International Journal of Economics, Commerce and Management
United Kingdom Vol. IV, Issue 11, November 2016
http://ijecm.co.uk/ ISSN 2348 0386

TESTING THE MODERATION ROLE OF LEADERSHIP FOR QUALITY IN THE RELATIONSHIP OF QUALITY MANAGEMENT PRACTICE AND INNOVATION PERFORMANCE

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Abstract

This paper focuses on the moderation role of leadership for quality on the relationship between Quality Management practices and innovation performance in hospitals of Kingdom of Saudi Arabia. Survey was implemented by sending a questionnaire to a selected sample of hospitals. The targeted respondents were the directors of the hospitals. The obtained data were analyzed using Partial Least Squire-Structural Equation Modeling. The results of the analysis showed that leadership for quality has a moderation role. Results of this study are helpful in enhancing the management and quality-based leadership for achieving higher levels of innovation performance. In addition, the study has contributed to the literature by adding the view of the important role quality in quality management and innovation performance.

Keywords: Leadership, quality management, quality, innovation performance, hospitals, Saudi Arabia

INTRODUCTION

Quality Management plays a significant role in the development of all types of organizations: non-profit, profit, private and public. QM was initially introduced to the industrial sector of USA and Japan by well-known gurus such as Deming. Crosby (1979), Feigenbaum (1986), Ishikawa (1976) and Deming (1986) had provided different definitions that summarize the concepts of quality with more focus on principles of customer satisfaction and continuous improvement (Teh, Yong, Arumugam, & Ooi, 2009). Some scholars have defined QM as holistic, organization strategy and systematic approach aim to continuously improving the processes, products and services while other scholars have also focused on continuous improvement. Thus, QMP are implemented for many purposes such as enhancing productivity, improving the quality of the products and services, decreasing the costs and increasing competitiveness and market share (Kaynak, 2003).

Evolution of Quality Management

QM development has gone through many historical stages as follow:

i. Inspection stage: during this stage quality inspection was used to guarantee products reliability.
ii. Quality control stage: during this stage quality statistical tools and process control tools were dominated.
iii. Quality Assurance stage: during this stage quality has been conceptualized in a new perception focusing mostly on the managerial function in the organizations.
iv. Strategic Quality Management stage: during this stage the significant role of leadership and strategic planning have been emphasized to enhance product quality and raise the revenue (Ohmer, 1997).

The next stage was Total Quality Management (TQM) played the main QM approach. The beginning of TQM was when Japanese Scientists gathered to work on improving the productivity of their manufacturing process (Powell, 1995). They developed their methods based on Deming's quality concept. Therefore, Japanese became a strong compete to the United States. In 1990's TQM was employed in United States (Hill, 2008).

There are many gurus were commonly developed TQM: Crosby (1979), Ishikawa (1985), Deming (1986), Feigenbaum (1986), and Juran (1988). Deming and Juran transferred TQM to United States from Japan. Crosby introduced the concept of zero defects to compete against the concept of inspection tool (Ohmer, 1997). Crosby asserted that QM is used based on scientific education. Feigenbaum recommended the concept of achieving production and

process excellence by implementing TQM as strategy. Feigenbaum focused on creating strong commitment among employees to increase the performance. Juran introduced three elements philosophy: plan, control improves. Juan also introduced 80:20 rule of Pareto. More recent, many forms of international standards and awards were developed based TQM. For instance, Australian Quality Award, Malcolm Aldridge National Quality Award (MBNQA), and Japanese Deming Prize and the European Quality Award (Hill 2008).

