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Does Soft and Hard TQM Practices Impact Operational Performance? A Conceptual Model

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Abstract

The current paper aims to develop a conceptual model for examining total quality management (TQM) (Soft and Hard practices) and their effect on operational performance. The TQM philosophy and Recourses Based View theory (RBV) provide starting points for developing the conceptual model. Based on the systematic literature review, two main groups of TQM practices, namely, soft and hard, were identified and connected to operational performance. The TQM model concerning soft and hard practices was assessed against operational performance. The in-depth discussion we made on using different aspects of soft/hard TQM should be retained or revised. This literature suggested that TQM must be practiced with a clear sense of the impact on operational performance. The paper has some essential discoveries since it is appropriate for management to invest effort and time in analyzing the effect of soft/hard TQM practices implementation on operational performance. Moreover, the conceptual model provides an insightful platform for assessing the impact of TQM practices on operational performance.

Keywords: Total Quality Management (TQM), Soft TQM Practices, Hard TQM Practices, Operational Performance.

Introduction

Over the recent years, the argument over measuring organizational performance has focused on whether to rely on financial or operational indicators. According to Reverte et al. (2016), financial indicators provide a clear and direct reflection of an organization's financial situation. Therefore, over the decade, researchers have adapted various indicators to predict organizational performance (Mishra & Suar, 2010). On the other hand, regarding today's business environment, the researchers claim that relying on the financial indicators to

measure the organizational performance was due to their lagging focus and their inability to reverse the company's value-creating activities (Kaplan & Norton, 1992). Moreover, financial indicators are crucial in determining the organizational performance (Albuhisi & Abdallah, 2018; Ramanathan et al., 2018), but the non-financial performance indicators, such as the operational performance, should be taken into consideration to attain a comprehensive outlook of the organizational performance (Kaplan, 1991; Mehralian et al., 2017). However, the financial indicators only without the non-financial performance indicators do not provide a complete and precise description of overall organizational performance (Al-Sa'di et al., 2017).

Companies worldwide in the manufacturing or services fields have applied the principles of total quality management to increase their competitive position and organizational performance (Aarabi et al., 2012; Dean & Evans, 1994, Ghassan et al., 2019). Past studies have shown that implementing soft/hard TQM practices may result in numerous financial and operational benefits (Albuhisi & Abdallah, 2018; Mehralian et al., 2017; Singh et al., 2018). Several studies reported a positive relationship between soft/hard TQM practices and organizational performance (Demirbag et al., 2006; Mehralian et al., 2013, 2017).

Previous studies found that hard TQM practices significantly impact organizational performance (Khan & Naeem, 2018; Saleh & Sweis, 2017; Saleh et al., 2018). In contrast, Fotopoulos and Psomas (2009) found that only hard TQM practices significantly and positively impact the organizational performance rather than soft TQM practices. Several studies have been conducted to determine the influence of soft and hard TQM on different measures of performance (Calvo-Mora et al., 2014; Khan & Naeem, 2018; Modgil & Sharma, 2017; Sciarelli et al., 2020; Vecchi & Brennan, 2011; Zeng et al., 2015). Many studies reported that soft TQM practices are positively connected to financial performance (Albuhisi, 2018; Al-nasser et al., 2013; Kumar et al., 2009; Tharenou et al., 2007; Valmohammadi, 2011). According to Albuhisi (2018), soft TQM positively impacted both financial and non-financial performance.

Nevertheless, the financial performance indicators alone cannot accurately reflect a company's success in today's competitive world (Mehralian et al., 2017). Past studies have highlighted the importance of the operational performance measures for the well-functioning of a business (Youssef & Youssef, 2018), and that companies' survival is highly dependent on their mechanisms for measuring operational performance levels, such as on-time delivery and product conformance (Saleh & Sweis, 2017; Sharma & Modgil, 2019). Several studies have examined the relationship between the TQM practices (without distinguishing between soft and hard) and the operational performance (Kebede Adem & Virdi, 2020; Sharma & Modgil, 2019), while other studies have examined only the hard TQM with the operational performance (Saleh et al., 2018).

