

TOTAL QUALITY MANAGEMENT: A STRATEGY TO IMPROVE ORGANIZATIONAL CAPABILITIES

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ABSTRACT

This article aims to develop concepts and narrow the gap related to the implementation of TQM and its relationship to product innovation capabilities. The implementation of TQM allows organizations to build competence and competitiveness in product innovation capabilities and performance in the face of technological disruption, namely the industrial revolution 4.0. TQM is the overall management of the organization which makes it superior in all aspects. TQM is a business management strategy that seeks to improve the quality of organizational management. TQM provides a competitive advantage for companies. TQM is widely used by various types of organizations, from the manufacturing industry to the service industry. In industries in Indonesia, the implementation of TQM can be said to be a relatively new business strategy. TQM as proving its effectiveness in improving organizational performance. TQM implementation is related to innovation capability. To understand this relationship, several approaches that encourage the creation of Innovation Capability need to be studied and then hopefully provide a comprehensive framework as a consequence of TQM implementation.

Keywords: TQM Implementation, Innovation Capability, Competitive advantage

INTRODUCTION

Globalization has an impact on the increasingly fierce business competition. For companies that want to continue to exist, it is necessary to find the most effective way to overcome the weaknesses of their management. This weakness is the result of past management culture. Globalization provides the reality of a limitless market and increasingly demanding consumers. Consumers are increasingly bold in making decisions to seek the best value, both in terms of quality, and faster delivery times. Facing today's competitive business conditions, every company must choose the right management style. The success of the company is very dependent on the willingness of management to leave the traditional approach towards a better management style approach. This problem can be overcome through the implementation of Total Quality Management (TQM). TQM is the overall management of an organization that makes it superior in all aspects of products and services that are important

to consumers. TQM is important for implemented because quality decisions affect every major decision in operational management made. (Ellitan and Anatan, 2008).

Several studies have discussed the philosophy and methods of TQM, especially in relation to company performance. TQM studies are usually based primarily on case studies, definitions of TQM, discussion of TQM principles, use of quality management techniques, individual prescriptions about recognized teachers from this discipline including Deming, Juran, Crosby, Feigenbaum, and Ishikawa (Daleet al., 1998). TQM has become one of the dominant business strategies in the 1990s (Lee and Leung, 1999). The evolution of TQM into a pervasive management philosophy through management concepts and practices proposed by Crosby (1979), Deming (1982, 1986), Feigenbaum (1983), Ishikawa (1972), Juran (1988) and Taguchi (1982). Various techniques and approaches have been brought together under the application of TQM (Black and Porter, 1996). These techniques include process management, leadership, management supplier, quality system, statistical process control, team work, quality policy, zero defects, education and training, planning, measurement of quality cost, customer rewards and benchmark management, etc.

Quality management teacher always identifies a series of key practices which are claimed to be essential for achieving superior quality performance. TQM philosophy can contain supporting of top management, elimination of employee's fear, vision sharing, empowerment, all involvement of employees, customer focus and open culture. TQM tools can include quality training, process improvement, benchmark management, measurement, SPC, QCC, and quality information computerization. The main focus of the TQM philosophy is in the hands and minds of the people who use the tools and techniques, not the tools and techniques themselves. Although there are many case studies of successful TQM implementation, there are also many experiences of failure (Ahire et al., 1996; Hendricks and Singhal, 1997). Recent research has shown that many TQM-based organizations or companies fail to demonstrate competitive improvement significant in business performance (Witcher, 1994). Japan's famous industrial performance in 1980, all the companies in the world imitate the Japanese road of success; The effectiveness of TQM appears to be recognized. Therefore, from 1980 to 1990, all companies in the world were busy with implementing TQM.

TQM is a strategy that seeks to improve the quality of an organization's management, and hence, can improve competitiveness and the value provided to customers. TQM provides a competitive advantage for companies (Projogo and Sohal, 2004; Scott-Kemmis and Chitravas, 2007), because it involves all divisions, departments, and various levels of the organization in the process. A well-coordinated management process will result in lower production costs, as well as increased efficiency and effectiveness of production output, which leads to improved overall business performance. TQM of the main determinants of success and company survival, TQM is widely used by various types of organizations, ranging from manufacturing to service industries (Demirbag, et al., 2006). Although the current relationship between TQM and innovation performance (Prajogo and Sohal, 2003; Hoang, Igel, and Laosirihongthong, 2006) and firm performance has been established, research on the relationship between TQM implementation and product innovation performance has not been conducted comprehensively. details. This is even more evident among manufacturing companies in Indonesia. The recent global economic crisis originating from the United States has not escaped the Indonesian economy.