Definition of TQM

TQM has many definitions. For instance, Flynn, Schroeder, and Sakakibara (1994) define TQM as a combination of perspective used to improve the process in order to satisfy the customers. Dean and Bowen (1994) defined TQM as a managerial process involves principles and practices guide customer relation, managerial process, education and training and managing suppliers. Kaynak (2003) described TQM as a holistic management philosophy improves the process and the quality in order to satisfy customers' needs. All definitions are oriented to customer satisfaction, continuous improvement, people management, quality tools and supplier management (Sila & Ebrahimpour, 2003)

Leadership

The literature included traditional and current research on leadership focused on theories of trait and characteristic, behavioral, and contingency. In addition, the literature included topics related to leadership approaches, specifically, task, relation, and change orientations that help as categories of leadership behaviors. A closer search of leadership behavioral variety included behavioral complexity and portfolio. The focus of the search was three points: the nature of effective leadership behaviors on innovation, the influence of general and contingent leadership behaviors and on innovation context and (c) methodologies followed in the researches.

Innovation has been described as an important element for sustained organizational competitiveness (Smith et al., 2008). The main challenge is the task of promoting and leading the process of innovation (Smith, Busi, Ball, & Van der Meer, 2008). Most past theorists have studied leadership effectiveness by clarifying leadership behaviors. Leadership behavior is defined as the manner of an individual in a leadership role (Stempihar, 2013). The focus of theories of leadership is on the leadership characteristic, leadership behavior and leadership situational approaches to effective leadership (Yukl, 2010). The new challenges with the new technological era have increased the complexity leaders' missions. The complex nature of leadership behaviors generated an integrated perspective when studying the influence of leadership behavior on innovation (Rosing, Frese, & Bausch, 2011).

Leadership and innovation performance

Leaders offer freedom for groups to make decisions about the work practice and process. Trust, commitment and openness are important between leaders and followers to develop a sustain relationships. Humor leaders support freedom in the innovative workstation. Leaders need to deal with struggles and disputes appearing in the innovation group and in the same time being tolerated (Gupta, 2011). Most early leadership studies failed to clarify the importance of specific behaviors that provision innovation. Studies stressed on the patterns of leadership behavior rather than any specific element variable (Mumford, Marks, Connelly, Zaccaro, & Reiter-Palmon, 2000).

The effect of leadership can be categorized into the following categories:

i. Inspiring followers and sharing vision,
ii. Handle challenges of the process,
iii. Giving space for others to act
iv. Demonstrating and clarifying the way
v. Encouraging the followers

Each of these practices that put behaviors in action to influence innovation has its own related task oriented, relation oriented, and change oriented behaviors (Gupta, 2011).

Willingness to change is seeking innovative ways to advance the organization performance and outcomes. Leaders should be flexible to recognize the opportunities in the active environment (Davenport, 1998). Risk taking includes the readiness to oblige opportunities of the chance of success or failure (Kuratko, Hornsby, & Goldsby, 2007). In organizational leadership tolerance level is manifest the decision making innovation. Risk should be considered with serious analysis. Some leaders need to build sureness and skills of dealing with problem in order to assess the risk. Leaders who show self-confidence earn the trust of others.

Leadership effect on innovation and performance also includes motivating followers to exceed the expectation. Leadership must quicken the innovation after building teamwork with accountability. Recognizing rewarding successes reinforce commitment and innovation (Gupta, 2011). Leaders encourage the good actions, setting high expectations for the best (Karakas, 2009). Leaders communicate their concerns by their decisions. Leaders can foster creative and innovative thinking by giving space for followers' ideas and provide sufficient time. When followers are under time pressure, their creativity may decreases. Empowerment showed by leaders support motivation by giving the freedom to followers and enhances the capacity for innovation and development. Feeling of empowering creates behaviors of relation oriented

behaviors. The emphasis of relation oriented behaviors is to create workplace environment that helps innovation.