Soft TQM practices are considered as the primary driver of quality performance as well as organizational and operational performance (Zeng et al., 2015). According to Saleh et al (2018), only a few studies have concentrated exclusively on hard TQM practices. In another study, Saleh et al (2017) examined the relationship between both soft and hard TQM practices and operational performance. However, previous studies have failed to establish a clear differentiation between (soft and hard) TQM practices or discussed the combination of soft and hard TQM practices.

The majority of empirical research have examined the effect of TQM practices on organizational performance as one construct on organizational performance without distinguishing between soft and hard practices (Al-Dhaafri & Al-Swidi, 2016; Aziz et al., 2017; Barua et al., 2020; Chienwattanasook & Jermsittiparsert, 2019; Kumar & Shanmuganathan, 2019; Singh et al., 2018; Sweis et al., 2019). On the other hand, numerous studies have distinguished between soft and hard TQM practices, as well as their impact on organizational performance, as one construct with different performance perspectives (Calvo-Mora et al., 2014; Gadenne & Sharma, 2009; Khan & Naeem, 2018; Rahman & Bullock, 2005; Syah Putra et al., 2020).Thus, the current study is motivated by the scarcity of previous studies which did not distinguish between Soft and Hard TQM, in addition, the current study concentrated on operational performance rather than financial performance.

This study aims to;

- Review and discuss the related literature to develop a conceptual model
- Explain the relationship between soft/hard TQM practices and operational performance.

Literature Review and Propositions Development

TQM Practices

The TQM concept was introduced in Japan in the 1980s and gained popularity in the United States, Europe, and later in developing countries during the 1990s (Šteta-Ćerimović & Mekić, 2020). Additionally, both researchers and practitioners have extensively explored the manufacturing aspects of TQM (Nasim, 2018). Even though several research on TQM practices has been conducted, agreement on its definition remains lacking (Bhaskar, 2020). Notably, there is no single TQM definition, but many scholars, authors, and quality practitioners have contributed to developing a variety of TQM definitions. For example, Ho (1997) and Shahin and Dabestani (2011) defined TQM as a dynamic and holistic management philosophy based on three fundamental principles: "Total" refers to the involvement of all individuals and departments within an organization, "Quality" refers to meeting the needs and expectations of customers, and "Management" refers to establishing the conditions for total quality.

Moreover, TQM was defined by the American Society for Quality (ASQ) (2017) as a management approach to long-time organizational success over the customer's satisfaction, and it entails efforts from all organization members to continuously improve products, processes, and services, as well as the organizational culture. The definitions of TQM presented indicated that this concept is multidimensional in nature, as shown by the reference to its dichotomous nature (Fotopoulos & Psomas, 2009; Hoang et al., 2010; Prajogo & Hong, 2008; Prajogo & Sohal, 2006; Manders et al., 2016). Notably, Wilkinson (1992) was the first among those who classified the critical components of TQM into soft practices and hard practices. According to Wilkinson (1992), the soft practices are intangible and are difficult to measure and need to be addressed as long-term issues, while the hard practices encompass the production techniques. After that, both soft and hard TQM practices have been extensively referred to in the extant literature as critical components of TQM (Abdallah, 2013; Aquilani et al., 2017; Ershadi et al., 2019; Kanapathy et al., 2017).

Soft TQM are essential practices that indicate the general principles which orientate the TQM, specifically the aspects that cannot be easily and accurately observed and measured (Calvo-Mora et al., 2014). According to Fotopoulos and Psomas (2009), the soft practices of

TQM are associated with the organizational aspects of TQM. These aspects are the long-term changes that need to be appropriately stressed and handled in the TQM implementation plan of the organization. In addition, soft TQM includes practices that encourage the human aspects of the system, as they are channeled towards the involvement and commitment of management and employees, training, learning, and teamwork or internal cooperation (Zeng et al., 2017). Soft TQM is also linked to the behavioral aspects and is mainly concerned with people's relationships and leadership in order to motivate the human aspects of the quality system (Fotopoulos & Psomas, 2009; Maistry et al., 2017; Rahman, 2004; Worlu & OBI, 2019; Zeng et al., 2015). By focusing on the behavioral aspects of quality, soft TQM practices facilitate the resources aligning with the favorable specifications-based quality (Modgil & Sharma, 2017).

