

TQM and Malaysian SMEs performance: the mediating roles of innovation process

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Abstract: The purpose of this paper is to explore the pertinent issues in the relationship between Total Quality Management (TQM) and Malaysian SME performance. This paper also discusses the need for mediation in the relationship between TQM and SMEs performance, namely innovation process. The conceptual paper undertakes a thorough review of the relevant literature before developing propositions regarding practices of TQM, innovation process and performance of SMEs. The paper anticipates that TQM will support both innovation process and performance of SMEs. Future research should be conducted to carry out an empirical analysis to validate and/or modify the propositions presented in this paper.

Key words: TQM; SMEs; Innovation process; Performance

1. Introduction

Small and Medium Enterprises (SMEs) play an important role in a developing countries. It is a type of business that contributes to the economic growth of a country. SMEs create employment opportunities, increase exports and also act as suppliers to large companies in the industry (Larimo, 2013; Sakiru et al., 2013). It is also play a greater role not only as an impetus; but also as a key driver of growth in order to achieve an inclusive and balanced growth (Abdulsaleh & Worthington, 2013) and (Kaushik et al., 2013). As a new basis for the activities of the private sector, SMEs are very important in the process of economic transformation. SMEs also promote innovation activities and act as the stabilizer of growth during the economic downturn. Therefore, it is important to develop robust, competitive and resilient SMEs to face the challenges that arise, including pressure from market liberalization.

The success of SMEs has shown a direct positive impact on the economic growth and development in both developed and developing countries (Demirbag et al., 2006) and almost economies of all countries are influenced by performance of SMEs. Due to the significance of SMEs to local economies, it is crucial to study and evaluate their performance, including the discussion, investigation and review of factors relating to positive performance of SMEs and the rationale for selecting SMEs as a subject matter of investigation. This study is intended to investigate SME performance and will fill research gaps by highlighting some managerial practices or organization factors which may be used to strategically improve the performance of SMEs.

Some previous empirical studies have emphasized the role of Total Quality Management (TQM) (Idris, 2011; Salaheldin, 2009; Feng et al., 2006; Rahman, 2001; Terziovski & Samson, 1999) in improving the development of organization performance. However, few studies have investigated the effects of TQM on organization performance through the mediating effect of different strategic variables such as innovation process (Liao et al., 2010), leading a researcher to concentrate of this study as a central focus. Thus, the research questions for this study were formulated: Does TQM and innovation process influences SMEs performance? Is innovation process considered an important mediating effect on TQM and SMEs performance relationship?

2. Overview of the research

An understanding of the factors that drive the performance of SMEs is crucial in helping SMEs to improve to the next level. Based on the analysis results by the Productivity and Investment Climate Surveys by the World Bank, there are six factors that affect the performance of SMEs in Malaysia. These are the application of innovation and technology, the development of human capital, access to financing, access to the market, legal and regulatory environment, and infrastructure. These challengers must be address for SMEs to achieve high performance and to have the desired results. It is understandable that a drawback in any of these drivers may affect the growth prospects of SMEs as a whole.

An understanding of the factors that drive the performance of SMEs is crucial to enable SMEs to compete at the national, as well as the international

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level. Analysis by the World Bank in the study of the SME Master Plan highlighted that the application of innovation and technology constitutes the most critical driver of performance among the six areas. Innovation among SMEs in Malaysia is still at a low level compared with other developing countries. The underlying reason to explain the low level of innovation among SMEs is their difficulties to understand the innovation process holistically. The adoption of innovation in SMEs should not only focus on the aspects of research commercialization and access to the national innovation system as reported in the SMEs Master Plan. This study will suggest that the adoption of innovations should be viewed in other critical aspects such as quality management.

This study will also examine the ability of innovation in the implementation of SMEs quality management. This is because the increase in quality management is required to facilitate the SMEs to strengthen their competitiveness through the application of quality standards and certification, dissemination of knowledge on quality management and benchmark comparisons with the firm that recorded an outstanding performance. Academicians and industry players have spent a lot of time to find and identify organizational factors, practices and materials that can support and improve the performance of quality management (Ali et al., 2013; Ooi Boon Keng et al., 2012; Alolayyan et al., 2011; Ali et al., 2007). However, there is still lack of study that describes innovation as one of the key factors in the implementation of SMEs quality management. Therefore, this study will fulfil the need to examine the implementation of innovation in quality management which can further that can affect the performance of SMEs.