Leadership initiates solving problems. According to (Thompson, Grahek, Phillips, & Fay, 2008) there are three types of problems characterized by conflict: relationship conflict problem, task conflict problem, and process conflict problem. Relationship conflict is caused by anger and tension. Relationship conflict problem includes disagreement based on personal issues. Task conflict problem includes disagreements about the work. The task conflict problem affects the performance because the followers' attention oriented to the problem of the conflict. Process conflict includes dissimilarity about how to accomplish an objective. Process conflict focuses on task duties and resources. Leaders' intervention needed to solve conflict or otherwise it can negatively affect the performance. This are in line with Ekvall's leadership behaviors included trust, supporting idea, giving time for, conflict intervention and support of freedom of participating and debate. In addition, Leaders can help and support many other relations oriented behaviors such as organizing recognition process and giving rewards (Yukle, 2010). Rewards should be designed to foster the achievement of specific change and innovation outcomes. Innovation leaders' behaviors have abilities to put process of change in practice (Yukle, 2010).

Leadership and QM

Most of theories and studies frameworks have emphasized the role of leadership in quality management. Some scholars have gone deeper in the role of leadership in quality and formulate the concept of leadership for quality. The concept of leadership for quality is emerged from the broader framework of leadership efficiency (Latham, 2014). The same concept have been discussed using the names quality oriented leadership and total quality leadership emerged, however, the discussion have presented them as a result of the influence of QM principles on the leadership (Ulle & Kumar, 2014). For instance, total quality leadership is the leadership that focuses on the main stream of TQM implementation practices and outcomes (Ulle & Kumar, 2014). Total Quality leadership empowers, motivates, creates values and innovate based on TQM implementation.

Leadership is basic for organization operation and leadership style is the reason of high performance and success (Bass & Avolio, 1999; Yukle, 2010). Hence, leadership is crucial in quality management systems implementation. Quality gurus have empathized leadership as main practice that influences QM implementation outcomes (Juran, 1988; Deming, 1982).They argue that without the support of top management leadership QM implementation may fail.

Leaders provide the necessary requirement for QM application and locate the resources for QMS to take place.

Based on those theories, many empirical studies have examined QMP and came out with the common QMP practice framework (Dean and Bowen, 1995; Flynn et al., 1995; Ahire et al., 1996). The framework is used by many recent studies (Awan et al., 2009), especially in hospitals (Alharbi & Yusoff, 2012). All included leadership as main element in their QM framework, some of the earlier QM studies named leadership role as leadership for quality (Saraph et al., 1989).

There are many studies have explained the importance of leadership as a foundation for enhancing the role of quality management in innovation performance. However, there is still a need for studying this relationship, especially when it considering motivational and soft factors like moral evaluation (Schniederjans & Schniederjans, 2015). Therefore, quality focused leadership is important success factor in supporting performance including innovation using quality management, especially when leadership associated with the other important factors of QMP such as continuous improvement, strategic planning and customer focus.

Innovation

Definition of innovation presented by OECD is “innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations”. This definition incorporated the previous definitions given by Damanpour (1988), Daft & Becker (1978) and Zaltman, Duncan, & Holbek (1973). When talking about innovation, the economist Joseph Schumpeter (1883-1950) was the first person who analyzed capitalist economic dominated model and developed the theory of firm innovativeness ability is connected to its size. He claimed that flexibility of small firms makes it more innovative compared to large firms which might get trapped in the routine structures. One important view in his theory is the concept of “creative destruction”. This concept calls for restructuring the market for faster innovation. However, Schumpeter’s theory has no empirical evidence to demonstrate the relationship between firm size and the ability to innovate.

Abernathy and Utterback (1978) develop a theoretical differentiation between incremental innovation and radical innovation. Abernathy and Utterback (1978) innovation model consisted of interaction of organizational structure, product innovation, process innovation, and environment. The model was developed through three main stages. Fluid phase is the first stage which consisted of implementing great changes. The second phase is the traditional stage which comprises focusing on the technological application and customer

needs. The third stage is the company maturity in innovation and starts to focus on specific customers determined by market trend.

Disruptive innovation is produced and presented according to the level of customers' needs. Such innovation when compared with the existing products is less quality, simpler and cheaper. In the early phase, disruptive innovations will achieve the marginal targeted goal or will open new market for the company. Then and over the time it improves faster according to customer demand and be able to replace the existing products and address main market demand. Sustaining innovations, on the other hand, lead to fail the company over the time because it enhances the existing product in long term base.