Hard TQM practices include using improvement systems and tools of quality management to improve and support soft TQM practices' implementation (Abdallah, 2013; Fotopoulos & Psomas, 2009; Lewis et al., 2006). In addition, hard TQM involves using tools and techniques to control processes and products to ensure their compliance with and meet established requirements (Zeng et al., 2017). Furthermore, hard practices of TQM focus on the technical and methodological aspects of TQM and the design, implementation, and improvement of TQM systems (Kanapathy et al., 2017). Moreover, hard TQM refers to the quality management tools and techniques, quality improvement, process management, measurements, and design procedure (Saleh & Sweis, 2017; Sotirelis & Grigoroudis, 2020; Vouzas & Psyhogios, 2007). In essence, hard TQM practices refer to the tangible elements (Gadenne & Sharma, 2009; Saleh et al., 2018), which include tools and techniques used in quality management (Abdallah, 2013). Similarly, other tools include production techniques, such as statistical process control, process management, continuous improvement, strategic planning, continuous improvement, and product design (Bhaskar, 2020; Modgil & Sharma, 2017; Nasim, 2018).

Operational Performance

Operational performance is considered as a way used by companies to measure and evaluate their performance using benefits which can be classified as financial benefits and non-financial/operational benefits (Ramakrishnan et al., 2015; Ya'kob & Jusoh, 2016). In this regard, Hartini (2012) described operational performance as an achievement of an organization denoted by the operation outcome. Sethibe (2018) described operational performance as companies' ability to provide services to their customers effectively and efficiently. The present study will conceptualize operational performance as how large amounts of raw materials can be converted into innovative and high-quality finished goods on time in an efficient manner with minimal wastage (Green et al., 2011; Prajogo et al., 2012; Zhu et al., 2008).

According to Abdallah et al. (2016), operational performance can be measured in terms of quality, cost, delivery, flexibility and innovation. Moreover, Ketokivi and Schroeder (2003) have suggested that operational performance can also be measured in terms of dimensions reflecting the internal operations within an organization in terms of product, efficiency, process quality, and productivity. However, the present study will operationalize the operational performance following the most widely used measures as the extent of a

company's ability to achieve its operational performance in terms of delivery performance, lead time, products conformation, and manufacturing cost per unit.

Recourses Based View Theory; TQM Practices and Operational Performance

Resource-Based View (RBV) theory was proposed by Wernerfelt (1984), and it has become a commonly referred management theory since the last few decades (Kellermanns et al., 2016; Galbreath, 2005). Penrose (1959) mentioned that the theoretical perspective of RBV presents organizations as a bundle of resources and capabilities. Through establishing and deploying unique tangible and intangible internal resources and capabilities, the theory posits organizations' ability to enhance their performance and competitive advantages (Barney, 1991; Nabiswa & Mukwa, 2017; Wernerfelt, 1984). In other words, highly distinguished resources and capabilities can be translated into achievement and highly superior performance. Amit and Schoemaker (1993) described resources as the elements that organizations control or own, while capabilities are the organization's ability to compile and disseminate the resources sufficiently.

