

The Relationship between TQM, Knowledge Management, and Innovation: A Framework to Achieve Organizational Excellence in Service Industry

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Abstract

Purpose: The purpose of this study is to examine the relationship between TQM, Knowledge Management, and Innovation in business organizations, and to develop a conceptual framework based on this relationship to achieve organizational excellence in the service industry.

Design/methodology/approach: The study is based on an extensive literature review on TQM, Knowledge management, and Innovation and their relationships. Based on the review of available literature, a framework is developed to conceptualize this relation in context to the service industry.

Findings: The findings of the study show that there is a positive relationship between TQM, Knowledge Management, and Innovation. TQM and Knowledge Management have a reciprocal relationship, which compliments each other, and both lead to Innovation. Finally, a conceptual framework is proposed, which if implemented would enable organizations to achieve organizational excellence.

Research limitations/implications: The study is based on the review of available literature and involved service industries in its scope.

Practical implications: This study will be very useful for the researchers working in TQM, Knowledge Management, and Innovation. The proposed framework will enable researchers to understand the relationship between all three dimensions and carry out future research based on this study. The study will also help the practitioners to understand the relationship among these areas and how to interlink and apply these within their firms to achieve organizational excellence.

Originality/value: The study shows that several studies are carried out in examining the relationship between TQM & Knowledge Management and TQM & Innovation. But there is a dearth of study that covers all three aspects (TQM, Knowledge Management, and Innovation) together under one umbrella and provides a comprehensive framework to achieve organizational excellence in the service industry based on their relationships. Thus, the present study seeks to bridge this gap in the literature.

Keywords: Total Quality Management, Knowledge Management, Innovation Performance, Service Industry, Organizational Excellence

Category: Conceptional paper

1. Introduction

In today's scenario, the significance of the service industry is rising in both domestic and international arena. A vast economic activity by the service industry comprises innumerable organizations, firms, and enterprises working in various fields such as hotels, restaurants, tourism, education, transportation, telecommunications, health care, financial services, personal services, and social services. To gain a competitive edge and sustain in the present hostile business environment, these organizations need to provide high-quality services innovatively. For this drive, the approach of Total Quality Management (TQM) plus application of its practices is a key that enables and support the organization in enhancing the innovation process through TQM's fundamentals e.g. improved service quality with total focus and constant improvement (Baldwin and Johnson, 1996; Flynn et al., 1995). TQM is a remarkable approach in achieving a greater quality of products and services that leads to the advancement of organizational performance and excellence, thus results in overall customer satisfaction (Magd and Karyamsetty, 2020; Magd, 2015; Lam et al., 2012). It is also deemed as one of the major strategic aspects in attaining business success and excellence. Therefore, companies worldwide focus on the principles of TQM to achieve competitive advantage and organizational excellence. However, in this rapidly changing market dynamics, and knowledge-based society, focus on quality only is not enough. The organization nowadays also needs to emphasize innovation to sustain itself in the market and achieve higher organizational excellence.

In this highly uncertain market, organizations are continuously forced into transformations that act as a leading force behind numerous ground-breaking and improved approaches such as Knowledge Management (KM) and TQM (Lawler et al., 2001). The TQM and KM can be perceived as paraphernalia to pledge changes in organizations, which could lead to organizational excellence. *According to Long et al. (2015), "TQM practices are identified as people management, process management, and mainly customer focus" (p.75).* In today's competitive environment organizations having common challenges i.e., competition and productivity, and how to improve their overall performance to create or regain a competitive advantage. *According to Ansari et al. (2016), "organizations shall put special emphasize on Service Quality (SQ) for achieving critical success, which would improve overall customer satisfaction, customer loyalty, operational performance, and firm profitability" (p. 207).*

The tri-dimensional affiliation among TQM, KM, and Innovation can strengthened and consolidate organizational achievement. Therefore, to for having modest advantage, the service industry desires to recognize the integration of KM, TQM, and Innovation for eventually gaining competitive advantage and finally organizational excellence. KM was initially discussed in the early 1990s, which acknowledges that it is a systematic and consolidative process of organizing company-wide performance by realizing, obtaining, creating, sharing, and spreading the knowledge to individuals and the groups, for organizational success, which can be explored through training and development (Magd and McCoy, 2014). *According to Ooi et al. (2012), "Training and development, customer focus, and teamwork showed a positive association with middle management employees' knowledge sharing" (p.74).* The introduction of TQM with

knowledge sharing and innovation can offer to improve service quality for product and service as well.

