative results on long-term organizational performance (Sheaffer et al., 2009). Also, Santa et al. (2010) found that an innovative use of cross-functional teams has resulted in the improvement in operational performance. Hence, our fifth hypothesis for this research is:

H4: The competitiveness of a firm positively influences the firm's performance.

3. Methods Of Data Collection And Analysis

The data for this study were gathered by means of a survey questionnaire. The questionnaire was translated back-to-back to ensure functional equivalence of its items in two languages (English→Arabic→English) and were distributed via the regular mail to 500 Qatari firms randomly drawn from a database held by our colleague in Qatar University in November 2008. Out of the 500 questionnaires mailed, 64 completed questionnaires were returned giving us a return rate of 12.8%. In our efforts to increase the sample size we decided to distribute the questionnaires to some MBA students of Qatar University who were employed in various executive positions in Qatari firms. We did this in the Fall 2008 semester. From this exercise we managed to get 44 additional completed questionnaires giving a total of 108 usable questionnaires that were analyzed for this research.

To test the dimensionality of the instrument, all the 39 items measuring the technological innovation (four items), continuous improvement (18 items), organization culture (7 items) and competitiveness (10 items) were factor analyzed using varimax rotation where the criterion of meaningful factor loading was set to 0.4 (Tsoukatos and Rand, 2006). The use of these criteria resulted in a two-dimensional solution each for continuous improvement and competitiveness that explains 63.81 and 74.88 per cent of the variances, respectively. The factors for Continuous Improvement are labelled as marketing innovation (MKTINOV) and administrative innovation (ADMINOV), while the factors for Competitiveness are labelled as strategic (STR) and environmental (ENVIRON) factors.

AMOS 4 was used to perform a confirmatory factor analysis (CFA) to investigate the constructs dimensionality. The hypotheses were tested using SEM because this technique provides statistical efficiency. Also, its ability to assess the relationships comprehensively has provided a transition from exploratory to confirmatory analysis (Hair et. al., 2010). Moreover, SEM techniques are particularly appropriate for the study of multiple dependence relationships such as those investigated in this research.

4. Results

Almost 73% of the respondents were holding senior management position in their company. The majority (54%) of the firms were involved in services followed by another 43% that were involved in manufacturing. The majority (68%) of the firms employed more than 50 employees. The majority (74%) of the firms also have been established for at least 10 years. Most (80%) of the firms market their products either in the Gulf market or in the broader Arab countries. The majority (54%) of the firms were private corporations.

Based on Ekvall et al.'s (1983) results of the creative climate assessment of the firms, on most accounts (the exceptions being freedom, idea support, and conflicts) the companies involved in this study could be classified as quite innovative. The Chi-square, CFI, RMSEA, SRMR, degrees of freedom (df) and p-statistic are reported in Table 1. From this table we can thus safely conclude that the model is valid and therefore, we can continue to analyze the outcome of the hypothesized effects. As shown in the table, the results of the hypothesis testing on whether continuous improvements positively influence competitiveness (H1) indicated that continuous improvements (in the form of marketing innovation) had a significant positive influence on the firms competitiveness (both in terms of their strategic positions and having an environmentally conducive environment), thus confirming H1. However, continuous improvements (in the form of administrative innovation) did not significantly influence the competitiveness of the firms. This indicates that marketing innovations are more important to the firms than administrative innovations.

The results of the hypothesis testing on whether the six factors of creative climate have a significant positive influence on the competitiveness of the firms (H2) also resulted in a partial acceptance of the hypothesis. As shown in table 1, of the six creative climate factors, two of them (trust/openness and idea time) had positive influence on competitiveness (in terms of contributing to conducive environment) of the firms. In terms of contributing to the firms' competitiveness (in terms of contributing to their strategic positioning), another two factors (freedom and playfulness/humor) of the factors had a significant positive influence.

As can be also be noted from Table 1, the third hypothesis (H3) has also been partially accepted indicating that the organization's internal environment had a significant positive influence on the competitiveness of the firms, but only in terms of their strategic position. Finally, the last hypothesis (H4) has also been accepted indicating that organizational competitiveness had significantly influenced the performance of the firms in the expected direction.

5. Discussion, Implications, and Conclusion

It is interesting to note that of the two categories of continuous improvement examined in this research, only marketing improvement initiatives such as finding new ways of marketing the firm's products have a positive influence on the firm's competitiveness. Thus, this study provides an additional support, albeit in a developing country environment, to the findings by Tidd et al. (2001) and Humphreys et al. (2005) that firms need to carry out or implement continuous incremental innovations in order to sustain their competitive advantage. Specifically, this finding indicates that firms need to focus more on efforts to introduce continuous improvement in their marketing activities than on other administrative activities such as looking for new ways at managing its human resources. Our investigation of the relationship between the firms' internal environment (characteristics, structure, and culture) with the firms' competitiveness also produced the expected results, albeit only on the strategic positioning of the firms such as improving their competitive position, gaining sustainable competitive advantage, and increasing their market share. Thus, our study again provides some support to the assertions by Tang (1998) and Hine and Ryan (1999) to the importance of the firm's internal environment in shaping the firm's competitiveness.