In industries in Indonesia, the implementation of TQM can be said to be a relatively new business strategy (Amar and Zain, 2002). Indonesia is a developing country with a population of more than 270 million people. This large population provides an easily accessible domestic market for goods and services for local industry. Besides goods produced for local consumption, Indonesia also exports a significant number of its products. However, export data from 2019–2020 show a considerable amount of variation, thus indirectly contributing to the lack of stability in this activity. Tambunan (1999) highlights that the lack of stability may be due to the intense competition that Indonesian exporters face from other exporters namely Pakistan, China, Vietnam, and India. An area of focus with respect to this issue is the quality of local (Indonesian) products, which have a low reputation compared to products from other countries. Looking back, when the issue of quality was first raised in 1983, the Indonesian government initiated many efforts to improve its national productivity (Aroef, 1999). Quality concept included Looking back, when the issue of quality was first raised in 1983, the Indonesian government initiated many efforts to improve its national productivity (Aroef, 1999). Quality concept included Looking back, when the issue of quality was first raised in 1983, the Indonesian government initiated many efforts to improve its national productivity (Aroef, 1999). Quality concept include and introduced by a number of companies in Indonesia with large foreign equity, specifically joint venture between Indonesia and Japan, and companies wholly owned by Japanese companies. One company pioneer who consciously tried to instill the culture of quality in Indonesia is Astra International, a unity joint venture Japan– Indonesia (Hill, 1998). Here quality activities like Quality Control Circle and other activities under TQM have been successfully implemented, not only within the company's headquarters, but also in most of its branches. Excellence in terms of the quality of a product or service is a very important element that can contribute positively in generating sales and thereby strengthening the position of an organization in its chosen market (Deming, 1986). So it can be assumed that low product quality plays a role in the large and visible fluctuations in a country's export figures.

In all business sectors in Indonesia, the manufacturing sector is affected by the extent of the threat to the survival of the company by the high level of competition in the market, both locally and globally. Manufacturing companies react by targeting and maintaining market share, customer loyalty, customer satisfaction, competitive advantage, etc. In the context of Indonesia, the ability of Indonesian producers to compete is still below the standard compared to countries in the Southeast Asia (ASEAN) region.

According to the Department of Industry and Trade of the Ministry of Industry, in order to achieve competitive advantage or improve competitiveness, the Indonesian manufacturing sector needs to, among other things, improve its innovation capabilities and performance. Even though the Indonesian manufacturing sector plays a very important role in Indonesia's economic growth and contributes approximately 26.1% of Indonesia's Gross Domestic Product (GDP), the performance of this sector has been declining since 2020; Ministry of Finance (2020). As manufactured goods account for around 76.6% of total exports, the export sector is negatively impacted which in turn affects Indonesia's GDP (Ministry of Finance 2020). According to Hartarto A. (2019), a focus on improving innovation performance is the best way to improve the performance and competitiveness of Indonesia's manufacturing sector. However, the results of the Indonesia Research Survey, 2019 show that the innovation performance of the manufacturing sector is still low and needs to be strengthened. Moreover, in 2020, More specifically, the World Bank reports that the innovation decline of Indonesian

manufacturing companies between 2018 and 2019, clearly shows that more efforts and studies must be made to improve the innovation capabilities and performance of the manufacturing sector in Indonesia.

Innovation play an important role in predicting organizational survival in the long term, success and maintain its global competitiveness, especially in an environment where technology, competitive position and customer demands can change very rapidly and product and service life cycles become shorter (Cobbenhagen 2000; and Paylou PA and El Sawy 2011). TQM as a the strategy has proven its effectiveness in improving organizational performance in various aspects (customer satisfaction, finance, productivity, etc.) (Sadikoglu and Zehir 2010). Research that investigate the relationship between TQM implementation and innovation performance not yet able to provide a clear picture of this relationship (López-Mielgo et al. 2009). Therefore, further studies are needed to clarify the impact of TQM on innovation capability and performance. On the other hand, Lau et al. (2010) emphasized that building organizational capabilities in various fields is an important step to strengthen organizational innovation performance. In this regard, several experts have acknowledged that the innovation capability of an organization is considered as one of the main antecedents affecting organizational innovation performance (Yam et al. 2004, 2011). Therefore, an attempt to examine the impact of TQM implementation on firm performance through the mediating role of innovation capability could enhance the existing literature as far as the relationship between TQM