An effective and successful organizations shall explore and examine each TQM concepts and how those concepts are integrated for obtaining organizational excellence. Organizations that could comprehend the associations among the TQM, KM, and innovation can attain organizational excellence. It can become agile and better off in facing market challenges in near future and long-term perspective. The need for quality, KM and innovation in the service industry has become prominent to achieve organizational excellence and gain a competitive edge (Karani and Bichanga, 2012). This has pushed many researchers and scholars to research discovering the association amount TQM, KM, and Innovation. The need for conducting this study was to find out the relationship between TQM, Knowledge Management, and Innovation and how it is going to attain structural superiority in service sector.

Hence, the present study aims to discuss the association between TQM, KM, and Innovation and to propose a framework affiliated with TQM, KM, and innovation to attain overall organizational success in service industry. The major contribution of this research is to investigate the correlation among TQM, KM, and Innovation. It was observed that TQM and KM are complimentary to each other, which eventually lead to Innovation. Consequently, incorporating these three traits in service industry would facilitate in obtaining service excellence. Similar or related studies were conducted by other authors such as Honarpour et al. (2017); Arshad et al. (2015); Hoanga et al. (2010); Molina et al. (2007); and Hsu et al. (2005).

This study extensively review literature related to TQM roles in service industry, TQM and KM, TQM, KM, and innovation, TQM and Organizational Excellence in Service Industry. Extensively traversing on related literature created potential thrust and filled the literature gaps to a great extent. The following section of this paper discusses literature review in section 2, section 3 discusses the research methodology, whereas section 4 covers the proposed framework to achieve organizational excellence in the service industry. Finally, section 5 includes the conclusion, limitations, and future scope of the study.

2. Literature Review

This section analyzes the literature on the following themes: TQM and its role in the service industry, Integrating TQM-KM, integrating TQM-KM-innovation, TQM, and Organizational Excellence in the service industry to enable service organizations to achieve competitive advantages.

TQM involves continuous improvement, which is based on fact that TQM requires that an organization shall repeatedly gather, investigate, and examine data with high accuracy for propose decision-making for attaining success. On the other hand, according to Hsu et al. (2005) “*KM is based on building a culture to support knowledge creation and sharing because both share many similarities*” (p. 351). The organization’s following KM path with a vibrant and well-planned vision shall strive for success.

Top executives must evaluate the knowledge and skills, an organization having, accordingly KM initiatives to be embarked upon. According to Siregar et al. (2019), KM play a crucial part in supporting innovation in all types of industry including service. Thus, the literature review aims to understand the role of TQM in the service industry and which kind of relationship exists among TQM, KM, and Innovation, so that the framework can be developed integrating these three aspects to achieve organizational excellence in the service industry. Therefore, in the subsequent

subsection, TQM and its role in the service industry, integration of TQM-KM, integration of TQM-KM-Innovation, and how TQM can be used as organizational excellence in the service industry are discussed.

2.1 TQM and its Role in Service Industry

Continuous and sustainable growth in service quality would lead to TQM achieving competitive advantage. According to Mushtaq et al. (2020), TQM can achieve sustainable competitive improvement in fostering firms. One of the important ingredients of TQM is employee's satisfaction that can play a pivotal role in achieving TQM. According to Ansari (2020), Service Quality and employee satisfaction can deliver major thrust in improving customer loyalty, satisfaction, and repurchase behavior. TQM can lead to improved products and services quality and reduce production and operating cost in all industries, which would lead to higher productivity, competitive market price, value for the money for finally gaining customer's satisfaction. According to Hoanga et al. (2010), TQM can be well-thought-out set of practices, which was originally pragmatic in Japanese firms after World War – II that was further approved by the USA in the early 1980s. TQM can deliver multiple benefits such as improved productivity, quality, customer satisfaction, customer loyalty, reduced cost, and less rework. According to Prajogo et al. (2003), TQM can meaningfully and relate to products as well as service innovation and its performance.

