CRITICAL SUCCESS FACTORS FOR TOTAL QUALITY MANAGEMENT IMPLEMENTATION IN JORDANIAN HEALTHCARE SECTOR

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Abstract

The purpose of this study is to investigate the role of creativity and innovation on the critical success factors of total quality management TQM implementation in the Jordanian healthcare sector. A survey conducted through distributing 377 questionnaires to healthcare managers working at six different Jordanian hospitals. 292 questionnaires were returned and the response rate was 77.4%. One way- ANOVA test was used to examine the difference in the patterns of creativity and innovation among healthcare managers with respect to the critical success factors of TQM implementation, and multiple regression analysis was conducted to test the impact of independent variable on dependent variables. The results found that there is a statistically significant difference between the different patterns of creativity and innovation concerning the critical success factors of TQM implementation. Additionally the study concluded for a positive and significant effect for the patterns of creativity and innovation on the critical success factors of TQM implementation (β=1.54, t=5.09, p=0.000).

Keywords: Critical Success Factors, Total Quality Management TQM, creativity, innovation, health sector, Jordan

Introduction

Today, healthcare sector faces a new era of development and rapid changes in economical, technical, medical, epidemiological, social and managerial paradigm shift which have brought the key challenges of high competition and new technology firmly into focus for all health services organizations. In the recent years, many health care institutions have applied the principles and practices of TQM in order to solve most of the problems that they are currently facing (Chesanov, 1997; Counte et al., 1995; Kim et al, 1994).

The successful organizations have to act depending on creativity and innovation (Shahrary, 1997). Peter Drucker says the only things that matter in business today are marketing and innovation (Wycoff, 1997).

The context of the literature on relationship between creativity, innovation and TQM stated a multifaceted nature of relationship. Generally, the complexity emerges from the diversity of TQM practices and multiplicity of its dimensions and, on the other hand, from the diversity of creativity and innovation typology (Pandya, 2014).

Contribution to Current Knowledge

The main contribution of this study is the adoption of a new comprehensive approach in investigating the role of creativity and innovation on the critical success factors of TQM implementation in healthcare sector.

Since the other related studies have focused on the role of TQM practices in improving the creativity and innovation in healthcare organizations, this study provides important ideas and insights to academicians and practitioners for a deeper investigation of the importance of creativity and innovation for the successful implementation of TQM in health care sector.

A primary contribution of this study also is highlighting the comparison between the different patterns of creativity and innovation concerning the critical success factors of TQM practices.

Creativity and innovation

Creativity in general defined as useful novelty. Novelty that can be applied and add value to an organization's products and services (Oldham et al., 1996). Creativity includes the generation of ideas, alternatives, and possibilities (Smith, 1998). Creativity and innovation is unquestionably the most significant strategic and operational lever on hand for creating sustainable competitive advantage, in R&D of any sector (Rana , 2010). There is growing consensuses that innovations are critical inputs for long term sustainability of an organization. Recent studies advocate that there is a

wide gap between what organizations had targeted for and what output they are reaping from their innovation investments (Birchall et al., 2004).

Torrance (1962) compiled a list of characteristics from several studies to differentiate highly creative individuals from the less creative counterparts. Individuals who were more creative were found to possess higher levels of wish to excel, determination, persistence, self-confidence, and need for goal attainment (Torrance, 1962).

The organization's most important asset isn't raw materials, transportation systems, or political influence. It's creative capital-simply put, an arsenal of creative thinkers whose ideas can be turned into valuable products and services. Creative employees pioneer new technologies, birth new industries, and power economic growth. If you want your organization to succeed, these are the people you entrust it to. Most businesses haven't figured out how to accommodate the complex and chaotic nature of the creative process while increasing efficiency, improving quality, and raising productivity (Florida, 2005).

There is a close relationship between creativity and innovation. Someone considers creativity as “thinking up new things” while innovation as “doing new things.” Although creativity and innovation are distinct constructs (Shalley et al, 2004), they are perceived to be so closely linked that the constructs have been used interchangeably (Ford, 1996; Georgsdottir, 2004). Therefore his study considered the creativity and innovation as two sides of the same coin, where we cannot separate the creative activity for a single individual or organization from the direct innovative consequences of this activity.