TQM has been considered as a basis to the productivity improvement, profitability and customer satisfaction for an organization. Even so, the market competition factor, cost, and consumer demand has prompted the organization to innovate. Effective quality management enables the organizations to have an edge over their competitors, since innovation is the driving force for further growth. Thus, the organization cannot overlook both factors. As a consequence, this study suggested that it is crucial to study the relationship and impact of quality and innovation. As a result, innovation is regarded as the critical factors that must be taken into consideration when assessing the relationship between TQM on the performance of SMEs. The implementation of quality management or innovation should be done by all types of organizations regardless of its size. SMEs have to understand that quality management practices are not necessarily only suitable to be practiced by large companies and specific industries. The implementation of TQM can be adjusted and practiced and by SMEs. Therefore, the status of implementation of TQM in SMEs and its relationship to its performance requires for further study.

3. Is TQM still relevant to future organizations?

Generally, the proponents of TQM have not given much attention to the nature of uncertainty faced by organizations and have propagated TQM as a universally applicable methodology (Crosby, 1979). The literature pointed out that 'As a result, TQM is in danger of being oversold, inappropriately implemented, and ineffective' and continued that 'this may explain some of the failures of TQM'. It is important to realize that today's business environment is increasingly characterized by uncertainty and instability. To be competitive in this environment, companies have to transform themselves into more appropriate forms by bringing flexibility into their operations. One such form is the modular corporation, which is characterized by a small, highly specialized workforce who would generally be recruited on the basis of short-term contract. The traditional paradigm of job security and steadily increasing income stream in exchange for loyalty and dedication to the employer is slowly being eroded (Capelli, 1997). It is evident from studies described earlier that only the handful of 'soft' factors of TQM, such as workforce commitment, employee empowerment, and team work, have a significant impact on organizational performance. It is generally argued that these so-called soft factors transform a 'quality control' system into a TQM system. Ironically, these values of a management system are being eroded from future corporations. In the light of this one might argue the relevance of TQM to future companies.

4. The proposed conceptual framework for SMEs

The development of any model has to start from an initial idea and concept. According to Yusof & Aspinwall (2000) in the case of implementing TQM, one can start by trying to analyse the range of options available such as developing a quality assurance system, an improvement strategy and methodology, etc. The whole process of TQM adoption can be broken down into several key areas. First, there should be a strategy for implementation involving the planning and preparation of a document detailing the way forward. The preparation of such a document may constitute: (1) Creation of a co-ordinating body; (2) Development of a vision, mission and policy statements; (3) Education for the top management and co-ordinating body members on total quality principles and philosophy; (4) Selection and trial run of the first improvement project; (5) Appraising the company's current.

The second point is that the various quality initiatives or quality tools and techniques are to be adopted only when they are needed, and not to be applied wholesale. So, in a sense, the quality initiatives such as statistical process control (SPC), ISO 9000, quality circles, benchmarking, cost of quality, supplier quality, customer survey, employee survey, etc. A gradual adoption of the necessary "tools" at different stages in the process can ensure a systematic implementation of TQM. There must

also be a "central co-ordinating body", at senior management level, whose main functions are to coordinate improvement and new change initiatives, to make decisions on issues such as overall policies, to measure progress, to implement a tools selection basis/procedure, and to review all activities in this TQM process. Members should comprise all directors from the management team (usually small businesses have only a few directors), and representatives from supervisory and operator level. The necessary authority and responsibility must be accorded to the members of this body to ensure positive outcomes. Once a tool/initiative is selected for adoption, say SPC, a sequence of activities will have to be followed to ensure that it becomes normal company practice. The ultimate aim is to ensure that any initiative selected must contribute towards a culture for continuous improvement. The suggested general sequence is planning, education and training, a trial run in a few areas or on a few machines, review effectiveness and improve if required, and finally standardize to be part of the organizations practice. This cycle can be repeated until fully satisfied that it is accepted as contributing towards continuous improvement (Yusof & Aspinwall, 2000).