In general, TQM principles inculcating quality culture within the organization. In the service industry TQM, particularly, play a pivotal role in improving customer satisfaction, customer loyalty, repurchase intention, which can eventually lead to increased revenue and profitability. Top management commitment is paramount for effective TQM implementation (Magd, 2015). According to Sit et al. (2011), TQM areas such as management control, strategic planning, analysis of event based on evidence, and effective management can significantly and positively be associated with service quality. According to Hussain et al. (2019), knowledge recognition, innovation, compilation, distribution, and its usage play great role in innovation.

The transformational leadership style to meet and exceed customer expectations, commitment towards identifying and implementing quality culture, and monitoring overall service quality is imperative. These traits can be the impetus for improving service quality and attainment of TQM in the service sector. Service providers shall continuously monitor service quality for maintaining end-user's satisfaction (Ansari et al., 2016). Therefore, top management commitment and sustenance, plus employee commitment, unending development with customer centric approach, and the decision based on facts and figures are crucial for TQM implementation.

2.2 TQM and KM

KM is the procedure that starts from knowledge creation, sharing, using, and managing for the productive purpose for eventually gaining for competitive advantage. Knowledge can be from building of a concept to testing to hypotheses to its practical implication. It may contain, definition, facts, and figures, truth and beliefs, professional experience, market intelligence collected through primary or secondary data. According to Ooi (2009), TQM practices support knowledge management efforts. Integrating both KM and TQM would have great significance on an organization's strategy. Even TQM is viewed as continuous improvement, whereas are KM is considered as sweeping perfection, however, both having a cohesive relationship and strongly

correlated. According to Honarpour et al. (2012), TQM and KM are synergistically connected with each other, which can create collaboration for sustainable development.

The above assessment of the TQM and KM progressions specifies that their strengths and complementarity of each other. One will not survive in absence of others. The effectiveness of TQM process is to accomplish overall quality improvement, enhance productivity and effectiveness, which can only occur if KM concepts are effectively and cohesively integrated into the process. According to Aboassin et al. (2011), KM processes such as identifying, gaining creating, distributing, storing, and the application would influence the TQM. In today's ambiguous, volatile, and uncertain environment, an organization can pass through various stages of challenges, therefore, organizations must be agile to adapt and adapt for its sustainability. It can only be achieved through creating, acquiring, embedding, and using knowledge through which an organization can address the critical issues for its competitive advantage. Acquiring new sources of information through knowledge sharing, or technology improvement can assist organizations to stand out from the crowd in retaining and improving company segments in terms output products and services.

2.3 TQM, KM, and Innovation

The purpose of innovation is to improve or to replace processes, a procedure, products, or even a service delivery system. In view of this, a product or a service is renewed and brought up to date by applying new procedures, maybe by modifying existing techniques or by introducing new techniques, or due to a change in the idea for creating a new product. According to Antunes (2017), Process improvement with strategic innovation can improve the overall performance of the company. The concept of innovation encompasses over and above the exploring, investigation, research, and development through swotted technological applications. According to Honarpour et al. (2017), KM is likely to have positive innovative results. Therefore, the drive of innovation can be considered as the introduction of revised products, procedures, service delivery system due to adoption of knowledge. Hence, TQM practices that create value creation for the end users and the company.

The unmatched relationship between TQM, KM and Innovation can fill up the differences between TQM, service novelty, and its quality (Arshad et al., 2015). Product or service innovations either through the introduction of new or improved versions can be beneficial for customers, and at the same time maintaining the product quality. According to (Ansari et al., 2018), SQ must be maintained for overall customers containment that can be achieved through skilled employees through continuous training. Product innovation can be either through the emergence of a new idea, technology, or a combination of technologies, or even a mix of ideas, technology, or TQM, whose results can be the introduction of a new product or service. On the contrary, process innovation can lead to the overview of revised fundamentals in the company. According to Honarpour et al. (2017), TQM and KM showed a positive association with the process and product innovation. Based on the discussion it is observed that integrating TQM-KM- Innovation enhances organizational achievements.