QMP and innovation

The positive relationship between QMP and innovation has been proved by many studies (Arshad & Su, 2015; Bon & Mustafa, 2013; Kim, Kumar, & Kumar, 2012; Moreno, Domínguez, & Egea, 2011; Sadikoglu & Zehir, 2010). With the development of the QMS such as TQM, the relationship started changing to be complementary relationship and terms such as quality innovation have emerged to present different conceptual view (Lee, 2015). Such terms add integration characteristic to the relationship between the two.For example, both of QM and innovation enhance the performance and increase the competitive advantage (Fernandese, Lorenco, & Silva., 2014; Kafetzopoulos, Gotzamani, & Gkana, 2015)

The relationship between QM and innovation is characterized by complexity (Krivokapic, Vujovic, Jovanovic, Petrovic, & Pekovic, 2013). The complexity emerges from the multiplicity of QMP dimensions. The complexity is also occurs from the variety of innovation typologies (Bon & Mustafa, 2013).

The positive relationship between QM practices and innovation have been confirmed by the study of Kim et al., (2012). They developed their framework from the previous studies on QM practices with respect to their impact on organization performance and innovation. The authors have examined QMP of Management leadership, Customer relationship, Supplier Quality management, Employee Relations, Training, Process management, Quality and data reporting and Product design.

Long et al., (2015) reviewed the literature to explore the relationship between TQM, innovation performance and innovation capability. They have identified a set of TQM to be the most common practices that influence innovation performance and innovation capability. Those practices are leadership, strategic planning, customer focus, process management and people management have impact to innovation capability. Those practices present most of the soft side of TQM practices.

METHODOLOGY

This study is cross-sectional quantitative study used questionnaire. QMP measurement leadership for quality measurement scale was adapted from similar study conducted in Saudi hospitals which is the study of Alharbi and Yusoff (2012). Sampling technique that followed to in selecting the sample from the total number of the hospitals was random sampling technique. Directors of hospitals were the main respondents to the questionnaire. The scale of operationalizing and measuring innovation performance was adapted from studies of Yusr et al., (2012) and Sadikoglu and Zehir (2010). The questionnaire was distributed after it was translated into Arabic language because it is the main language at KSA hospitals. A cover letter was attached with the questionnaire to explain the purpose of the study and the topic. The sample size of this study was 159 hospitals select from the total number of the hospitals of KSA. The researcher received a total of 115 valid copies of the questionnaire which considered adequate because the study is organizational level of analysis (Sekaran, 2003).There were no missing data or outliers found in the data. The received copies were coded into numbers and keyed into in into the Statistical Package for Social Science (SPSS) and then were cleaning and screening. Reliability test was run to the variables and the results were: Crobach's Alfa of 0.90 for the variable Innovation performance, 0.85 for the variable Leadership for quality, and 0.98 for the variable QMP. The next stage of the analysis was to run factor analysis to validate the model then test the hypotheses using the technique of Partial Least Squire- Structural Equation Modeling PLS-SEM with SmartPLS software.

ANALYSIS AND FINDINGS

Factor analysis

Factor analysis was implemented in the measurement model to validate the variables. All items loadings of QMP, leadership for quality, and Innovation performance achieved loading greater than .5. Then convergent validity of the variables was evaluated by calculating Average Variance Extracted of each variable (AVE), all AVEs of the three variables achieved the more than 0.5 values, shown in table 1.

The next step in the factors analysis is assessing Discriminant validity which was assessed by calculating the squired root of each AVE (Fornell&Larcker, 1981). Shown in table 2, the Discriminant validity of all variables was confirmed by comparing the squired root of the AVE with relative correlation. The squired root of each AVE should be higher than its respective

correlations and the correlation between the variables should be less than 0.9 (Hair et al., 2010).