In the midst of these challenges, the manufacturing and service industries must create and produce goods and services of superior quality (Abdullah, Uli, and Tari, 2008; Beckford, 1998). In order to remain competitive, Indonesian companies must devote their resources to activities on product innovation. Thus, quality performance can be better achieved by these companies, enabling them to act as pioneers despite the economic recession. However, the manufacturing sector is still below expectations in terms of producing high-quality innovations that can help Indonesia in its economic growth. and in helping to become a high-tech industrial country by 2040 (Hartarto.A., 2019). Manufacturing sector local contribute significantly to the Indonesian economy, in order to remain competitive, companies are encouraged to innovate and improve product quality performance. To examine the multidimensionality of TQM implementation and its relationship to product innovation capabilities, this research discusses whether the implementation of TQM implementation allows organizations to build competence and competitiveness in product innovation capabilities and performance in the face of technological disruption, namely the industrial revolution 4.0, especially from ISO certified manufacturing organizations. 9000 in Indonesia. This article too aims to tested the impact of TQM on improving company performance, especially during the current economic recession caused by bio-disruption, namely the Covid 19 pandemic.

TQM IMPLEMENTATION and THE BENEFITS

TQM is the latest breakthrough in management concern, all activities are aimed at optimizing customer satisfaction, through continuous process improvement. Haim (1993) summarized the results of 20 different empirical studies on TQM. Most of these studies were conducted

by business organizations and consulting firms using surveys. Of the 20 studies reviewed, 15 provided facts about the impact of TQM and related practices on internal and external measures. Of these studies, 12 relied solely on managers' perceptions, two added additional validity by analysis of company records, one used both TQM measures and externally assessed performance. Three of the 20 studies reported some sort of numerical measurement of the impact of TQM on profitability. (Fitzerald and Erdmann, 1992; Powel, 1995)

Haim (1993) states that there has been little in the way of independent measurement of TQM practices and the impact on financial or nonfinancial performance measures. Easton and Jarrel (1994); Hendricks and Singhal (1997) provide facts on improving operating performance using objective measurements of financial data such as operating income before depreciation, net sales, and cost per dollar of sales. Wisner and Eakins (1994) also state a strong positive relationship between quality improvement programs and financial performance, while acknowledging that there is no guarantee of continued financial success in today's competitive environment. Helton (1992) has similarly described impressive financial gains made by the majority of winners Baldrige Award.

As long as TQM is fully adopted and practiced effectively in an organization, many advantages will be provided. TQM will strengthen the organization's business performance and competitive advantage. A successful TQM implementation will result in:

1. Increased employee engagement. TQM ensures that everyone in the organization should have a clear understanding of what is required and how their processes relate to the business as a whole. Through TQM practices, work teams are used and workers are motivated and encouraged to control, organize and improve processes, which are within their responsibilities (Dale, 1994).
2. Improve communication. A better communication can be done through effective implementation of TQM principles in any organization. More open and frequent communication between people will be found, and they will view and treat each other as customer and suppliers (Anjard, 1988).
3. Increase productivity. TQM will change the organizational culture and create a pleasant work environment. Through effective delegation, empowerment and full employee involvement, problems can be identified and resolved at lower levels. So that in the work process will bring results that are very efficient, very consequent and productivity can be increased by decreasing cycle time.
4. Improved quality and reduced rework. In the implementation of TQM, the focus is on the work process and its improvement. Workers will place more emphasis on eliminating the root causes than on correcting the problem. Also, more future effort is put into clarifying requirements and proactively preventing the occurrence of deficiencies and errors. Problems will be identified and addressed at the lower level, by the people closest to their jobs who deal with these problems. As a result, product/service quality will increase and product rework will decrease.
5. Increased customer satisfaction. Through open communication among employees, customer, and suppliers, the real voice of consumers can be more readily understood. Because quality operations also focus more on work processes and improvements, the company will provide products/services with better quality to the market. Therefore increased customer satisfaction is achieved.

6. Reduced cost due to poor quality. An effective TQM implementation will lead to a significant reduction in costs due to poor quality such as scrap, rework, late completion, warranties, replacements, etc.

7. Increased competitive advantage. In summary, the ultimate advantage is strengthening the competitive advantage of the organization to survive in the market. If TQM is successfully implemented, it will produce customer satisfaction and quality products/services provided at low prices. This can lead to increased sales to achieve profit and business growth goals.