2.4 TQM and Organizational Excellence in Service Industry

TQM with the amalgamation of organizational excellence can explore and get into an imperative zone of organizational success. For which, the concentration shall be on organizational top management, incessant development, novelty, client focus, strategic planning and benchmarking,

product, and service design, and so on. According to Arumugam et al. (2009), the strengths of the company depend on its quality management implementation, based on customer focus approach, process management with transformational leadership and transactional leadership, where total management teamwork in an integrated fashion, point out the required change and plan vision and mission of the company. Leaders should have excellent strategic planning, human resource development, and management.

The positive relationship between TQM and organizational excellence can provide a productive atmosphere for innovation since TQM supports continuous improvement and by adopting a customer focus approach to create captive customers, which can only be done through maintaining a high level of customer satisfaction and loyalty. According to Leavengood (2012), Quality management performs and maintain quality through an outstanding innovation, commitment, and performance. According to Al- Saffara (2020), TQM influence employee accomplishment by knowledge sharing. Organizations that concentrate on customer focus approach must essence and recognize customers' latent needs for exploiting the market potential. Therefore, based on the discussion, the authors proposes that TQM and organizational excellent should be given a well-thought place in the organization for its sustainability.

3. Methodology

This section discusses the methodology that is adopted to fulfil the objectives of the study. The present study is purely based on secondary data through an extensive literature review to discuss the role of TQM particularly in the service sector, and the relationship between TQM, KM, and Innovation, and to propose a framework to achieve organizational excellence in the service industry by integrating these three concepts.

A review of available literature was conducted in the field of TQM, KM, and Innovation to understand the relationship among them, and based on the same a framework is developed. The literature review was divided into the following themes: TQM and its role in service industry; TQM and KM; TQM, KM, and Innovation; and TQM and organizational excellence in service industry that enable the authors to understand the current phenomenon about these fields. The authors qualitatively summarize evidence on the above topics using informal or subjective methods to collect and interpret studies, where the goal was to provide the summary of the topic (Kysh, 2021). The literature was collected from various research papers, articles, book chapters, reports, and conference proceedings related to TQM. The databases such as research gate, google scholar, and Scopus were referred to search the papers. This study considers a review of published studies on TQM, KM, and Innovation mainly during the year 2000-2021. For this study, the authors have referred to highly reputed international refereed journals and well-known publishers worldwide such as Elsevier, Emerald, Springer, Wiley, Sage, and T&F.

Several keywords were used to search the relevant studies, starting with TQM, Knowledge Management, Innovation, TQM in service sector, TQM and KM, TQM and Innovation, KM and Innovation, TQM and Organizational excellence. Later, the searching process were narrowed down using the following keywords: TQM and KM in service organization, TQM and Innovation in service organization, KM and Innovation in service organization, TQM and Organizational excellence in service sector etc. Based on the mentioned search process, all the relevant studies that were under the scope and published only in the academic journals and books are included in the present study.

To develop a framework, the relationship between the three aspects i.e., TQM, KM, and Innovation is thoroughly considered and then integrated to conceptualize these relations in context to the service industry. This will enable the service industry to strengthen competitive advantage and achieve organizational excellence.

4. Framework and Discussion

This section discusses the conceptual framework that is developed to achieve organizational excellence in the service industry. Figure 1 shows the framework, which is created based on the review of literature to highlight the association between TQM systems, KM, and Innovation that will facilitate a service-based organization to achieve organizational excellence and gain competitive advantage.

TQM is mainly considered as the foundation of the basic elements that must be followed to achieve quality and overall success of business organization. The key elements of TQM that are comprised in the framework are as follows that enables KM and Innovation in any business organization:

- **Customer focus:** This element emphasizes on understanding the customer's need and expectations.
- **Supplier relationship:** This element focuses on a sound relationship and partnership with the partners/suppliers that supply the key ingredients to the organization.
- **Leadership:** This element establishes that leaders are fundamental in setting the clear goals and objectives and ensures that all the employees are striving towards attaining the quality goals.
- **Personnel involvement:** This element helps to bridge the communication gap between the management and employees. Involving employees in decision making process increases their morale and leads to innovation.
- **Continuous improvement:** This emphasizes on continuous improvement of the product, services, and processes. This must be the permanent objective of any organization. Focusing on continual improvement helps an organization to cope up with the changing business environment.