This same process could be applied to other initiatives, for example, cost of quality. The cycle again begins with planning, then a full understanding is needed not only by the employees who will be directly involved in the data gathering, but also top management who will use the information in decision making. A data collection system will be needed prior to implementation together with a pilot run. This whole process is analogous to that of introducing new product design changes, or new manufacturing processes, whereby a thorough understanding as well as a prototype trial run is needed. The tools, techniques, approaches or methods selected must all aim towards continuous improvement in the organization. In a way, this is not a prescriptive way of introducing quality initiatives because it does not call for adopting the initiatives in any strict sequence or order. The propose framework for SMEs must be simple and can be easily understood because only key elements or components are presented in it, i.e. quality tools, general methodology, and coordinating body. This is an advantage over other frameworks, which were, in the authors' opinions, too complex and complicated and not well suited to small businesses (Yusof & Aspinwall, 2000).

As part of an on-going research project, further investigations to determine its viability, limitations and validity are currently under way. Strengths and weaknesses can be determined from such a study and a modified framework derived, if necessary, from a thorough analysis. The authors believe that the overall concept built within the framework is simple, not prescriptive, and it tries to encompass as much as possible with regard to TQM implementation. It does not suggest doing everything at once, but rather progressing in stages, selecting from a range of available initiatives. It is

also deemed inappropriate to suggest which tool or initiative to apply first; this is solely dependent upon the user who will have to conduct an assessment of their available resources, the current problems and the priority. Small businesses in particular need to improve "tangible" things first, rather than "intangible" ones due to their limited resources. Improving waste and defects, complaints or warranty claims are all good options to start with the continuous improvement process.

Large businesses have always been in the forefront of adopting many advanced management philosophies including TQM implementation. Smaller businesses are always left behind and are not given the attention they deserve. However, the efforts made thus far by large companies will be stifled if the smaller companies are not involved in the process. Small businesses must implement TQM in order to support and sustain large companies' efforts. This paper has attempted to fill the gap through the proposed conceptual framework for TQM adoption in SMEs. It has discussed in some depth the importance and the need for developing such a model. SMEs have been found to differ in many areas from large and must not be treated the same. It is anticipated that this study is able to develop a model for TQM implementation in SMEs, mainly for those involved in the car manufacturing industry. Hopefully, there will be many common elements for the general manufacturing sector, so that the model will be applicable to other companies albeit with slight modifications or adjustments. Finally, it is hoped that this paper has provided some insights into the need for TQM in such a crucial sector of the Malaysia economy, i.e. the SME sector (Yusof & Aspinwall, 2000).

5. Innovation instead of continuous improvement

In stable environments, the TQM approach for continuous improvement, such as PDCA, will still be appropriate and effective. In the context of an uncertain environment, however, organizations must develop the capability to adapt quickly to the rapidly changing business environment. The strategic goal of the companies would be to develop new product with higher quality through innovation rather than continuously improve the existing products. The literature pointed out that 'instead of maintaining a continued focus on enhanced reliability with current production, the strategic focus of a firm may swing toward discovering new product domains for which novelty rather than reliability is the key to competitiveness'.

5.1. Innovation Process as mediating variable

Although modern business excellent management model considers the quality objectives and innovation simultaneously and complement each other; but in general business practice, it integrates the concept of quality management and then

gradually integrates innovation. This pathway has received much attention from different theoretical perspectives, including resource based view and dynamic capabilities (RBVDC) of the firm. This view describes the transition from product features to model management by considering how the firm generates organization resources that offer sources of competitive advantage (Rumelt, 1984; Barney, 1986; Peteraf, 1993).

In addition, the RBVDC is viewed using evolutionary perspective to explain the change in management priorities as path dependence and collection process and in the pursuit of innovation performance which requires greater organizational complexity compared to quality (Teece et al., 1997, Hodgson, 1998). Although the initial concept of management focused on the quality; practitioners predict that fostering innovative practices and improved performance will lead the transition from continuous improvement to continuous innovation. In other words, TQM should be able to nurture the innovation. Empirical studies, however offer conflicting conclusions. Prajogo and Sohal (2003) showed a positive relationship between the implementation of TQM and technological innovation, while the study conducted by Singh and Smith (2003) found no empirical evidence that TQM promotes better performance in business innovation.