In RBV theory, soft and hard TQM practices are considered as crucial, inimitable, tangible, and intangible organizational resources, and these resources could increase the performance and lead to a competitive advantage when they are used efficiently and effectively (Kaur & Sharma, 2014; Sahoo & Yadav, 2017; Valmohammadi & Roshanzamir, 2015). The usage of TQM practices improves the skills and capabilities of organizations, thereby leading to positive progress on the performance (Yusr, 2016). The connection between TQM and operational performance can be justified by RBV theory's assumptions (Wernerfelt, 1984). The basic idea is that the soft and hard TQM practices provide various resources. Thus, the organization could implement soft TQM practices (e.g., customer focus, leadership management, commitment, and people management). Hard TQM (e.g., quality tools and techniques, quality data reporting, process management) to support the organization with various resources, including knowledge, skills, relationships, communications, experience, tools, and systems among others. These resources assist the organization in developing its capabilities and enhancing the organizational performance (Posmas et al.,2018). The following section will discuss the relationships between soft and hard TQM practices and operational performance.

Relationship between soft TQM and Operational Performance

Previous studies have focused on the relationship between soft and hard TQM practices and organizational performance and reported a significant and positive impact on operational performance (Barros et al., 2014; Chauke et al., 2019; Hassan et al., 2014; Mehralian et al., 2017; Modgil & Sharma, 2016; O'Neill et al., 2016; Vasantharayalu & Pal, 2016). Sharma and Modgil (2019) showed a positive direct effect of TQM practices on operational performance in the pharmaceutical business in India. TQM improves operational performance in service and manufacturing organizations in Spain (Garcı´a-Bernal & Ramı´rez-Aleso´n, 2015). According to Saleh and Sweis (2017), the connection between soft TQM and operational performance seemed to be more critical among Jordanian enterprises than the relationship between hard TQM and operational performance. A study by Zeng et al (2015) concluded that soft TQM is considered the primary driver of operational performances. Therefore, the present study posits that firms using soft TQM practices will ultimately increase their operational performance. Based on the discussion, the following hypothesis was proposed:

H_1: There is a positive relationship between soft TQM practices and the operational performance

Relationship between hard TQM and operational performance

Even though previous studies have given the relationship between TQM and operational performance considerable attention, only a few studies have focused on brutal TQM practices and their connection with the operational performance compared to soft TQM practices (Saleh et al., 2018). TQM practices have been shown to improve company operational performance in previous research (Garca-Bernal & Ramrez-Aleso, 2015; Kibe & Wanjau, 2014; Truong et al., 2014). According to Chen (2015), TQM practices have a beneficial influence on quality performance, which significantly impacts operational performance. Sutrisno (2019) found that hard TQM practices can improve operational performance and attainment of organizational performance. According to Saleh et al (2018), there is a relationship between hard TQM and operational success in Jordanian enterprises.

Although a substantial agreement in previous studies supports the positive relationship between TQM and organizational performance, many studies suggested future research to re-examine the relationship between soft/hard TQM and other performance indicators, such as the operational performance in future studies (Anil & Satish, 2019; Augustyn et al., 2019). Therefore, the present study posits that when firms engage in hard TQM practices, their operational performance will increase. Based on the discussion, the following hypothesis was proposed:

H_2: There is a positive relationship between TQM hard skills practices and the operational performance

Conceptual Research Framework

Based on the RBV theory assumptions and extensive literature review, it has been proposed that soft and hard TQM directly affect organizational performance (measured by operational performance indicators). The proposed model supports the need for TQM (soft and hard practices) to increase operational performance. The model suggests that the more applying TQM practices, the greater the operational performance will be. Based on the literature review, the present research has developed its theoretical framework shown in Figure 3. In addition, the Resource Base View theory was used for underpinning the theoretical framework.