TQM is believed as an originator of innovation and this was supported in various past research such as studies performed by Hung, et. al. (2011); Sadikoglu and Zehir (2010); Satish and Srinivasan (2010); Perdomo-Ortiz et al. (2009); Fuentes et al. (2006); Hoang et al. (2006); and Prajogo and Sohal, (2004). Customer focus approach provides information about the customer's changing demand, taste, preference, which enable organizations to generate new ideas to satisfy the changing demand (Hung et al., 2011). Continuous improvement practice enables the organization to adopt new methods/practices to perform the operations (Satish and Srinivasan, 2010). Well established relationship with the supplier helps organizations to improve the product and service quality by putting their ideas to the new process and product/service development (Sun et al., 2010). Subsequently, the involvement of people/personnel leads to idea sharing and exchange that precedes innovation (Perdomo-Ortiz et al., 2009; Prajogo and Sohal, 2004). For all these, the focus on leadership and commitment from top management is very essential, who are ready to adopt these practices and provide support to the organization in following the same.

It is revealed that there is a positive correlation between KM and innovation (Chung-Jen et al., 2010; Liao and Wu, 2010; Huang and Li, 2009; Jiang and Li, 2009; Mei and Nie, 2007; Darroch, 2005). The literature shows that knowledge creation or acquisition enriches the knowledge assets in the company that supports knowledge modifications and ultimately results in innovation

(Andreeva and Kianto, 2011; Hung, et al., 2010; Chen and Huang, 2009; Chang and Lee, 2008). According to Hung et al. (2010); Liao and Wu (2010); Chen and Huang (2009), transferring valuable knowledge leads to learning, which finally leads to innovation. Correspondingly, the application of acquired knowledge directly connects to innovation effectively (Chen and Huang, 2009; Huang and Li, 2009).

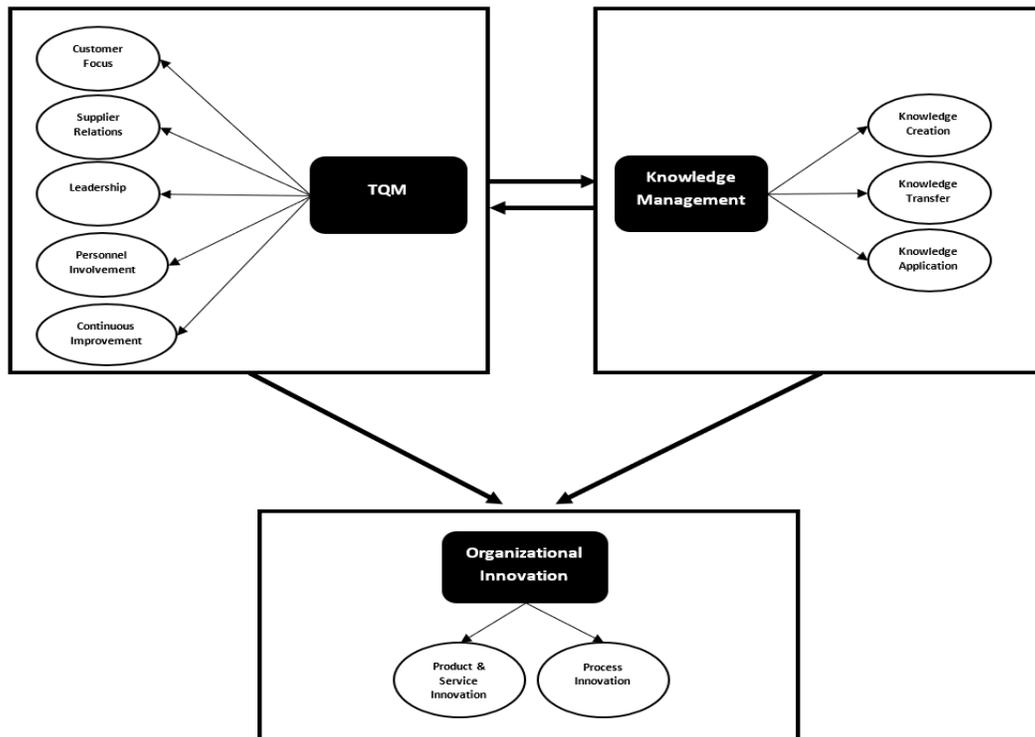


Figure 1: TQM, Knowledge Management, and Innovation: A Framework to Achieve Organizational Excellence in Service Industry

Also, the effective usage of knowledge in quality management enhances the overall success (Long et al., 2016). It appears that TQM and KM are interconnected as they shared mutual goals (Waddell and Stewart, 2008), and both aim at achieving competitive advantage and innovation. Hence, there is a mutual rapport between TQM and KM, and both lead to innovation and facilitates an organization to achieve organizational excellence. Molina et al. (2007) discussed knowledge transmission as the facilitator between TQM and performance, ensuring that in terms of performance, not only TQM induces KM, but also KM drives TQM about innovation.