TQM in health sector

There are common believes among management thinkers and executives that Total Quality Management TQM philosophy is one of the most valuable approaches that applied worldwide in the contemporary organizations, in spite of their business nature, and approved its credibility for the organizations’ success when it was implemented accurately. Moreover, the TQM in health sector focuses on patient satisfaction, continuous improvement, teamwork, process management, systemization, organization culture and structure, and lastly commitment from management and supportive leadership (Talib et al., 2011). Several studies have also emphasized that successful implementation of TQM can result in significantly superior outcomes in health care institutions (Short, 1995; Yang, 2003; Counte et al., 1995), some of these outcomes are: upgraded quality of service, improved health care quality and performance, patient satisfaction, reduced operating cost of health care institutions, employee satisfaction, and patient safety.

Therefore, health care institutions have started to implement it strictly. Some of the studies show the positive aspects of implementing TQM philosophy such as quality improvement, financial performance, competitive advantage, and employee commitment in various health care organizations (Alexander et al., 2006; Chesteen et al., 2005; Douglas et al., 2001).

Critical Success Factor of TQM implementation in healthcare

The critical factors of Total Quality Management in the healthcare sector stands for a way of life of the organization, which introduces constant improvement of hospitals on all levels and activities, creating the appropriate environment through collaborative work, trust and respect. As the factors which are carried out are significant, it is suggested that there should be used for improving the overall performance (Bhavani, 2014).

Talib et al. (2010) have identified various critical lay factors for the success of TQM. "Pareto analysis" was used to sort and arrange the critical success factors according to the order of criticality. The findings revealed there was successful implementation of TQM program in organizations. It was concluded that top-management commitment was listed as the top critical success factor with customer focus and satisfaction.

Mustafa Dilber et al (2005), have determined the critical factors of Total Quality Management in the Healthcare sector and the study was done to measure the effect of critical factors of total quality management on business performance in small and medium size hospitals in turkey. Data analysis indicated a positive correlation between the performance of the hospital and the four critical factors of quality management in turkish healthcare industry.

An extinsive review of the relevant literature has shown that no study has yet addressed the effect of the creativity and innovation among managers on the critical success factors of TQM implementation in healthcare sector. Accordingly, very little is known about the effect of creativity and innovation on TQM practices, especially in hospitals and healthcare organizations. Therefore the current study aims to reconcile this gap in the literature.

Research Design

This study utilized the descriptive-analytical design.

Population and Sample

The target population for this study was the mangers who are working in the Jordanian Ministry of Health hospitals. A simple random sampling technique was used to obtain the required sample size from six different hospitals representing different regions of the country. Each

healthcare manager working in the selected hospitals had the same probability to participate in this study. 377 questionnaires were distributed, and 292 were returned, the response rate was 77.4%.

The study tools

For this study, a structured self-administered questionnaire was designed as a data collection instrument. The questionnaire consisted of three main parts which include the following information:

1. Demographic data: included personal information, such as age, gender, years of experience, the educational level, and the profession or position.
2. Creativity and innovation data: The study used the multifactor creativity questionnaire which was developed by Townsend and Farrier (1989) to measure creativity. It is already reliable and validated instrument and previously used in other related studies (Shehri et al., 2013).
3. The critical success factors of TQM implementations: The TQM part of the instruments used in this study was largely derived from the literature review. These include the adoption of questions from successful studies previously conducted in related field of study such as: Yusof and Aspinwall's (2000) study, Salaheldin and Mukhalalati's (2009) study, and Rad's (2005) study. The distributed questionnaire contained (11 items) which represent data about the critical success factors of TQM implementation, as the following:
   A. It is necessary to engineer in quality as early as possible – preferably at the specification and foundation of businesses plan stage.
   B. Organizational structure adjustment supports the success of TQM implementation.
   C. Leadership and support from top management.
   D. Conducting continuous improvement.
   E. Selective application of tools and techniques.
   F. Involving suppliers in improvement activities.
   G. Adopting a quality assurance system and or accreditation.
   H. Sufficient financial resources.
   I. Providing relevant training for senior management/staff level.
   J. Providing effective and appropriate training for employees.
   K. Favorable work environment and culture.

Reliability and Validity of the Instruments

The study questionnaire was evaluated for reliability by Cronbach's alpha, which is a well-known accepted index to indicate the reliability of the instruments. All scales have reliability coefficients ranging from 0.73 to 0.94, which exceed the cut-off level of 0.60 set for basic research (Nunnally,

1978), so it can be concluded that all the alpha values indicate that the study's instruments are reliable.

Moreover, the questionnaire was pre-tested to ensure that the wording and sequencing of questions were appropriate and it was also validated (face validity) by five experts academicians and managers who are familiar and from the Jordanian healthcare sector.