Table 1: Hypothesis Testing Results

Path			Standardized path coefficients	t-value	p-value	Results	
STR	←	MKTINOV	0.32	3.15	0.00 ^a	H1a ₂	Accepted
STR	←	ADMINOV	NS	NS	NS	H1a ₃	Rejected
STR	←	CFR	0.57	3.99	0.00 ^a	H2a ₆	Accepted
STR	←	CPH	-0.32	-3.04	0.00 ^a	H2a ₉	Accepted
STR	←	CDB	NS	NS	NS	H2a ₁₀	Rejected
STR	←	CTO	NS	NS	NS	H2a ₁₁	Rejected
STR	←	CRT	NS	NS	NS	H2a ₁₃	Rejected
STR	←	CTM	NS	NS	NS	H2a ₁₄	Rejected
STR	←	INTENV	0.30	2.51	0.01 ^a	H3a	Accepted
ENVIRON	←	MKTINOV	0.31	2.56	0.01 ^a	H1b ₂	Accepted
ENVIRON	←	ADMINOV	NS	NS	NS	H1b ₃	Rejected
ENVIRON	←	CFR	NS	NS	NS	H2b ₆	Rejected
ENVIRON	←	CPH	NS	NS	NS	H2b ₉	Rejected
ENVIRON	←	CDB	NS	NS	NS	H2b ₁₀	Rejected
ENVIRON	←	CTO	-0.53	-3.44	0.00 ^a	H2b ₁₁	Accepted
ENVIRON	←	CRT	NS	NS	NS	H2a ₁₃	Rejected
ENVIRON	←	CTM	0.50	2.59	0.01 ^a	H2b ₁₃	Accepted
ENVIRON	←	INTENV	NS	NS	NS	H3b	Rejected
OPE	←	STR	0.65	9.49	0.00 ^a	H4a	Accepted
OPE	←	ENVIRON	0.23	3.50	0.00 ^a	H4b	Accepted

Model fit: $\chi^2 = (df=8) 18.80$, $p < 0.03$; CFI = 0.99; RMSEA = 0.05; SRMR = 0.0216

Further, our attempt at analyzing Ekvall's 10 creative climate factors in terms of their relationship or influence on the firms' competitiveness has also produced an interesting result. Despite our finding that the firms were closer to be considered as "innovative" rather than "standard" firms, of the ten Ekvall's creative climate factors only four – freedom, playfulness/humor, trust/openness, and idea time -- were found to have significant influence on the firms' competitiveness. Thus, firms need to focus more on creating the kind of organizational climate that is conducive, particularly to these four factors in order to create a climate that can help them to be more competitive. Thus, this study has extended Ekvall et al.'s (1983) earlier way of assessing the creative climate of firms using the CCQ by examining whether the factors that influence the creative climate of firms also influence the firms' competitiveness. Finally, the results of this study confirm their positive influence of the firms' competitiveness to their performance improvement. Thus, the finding has provided an additional support to the earlier studies by Hine and Ryan (1999) and Pratali (2003) on the positive influence of firms' competitiveness on their performance. Thus, being competitive will help the firms to be continuously profitable, and to increase their profit margins, assets, sales/revenues, etc.

A number of managerial implications can be drawn from this research. First, managers of Qatari firms need to focus more on introducing marketing innovations in their efforts to carry out continuous improvement in their organization as doing this initiative tends to positively influence their firms' competitive position. Second, while many activities and policies are necessary to create a creative climate in their firms, managers need to create a

climate in their organization by giving their employees a lot of freedom for them to come up with new ideas to improve their products, services, processes, etc. They should also create a work atmosphere of playfulness/humor where employees are encouraged to enjoy their work or to regard their work as something that is fun to do. In addition, they should also instil a climate of trust and openness where everyone should be encouraged to trust each other and to be open with one another instead of creating an environment of secrecy or where backstabbing is rampant. Furthermore, employees should be given sufficient time to come up and to tinker with new ideas that can improve their products, services, processes, etc. Finally, in addition to creating a creative organizational climate managers should work on creating a favorable internal environment that can facilitate: better understanding of organization's vision and mission by their employees, flatter organizational structure, good communication flow, decentralized decision making, merit-based promotion, and more diverse work force.

To conclude, this research has achieved most of its objective in terms of demonstrating some positive relationships between innovation practices, creative climate, and internal environment of Qatari firms and competitiveness of the firms that in turn positively affect their performance. Nevertheless, one main limitation of this study should be noted, i.e., the size of the sample is somewhat small to allow for broad generalization of the findings, particularly to companies outside of the Gulf Cooperation Council (GCC) countries. Future research should work on achieving a bigger sample of respondents as well as examining the relationships among firms in other developing countries.

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