TQM plays a vital role in the service industry where there is a huge competition to fulfill customer's requirements and provide higher customer satisfaction. Considering the increasing competition and changing market dynamics, a service organization needs to focus on innovation both in terms of providing service and in the process. This will not only help organizations to provide quality service but also reduce the cost, which will facilitate them to provide the quality service at low cost, thus result in competitive advantage and overall business success. Various studies reveal that following a TQM approach in a business organization leads to innovation as it highly focuses on customer satisfaction and continuous improvement. To focus on innovation, it is also very essential to manage the knowledge adequately to cope with the changing business scenario and manage the

uncertainties. For this, it is very important for a service organization to prudently acquire the knowledge, disseminate that among the team, and then apply the gained knowledge to accomplish better results.

Based on the findings from the analysis of available literature and development of a conceptual framework, the following propositions are formed, which can be tested empirically in future studies:

- There is a reciprocal relationship between TQM and KM in the service industry.
- There is a positive relationship between TQM and Innovation in the service industry.
- There is a positive relationship between KM and Innovation in the service industry.
- There is a positive relationship between TQM, KM, and Innovation that leads to achieve organisational excellence in the service industry.

5. Conclusion

In the present high volatile business environment especially in the service industry, it is very difficult for the organization to compete and sustain. Organizations are rushing to gain a competitive edge so that they can sustain themselves in the market. High competition and rapidly changing demand from the customers are the most prominent reasons for this scenario. To deal with this type of situation, it becomes very important for the service organization to highly emphasize customer satisfaction and be different from the competitors in the eyes of the customer. For this, it is highly essential to focus on all the aspect that leads to innovation in services. With this main aim, the present study examines the relationship between TQM, Knowledge Management, and Innovation in business organizations, and developed a conceptual framework based on this relationship to achieve organizational excellence in the service industry.

The framework comprises the TQM elements and the relationship of TQM with KM, and Innovation and their amalgamation towards achieving organizational excellence in service industry. This framework indicates that there is a positive relationship between TQM, Knowledge Management, and Innovation. It can also be observed that TQM and Knowledge Management have a reciprocal relationship, which compliments each other, and both lead to Innovation. The study shows that the connection among TQM, KM, and Innovation impact the performance outcome of a business organization. Thus, integrating these three aspects in a framework will enable the service organizations to achieve competitive advantage and organizational excellence. The present study will be very beneficial for the practitioners and researchers working in TQM, Knowledge Management, and Innovation especially in the service sector. The study will help the practitioners to understand the relationship among these areas and how to interlink and apply these within the service firms to achieve organizational excellence. This study will help the researchers to understand the present state of research in TQM, KM, and Innovation in the service industry, and will facilitate future studies by highlighting the important issues. The proposed framework will enable researchers to understand the relationship between all three dimensions and carry out future research based on this study to test the findings through empirical study.

The study shows that several studies are carried out in investigating the relationship between TQM & Knowledge Management and TQM & Innovation, but there is a dearth of study that covers all three aspects (TQM, Knowledge Management, and Innovation) together under one umbrella and provides a comprehensive framework to achieve organizational excellence in the service industry based on their relationships. Thus, the present study seeks to bridge this gap in the literature.

5.1. Limitation of the Study and Scope for Future Research

The present study is confined to the review of available literature and involved service industries in its scope. Hence, offers several avenues for future studies. In the future, primary research can be carried out to verify the proposed framework and it can be empirically tested in different service organizations as it is very difficult to generalize the same framework for all service organizations. The proposed hypothesis that are developed based on the conceptual framework can also be tested in future studies. And finally, developing a model including TQM, KM, and Innovation to achieve organizational excellence can also be an interesting area of study in the future.

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