Data analysis

One-way analysis of variance (One way- ANOVA) was used to examine difference in the patterns of creativity and innovation among healthcare managers with respect to the critical success factors of TQM implementation. And multiple regression analysis was conducted to test the impact of independent variable (patterns creativity and innovation) on dependent variables (the critical success factors of TQM).

Hypotheses Testing

This study attempted to test the following hypothesis:

H.1: There is a statistically significant difference between the patterns of creativity and innovation among healthcare managers concerning the critical success factors of TQM implementation in the Jordanian health sector.

H.2: There is a statistically significant effect for the pattern of creativity and innovation on the critical success factors of TQM implementation from the perspective of healthcare managers in the Jordanian healthcare sector.

Hypothesis One

Based on Table 1, the One-Way ANOVA test shows that there is a significant difference between the patterns of creativity and innovation of health care managers concerning all TQM critical success factors ($p \leq 0.05$). Thus, H.1 is totally supported and there is a statistically significant difference between the patterns of creativity and innovation of health care managers in the Jordanian health sector concerning the critical success factors of TQM implementation.

Table 1 Significant levels (P values) for the differences between the patterns of creativity and innovation among healthcare managers concerning the critical success factors for TQM implementation.

The critical success factors for TQM implementation	**Sig. (p)**
It is necessary to engineer in quality as early as possible – preferably at the specification and foundation of businesses plan stage.	.000*
Organizational structure adjustment supports the success of TQM implementation.	.000*
Leadership and support from top management.	.000*
Conducting continuous improvement.	.000*
Selective application of tools and techniques.	.000*

Involving suppliers in improvement activities.	.000*
Adopting a quality assurance system and or accreditation.	.000*
Sufficient financial resources.	.000*
Providing relevant training for senior management/staff level.	.000*
Providing effective and appropriate training for employees.	.000*
Favourable work environment and culture.	.000*

*Significant at level .05 based on One Way ANOVA.

Hypothesis Two

H.2 studies the effect of creativity and innovation on the critical success factors of TQM implementation from the perspective of healthcare managers in the Jordanian healthcare sector.

As shown in regression table 2, path between the patterns of creativity and innovation and the critical success factors of TQM implementation was positive and significant (β=1.54, t=5.09, p=0.000), and the prediction of the critical success factors of TQM implementation is explained by 33% of the pattern of creativity and innovation. Thus H.2 is supported.

Table 2. Regression analysis results between the patterns of creativity and innovation and the critical success factors of TQM implementation.

R2=.336
Adjusted R2=.333
Sig=0.000

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.542	.303		5.092	.000
Patterns of creativity and innovation	1.288	.106	.579	12.106	.000

Dependent Variable: critical success factors of TQM implementation

Findings

The survey findings suggest that the pattern of creativity and innovation has a positive and significant impact on the critical success factors of TQM implementation in the Jordanian healthcare sector.

More importantly, the pioneer comparison between different patterns of creativity and innovation for healthcare managers in the Jordanian hospitals revealed that healthcare managers have agreed on all of the surveyed factors to be critical for successful TQM implementation, which include: It is necessary to engineer in quality as early as possible -preferably at the specification and foundation of businesses plan stage, organizational structure adjustment supports the success of TQM implementation, leadership and support from top management, conducting continuous improvement, selective application of tools and techniques, involving suppliers in improvement activities, adopting a quality assurance system and

or accreditation, sufficient financial resources, providing relevant training for senior management/staff level, providing effective and appropriate training for employees, and favorable work environment and culture.

The Managerial Implications

Based on the findings and results of the analyzed data, the following managerial implications of the current study will be introduced to the Jordanian healthcare sector regarding the importance of creativity and innovation and its relationship to the successful implementation the TQM philosophy:

- A significant implication of the current study is that the health care organizations in Jordan can adopt and foster the creativity and innovation programs as a method to ensure the implementation of TQM philosophy successfully.
- Another implication of this study is promoting the understanding for the effect of creativity and innovation concerning the critical success factors for TQM implementation.
- Finally, Health care managers can draw attention in enhancing the creativity and innovation in the working environment as well as the importance of giving training and education to their employees in the creativity and innovation for the purpose of the successful implementation for the TQM philosophy.

Conclusion

This study contributes to what is currently a very limited amount and almost absent of empirical research on creativity and innovation's role in TQM implementation's critical success factors in health sector in developing countries. A pioneer contribution of this study is its undertaking of an extensive comparison between different patterns of creativity and innovation at different managerial levels and for different critical success factors of TQM implementation in the Jordanian healthcare sector. More impostantly, this study revealed the crucial role and the positive impact for creativity and innovation on the critical success factors of TQM mplementation in healthcare sector.

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