Previous studies of the relationship between TQM and innovation focused on product innovation, which includes the context of production and physical as the result. However, this study will examine the relationship of TQM on innovation from the perspective of the innovation process. Kinner (2009) classified innovation into two type: product and process innovation. In the context of manufacturing firm, product innovation covers the physical while process innovation, include organizational and technological aspects. According to the contingent perspective for strategic management (Fry & Smith (1987), despite the implementation of TQM as a necessary prerequisite for greater innovation, it is still insufficient. Thus, the contingent variables change, improve or become an intermediate for the relationship. In this case the innovation process acts as an important contingent variable and takes the form of an interactive function. It can be formulated as complementary assets to the TQM or the intermediary, according to the theoretical perspective of RBVDC, which is to make a reformation where the firm needs the ability to innovate. Therefore, this study will explore the role played by the TQM. In spite of the adoption of innovation in management excellence model and the consensus states that innovation offers a major source for sustainable competitive advantage; research on the relationship between TQM and innovation is still lacking (Prajogo & Sohal, 2003; Singh & Smith, 2003).

Heated debate over the TQM as a business management model, especially for medium and large firms, raises recurring questions in respect to the

effects of TQM on business performance. Although the unanimous and consistent answers to these questions are still endless, many scholars have concluded that TQM positively impact the business performance (Sousa & Voss, 2002). Efficiency, flexibility, quality and delivery time are considered as emerging research topics and become competitive priority for the management of the growing operation although the objectives and performance innovation are not included as the priority generic competition in most of the operations management research, (Pannirselvan et al., 1999; Corbett & Wassenhove, 1993). Therefore, the best practices adopted by the TQM should have a positive influence on innovation, in the form of operational business performance. On the other hand, considering that the implementation of the TQM's best practices is to maintain the principal brought by Deming which shifting from the continuous improvement to innovation.

4. Conceptual framework

Based on an extensive review on previous literatures, a conceptual model was developed to show the relationship between the three variables and their performance as shown in Fig. 2. Several indicators have been identified that can be used to measure the implementation of TQM and its impact on the performance of SMEs. The variables were categorized into three groups: (i) independent variable – Total Quality Management (TQM); (ii) dependent variable – organization's performance and (iii) mediating variable – Innovation Process. Fig. 1 concludes the quality management framework based on the discussion above. The framework is linked to the performance of the organization.

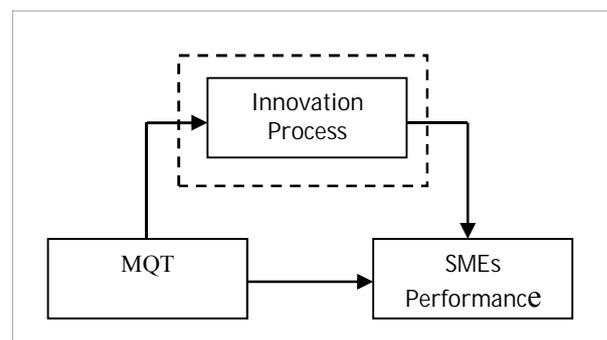


Fig. 1: A conceptual framework

5. Conclusion

Previous researches indicate that the implementation of quality management in SMEs is able to give a good impact such as assisting in identifying the target market, effective utilization of material and human resources and improve competitiveness in the market. However, when compared to larger organizations, the implementation of management tools such as the TQM appears inefficient and unsuccessful. Although there are numerous studies in the field of quality

management in Malaysia, the study on the implementation of quality management in SMEs and its impact on business performance is still poorly understood. Most of the research focused on the large-scale industries of manufacturing sector while SMEs is different with larger organizations in term of management style, production processes, capital and the ability to negotiate. Therefore, the SMEs should have its own way and strategy in the implementation of quality management. In addition, the important contribution of this study is to identify the critical success factors of TQM approach. Furthermore, the conceptual framework is proposed to assess the relationship between TQM and performance of SMEs. The empirical studies will be carried out latter using the proposed conceptual model to validate the hypotheses and answer the research questions.

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