TQM AND INNOVATION CAPABILITIES

In a competitive global environment, innovation is key not only to survival but also about seizing new opportunities, protecting knowledge assets and creating competitive advantages in markets (Hurmelinna-Laukkanen et.al., 2008; Teece, 2000) ;Samson and Gloet, 2014). The ability to develop and launch innovative new products using the latest technology quickly before global competitors, or soon after, is a key factor in gaining prominence as a trigger/first mover, achieving product success, capturing market share, increasing return on investment in the long term. (Allocca and Kessler, 2006; Cakar and Ertürk, 2010). To be innovative, organizations must develop their innovation capabilities (Saunila and Ukko, 2012). Innovation is an evolutionary process in organizations to adopt any changes related to new tools, systems, policies or services for the organization (Calantone et.al., 2002; Saunila and Ukko,2013). Thus, innovation that can be carried out is considered an organizational capability, because it is an action that deploys resources with new capabilities to create value (Yang et.al., 2006; Saunila and Ukko, 2013).

The importance of innovation has motivated researchers to identify the various driving forces of innovation (Becheikh et.al., 2006; Kim et.al., 2012). Some researchers argue that TQM practice can be one of the prerequisites for innovation (Hoang et.al., 2006;Perdomo-Ortiz et.al., 2006;Kim et.al., 2012). The application of TQM tools and techniques enables organizations to reduce costs, increase the productivity of human and physical assets and improve the quality of their products (Sila, 2007; Silva et.al., 2014). TQM practices contribute to operational and financial performance, enabling firms to achieve competitive advantage (Lagrosen and Lagrosen, 2005; Kaynak, 2003; Kim et.al., 2012). equally important, the company's competitive advantage because of its nature that triggers the success of new innovations (Zehir et.al., 2015). It is therefore not surprising that many innovative manufacturing and service companies around the world (e.g. Xerox, Ford, Motorola and Federal Express) have adopted TQM practices over the past few decades (Kim et.al., 2012;Rahman, 2004; Powell, 1995).

Quality management and innovation are increasingly popular activities for all types of companies and are usually associated with gaining a competitive advantage (López-Mielgo et.al.,2009;Kumar and Sharma, 2017; Psomas et.al ., 2018). Both can be considered as dynamic organizational capabilities based on learning, improvement and change (López-Mielgo et.al., 2009). However, corporate leaders often emphasize that they find a substantial conflict between quality and innovation activity. Not surprisingly, this conflict has attracted the attention of academics (López-Mielgo et.al., 2009;Silva et.al., 2014).

TQM is about consistency, standardization and control, whereas innovation is about change, difference and accepting failure (Silva et.al., 2014). There are inconclusive result of previous TQM research findings. Some found TQM to have a positive effect on innovation (Antunes et.al., 2017; Kim et.al., 2012; Schniederjans and Schniederjans, 2015; Kanapathy et.al., 2017), while others felt it had no impact on innovation (Pekovic and Galia, 2009; Moura and Abrunhosa, 2007). Thus the gap still exists and the debate continues along with research investigating the role of TQM practices on the development of innovation capabilities and vice versa. (Kanapathy et.al., 2017), while others felt it had no impact on innovation (Pekovic and Galia, 2009; Moura and Abrunhosa, 2007). Thus, the gap still exists and the debate continues along with research investigating the role of TQM practices on the development of innovation capabilities and vice versa. (Kanapathy et.al., 2017), while others felt it had no impact on innovation (Pekovic and Galia, 2009; Moura and Abrunhosa, 2007). Thus the gap still exists and the debate continues along with research investigating the role of TQM practices on the development of innovation capabilities and vice versa.