Table 1: Convergent validity

Construct	Composite Reliability	Average Variance Extracted (AVE)
QMP	0.96	0.73
INNO	0.965	0.733
LDRQ	0.953	0.71

Table 2: Discriminant validity

	QMP	LDRQ	INNO	AVE
QMP	1.0			0.73
LDRQ	0.55	1.0		0.60
INNO	0.57	0.53	1.0	0.73

Moderation analysis

H: *leadership of quality moderates the relationship between QMP and innovation*

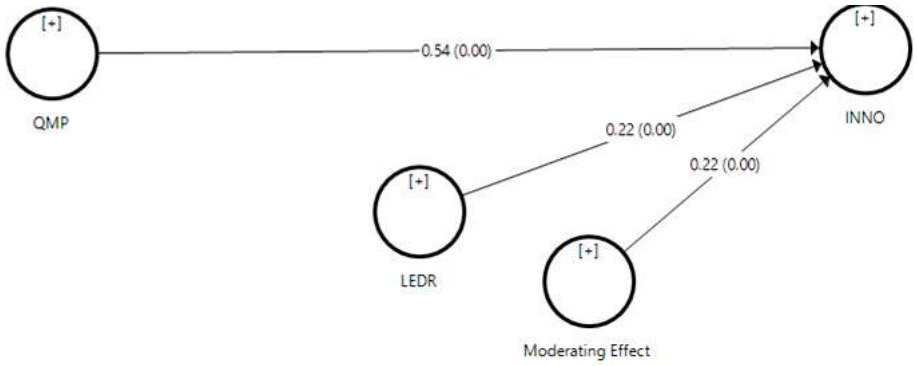
PLS analyse the moderating variables by easy and simple step implemented by identifying which variable is the moderator. As shown in table 3 and illustrated in figure 1 the moderation effect of leadership for quality is significant, the estimation is 0.22.

Table 3: The moderation effect

Hypotheses			Estimate	t-Value	P	Significance
Quality management practices	→	Innovation strategy	0.53	7.44	***	Significant
Leadership for quality	→	Innovation performance	0.22	4.46	***	Significant
Moderation effect			0.22	3.30	***	Significant

*** P<0.001

Figure 1: The moderation effect of leadership for quality



DISCUSSION

The result of moderation analysis showed that leadership do intervene and moderate the relationship between QMP and innovation performance in Saudi hospitals. This findings supported the argument of Alharbi and Yusoff (2012) who proved the positive association between QM and transformational leadership in Saudi hospitals. In addition to Alharbi and Yusoff (2012) the study of Malik and Farooqi (2013) and study of Kumako and Asumeng (2013) have proved the same relationship. This finding is in line also with the argument of Dean and Bowen (1995) and Lakshman (2006). Leadership concerns with QM by putting QM principals in actions to help innovation. For example, HRM is one of the main principles of QM while encouraging employee involvement, empowering employee and revealing spirit of teamwork and providing training are the leadership practices that put the QM principle in action during QM system implementation. The moderation results of this study support one of the emerged concepts resulted from the role of QM principles on leadership which the concept of quality oriented leadership or total quality leadership (Ulle & Kumar, 2014). Total Quality leadership empowers, motivates, creates values and innovates.

CONCLUSION

This paper has examined the moderation role of leadership for quality in the relationship between Quality Management practices and innovation performance in hospitals of Saudi Arabia. The respondents to the questionnaire were the directors of the hospitals. The obtained data were analyzed by PLS-SEM. The analysis has showed that leadership for quality moderates the relationship between QMP and innovation performance in Saudi hospitals. This result helps the manager in the hospitals in improving the management practices and the leadership for quality in their hospitals for developing high level of innovation performance. The study contributed to the literature by adding this finding to the body of knowledge, the study has contributed also to the literature by adding the view of leadership for quality in relationship between quality management and innovation performance from perception of Saudi hospitals.

The limitation to be mentioned in this study is that it involved only one country, the future research can add more countries to compare the findings and to get more views can explain the relationship.

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