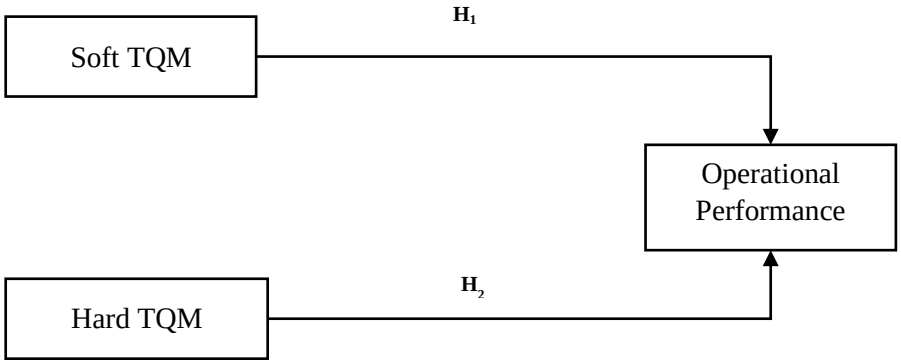

Figure 3. Theoretical Framework

Research Methodology

The present research used a systematic literature review methodology (Fisch & Block, 2018, Nasim, 2018). Based on the literature review, a conceptual model has been developed that encompasses Soft/Hard TQM and operational performance. The TQM model comprises soft TQM and hard TQM and organizational outcomes (operational performance). To achieve the objectives of this study, we utilized search methods that focused on extracting articles related to the study's variables in high-quality journals. The selection of journals was based on their relevance and accessibility. Different databases provide several journals related to quality management; the most relevant journals have been selected for the study purpose. The following search terms were used to download the articles; TQM, Soft TQM, Hard TQM, Organizational Performance, and Operational performance. The entire search resulted in downloading a lot of articles. Then each article was skim read to ensure that its contents were related to Soft/Hard TQM and operational performance. Some of the articles covered the key elements and issues of TQM. However, several articles were written within the TQM context, which linked to other management areas. Articles that include the relationship of TQM with organizational performance were also considered. However, all the articles studied were from journals published in English.

Theoretical Contribution

Past studies reported a positive relationship between soft/hard TQM and operational performance (Saleh & Sweis, 2017; Saleh et al., 2018; Sutrisno, 2019). However, there is still limited research directed to conceptualize the relationship between Soft/Hard TQM and operational performance compared to the studies examining the effect of soft/hard TQM on financial performance (Albuhisi & Abdallah, 2018; O'Neill et al., 2016). Thus, the current study contributes to the body of knowledge by concentrating on the effect of soft/hard TQM and operational performance. Present research proposed that soft and hard TQM practices could improve operational performance. In particular, the present study's conceptual model serves as an insightful theoretical framework for analyzing TQM practices' effects on operational performance instead of financial performance or overall organization performance. Through extensive literature present study found the relationship between soft and hard TQM practices on operational performance. By reflecting the assumptions of RBV theory to the

current study's conceptual framework, Soft/Hard TQM as a crucial, imitable, intangible, and tangible recourse will lead to superior operational performance via competitive advantages.

Future Research

The present research aims to develop this conceptual model; future studies may conduct a cross-sectional survey design in determining the relationship of soft and hard TQM practices on operational performance. Future research may test the present research theoretical framework through empirical testing. In addition, future research may also expand the current research framework by adding additional variables in their study. Similarly, future research may identify certain variables that could mediate the relationship between soft and hard TQM practices on operational performance. Likewise, future research may identify certain variables that could moderate the relationship between soft and hard TQM practices on operational performance. Moreover, since the present research theoretical framework has not been tested empirically, future research could test the research framework through a qualitative or quantitative approach. This research expansion; would increase the current body of knowledge in TQM.

Conclusion

The present research contributes to the body of knowledge, especially to TQM literature, by linking TQM soft and hard practices to operational performance. TQM practices indeed have a significant impact on organizational performance. TQM practices offer effectiveness and efficiency in organizational performance. However, there is still a need to study the effect of TQM soft and hard skills on operational performance and clarify this relationship. Nevertheless, there is still a gap in the literature regarding which group of TQM soft and hard skills practices may affect operational performance. Thus, the current paper aims to develop a conceptual model for TQM adoption in measuring the soft and hard practices separately. This paper proposes a theoretical model that assumes; the greater the extent of TQM soft and hard practices, the higher the firm's operational performance. This research is an initial effort to discover the relationship between TQM soft and hard practices and operational performance. However, in order to test the theoretical framework, future research should test this model empirically. This understanding will provide important information to business owners around the globe in churning higher operational performance.

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