By doing this review, it is hoped that several objectives can be achieved to narrow the gap that exists in the literature. First, the information available on each TQM implementation and innovation performance proves that studies dedicated to these concepts are repetitive and abundant; However, their relationship issues have been studied less frequently and only a few studies, in that sense, have actually dealt with this (Perdomo-Ortiz et al. 2006). In addition, the findings of this study are still inconclusive (Abrunhosa and Sá 2008; Pekovic and Galia 2009). While several studies support the positive impact of TQM practices on innovation performance (López-Mielgo et al. 2009; Pekovic and Galia 2009; Prajogo et al. 2004), other researchers have questioned the role of TQM practices in improving innovation performance (Abrunhosa and Sá 2008; Prajogo and Sohal 2006; Singh and Smith 2004). Therefore, it is recommended that this relationship be reset to get more insight on this issue (Prajogo and Sohal 2004; Pekovic and Gaul 2009). Second, most of the previous studies examined the direct relationship between TQM practices and innovation performance (eg López-Mielgo et al. 2009; Singh and Smith 2004; Prajogo and Sohal 2003; Pekovic and Galia 2009) whereas the indirect relationship between TQM practice and innovation performance is somewhat negligible – in this case, it could be that the constructs of TQM and innovation are related in more complex ways than the simple (direct) relationship, which somehow justifies the inconclusive findings among studies. previously (Singh and Smith 2004).

Therefore, by adopting an approach that supports a positive relationship between TQM and innovation performance, Prajogo and Sohal (2003) recommend investigating this relationship (ie, TQM practices and innovation performance) through other mediating practices or techniques to determine innovation performance. Since the concept of innovation is described by innovation capability, as an antecedent of innovation performance, it is necessary to investigate the relationship between TQM and innovation performance through innovation capability (Perdomo-Ortiz et al. 2006). Third, to the author's knowledge, most of the previous studies did not rely on any particular theory to explain the relationship between TQM practices and innovation performance, therefore, this study uses Resource Based Theory (RBT) and Total Quality Management (TQM) as the basis for introducing the research model proposed in this study.

There are two opposing schools of thought regarding the relationship between TQM and innovation. Some academics believe that TQM supports innovation, implying that

organizations that implement TQM will succeed in innovation. Alternative academics argue that TQM hinders innovation. The main issue of debate is in the argument as to whether the nature of TQM practices supports innovation or not. Innovation is currently an important issue to gain competitive advantage and growth (Silva et.al., 2014). Consequently, companies must implement processes and strategies that facilitate the emergence of new ideas and lead to the generation of innovation (Tontini and Picolo, 2014; Visnjic et.al., 2016).

TQM is defined as a philosophy that is focused on the company's employees and customer satisfaction (Ahmad et.al., 2014). So far, no deal on the literature on the dimensions that make up TQM and these dimensions or elements vary depending on the researcher (Corredor and Goñi, 2011). It could be said that there were eight elements combined among them, resulting in a different classification of dimensions TQM worldwide (Rashid et.al., 2016). The intended aspects include: leadership, strategic planning, supplier quality management, process management, product and service design, employee management, customer relationship management, and information and analysis. In the case of this research, it is focused on continuous improvement activities, tools for TQM, supplier selection based on quality criteria, quality training, leadership and quality control groups, following the study Saraph et.al. (1989) and Flynn et.al. (1994).

In the literature, there is an ongoing debate about whether TQM stimulates/ triggers innovation or, conversely slows it down. Several authors (Hung et.al., 2011; Moreno-Luzón et.al., 2013) stated that organizational innovation shares some practices with TQM because it is basically based on continuous improvement activities, and includes several tools that can be useful for innovations such as statistical process control, supplier selection based on quality criteria, employee training in TQM, leadership qualities and teamwork. In line with that, the authors cited support that TQM will increase the development of innovation (Hung et.al., 2011; Moreno-Luzón et.al., 2013). However, the relationship between TQM and innovation remains unresolved. Although prescriptive models show this relationship, the empirical literature has not found enough evidence about it and only a few studies have found a positive relationship between the two constructs (Rhee et.al., 2010).

Several approaches that promote the creation of product innovation capabilities, such as a blue growth strategy or a green growth strategy were studied (Thakor A., 2011). To date, no studies have provided a framework for all of these concepts as a whole (TQM, Blue & Green Innovation Product Capability, Innovation Performance and Company Performance). Therefore, This article provides a framework thought that is intended to clarify the complex impact of the antecedents and consequences of implementing TQM implementation that is influenced by the innovation capabilities of blue and green products.

It is suspected that there will be a direct influence of this management strategy on innovation. In view of the contradictory literature results, a new approach was followed by considering the linear impact. Companies will experience a higher level of innovation in the first stage of TQM implementation, when they start using (technical/mechanical aspects) TQM ("hard dimension" considerations), and in the last stage, when there is sufficient time for the basic philosophical principles (organic aspects) of TQM can be said to be soft technology to be applied in depth in the company. Therefore, this article offers a new discussion model to understand the relationship between TQM and innovation, and is expected to provide an alternative explanation of innovation outcomes.

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