

Total Quality Management Approach for Malaysian Food Industry: Conceptual Framework

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Abstract—The Malaysian food industry is dominated by Small and Medium Enterprise. Nowadays, this industry also showed their contribution to the Malaysian economic development. However, due to limitations, liberalization and competitive in the global market, transformation of the business paradigms is needed. Consequently, the re-evaluation and the improvement of the business process performance as well as the products quality are crucial. The literatures have demonstrated a significant research gap in term of the quality management practice between the organizational performances particularly the food Small and Medium Enterprises. Therefore, the model constructs has been developed based on the total quality management philosophy and approaches. This paper presents a theoretical framework developed that empirically examine the critical success of the quality management practices implementation as well as their relationship to the organization performance, within Malaysian food industry context. In addition, the accreditation is of the element that has a significant influence to the quality management and the organization performance.

Index Terms—total quality management, conceptual framework, food industry, small and medium enterprises

I. INTRODUCTION

In most countries, Small and Medium Enterprises (SME) dominate the industrial and commercial infrastructure [1]. SMEs play a very important role in national economies by providing job opportunities and enhancing country exports and also as supplier to others manufacturing industries [1]. In Malaysia, SME are categories by two sectors, which is manufacturing and services. The number of companies in manufacturing sector is 40,793 and out of them 39,376 are SME. Food and beverage has been a second manufacturing sub-sector after textile, that dominated by SMEs with number of 5,925 business entity from 6,069 total numbers of companies. However, literatures described that the SMEs are known as a business entity that facing problems in expending and succeed in business because their impediment in aspects of lack of knowledge,

skills, business resources, and low quality products [2], [3], [4], [5].

In addition, as stated in the Malaysian Third Industrial Master Plan (IMP3), the food industry is generally less vulnerable in the world economic changes. It has been estimated that the present global retail sales in food products are worth US\$3.5 trillion and expected to grow at an annual rate of 4.8 percent to US\$6.4 trillion in 2020 [6]. The main factors driving demand of food products include:

- Changes in disposable incomes, lifestyles and demographics, and increased health consciousness, which influence the demand for convenience health and functional food
- Changes in consumer demand, which compel food manufacturers to meet specific requirements and preferences at the regional and domestic levels
- In addition, global trade liberalization, through multilateral and regional trade agreements, will expand market excess and world trade in food products.

The identified trends in food industry have created opportunities for investments in market expansion and food product development. Therefore, Malaysian food industry, especially SMEs should grasp this opportunity.

II. RESEARCH GAP

Total quality management (TQM) and business excellence became very popular ideas in the last decade. Moreover, TQM has gained wide acceptance as a means of gaining and sustaining a competitive edge in the global market [7]. However, when trying to measure their overall performance, to identify strengths and areas for improvement and to prioritise efforts, organisations still face considerable difficulties and problems [8]. Furthermore, organisations need a framework that is comprehensive, flexible and easy to adopt. Since success clearly depends on a combination of factors that are interrelated, the approach must be holistic, important, and at the same time has the impact that any change in one of

the components will not have a negative effect on the overall system [8].

A review of the quality management practices in Malaysian shows that little empirical research has been conducted in the area of TQM implementation in Malaysian manufacturing for specific industry. Many researches done are in the automotive industries [2], [9] Electric and Electronic [10], [11] or SME in general [5].

Nevertheless, until now there is no empirical study on quality management in food processing industry. Thus, the research questions arise in aspects of quality management practice between SME in Malaysia food processing industry are yet to be answered. Thus, the research questions are: (i) Is the total quality management are not significant for SMEs in food processing industry as larger firms or others industries do? (ii) Is the quality management practiced by SME in food industry will enhance the organizational performance? (ii) Are Malaysian foods processing SMEs able to prepare and equip themselves for the implementation of TQM in order to achieve business excellence? Therefore, the current situation of TQM implementation in Malaysian Food processing companies remains unclear.

With intention to fill in the research gap and answer the research questions and consequently provide Malaysia's food processing or manufacturing companies with practical assistance in the area of quality management implementation, this study is aimed to identifying the TQM constructs. The objective of this study is to develop a framework or business excellence model to determine the success factors of total quality management practices by SME in food processing industry and its relationship with organizational performance.

III. TQM ELEMENT AS CRITICAL SUCCESS FACTOR

In this study, TQM element is presented as a critical success factors in quality management practices that purposely proposed for small and medium enterprise in Malaysian food industry. They are described as follow:

A. Leadership

This element is considered as a major driver for the TQM practices which examines senior executive leadership and personal involvement in building, maintaining and supporting the total quality environment implementation that facilitates high organizational performance, individual development, and learning organization. Many studies claim top management dedication to be crucial to the success of quality programs [12].

B. Corporate Planning

This element is significant whether the company has clear quality vision and has communicated with every employee in the company. Corporate planning is important to examine how the company develop, communicates, implement and improves its strategy and policy to achieve company performance excellence and strong competition position [13].

C. Human Resource Management

The main issues addressed in this construct is to what extent the workforce has been developed and realized through human resources practices, employee involvement, teamwork and training are in place. According to [14], human resource management was the one with a greater effect on quality outcomes. This result may indicate that people are a key factor in TQM success.

D. Customer Focus

Customer focus is measured by the organization's commitment to satisfy their customer's need. It will integrate the level of customer satisfaction to the company's corporate planning, the understanding of customer's needs and expectations, customer's feedback, customer satisfaction monitoring system, and the level of interaction between company and customers [15]. Customer focuses have a direct effect on financial performance [16].

E. Supplier Focus

This constructs were examine on how the company selects and manage it suppliers to ensure they attain the expected quality specification demanded by the firm. This construct will also conceptualized the supplier selection criteria, number of suppliers, information exchange and services, supplier involvement and the length of the relationship between supplier and the company [2].

F. Information Management

This construct is focusing on the management of quality information that influences the company performance [17]. Many TQM literatures suggested that organizations that consistently collect and analyzed information will be more successful than those does not [18].

G. Process Management

This TQM element is concerned about how the organization managed a combination of machines, tools, methods, material and people engaged in a production [17]. Process management encompasses the systems and procedures for establishing quality in the many shop floor activities involved in manufacturing. Additionally, this element is given lot of attention by management using various tools and techniques [7].

H. Quality Assurance

Generally, quality assurance practice is measured by; (i) new product design review procedures, (ii) design for manufacturing procedures, (iii) control of product and work specification and procedures, (iv) preventive maintenance activities, and (v) quality control activities along the value added chain [15]. However, the pre-requisite for others quality assurance practices in food industry are food hygiene and safety, GHP and GMP, that must to fulfill by manufacturers [19].

IV. PERFORMANCE MEASURES

Organizational performance measurement has become more crucial for the company's survival in today's market globalization [20]. Thus the developments of performance

measurement system that satisfy the company's business requirement is necessary to enable the company achieve their desired business performance. Performance measurement will allow companies to give more attention to the area they are lacking on [21]. Business performance in TQM literature has been calibrated with financial measures, operational measures, service performance and customer satisfaction measure including multiple aspects of performance. The measurement contrived a scale for organizational performance containing organizational and operational performance measures [22]. Furthermore, according to [23], performance measurement in the modern business environment has to reflect to certain level of consistency both internally and externally to all organization.

Thus, for this study, organizational performance will be measured in two categories, which is operational performance and business performance as suggested by [24]. Referring to [24] the performance measurement is divided into two: (i) operational performance measurement that consists of organizations' internal operation such as productivity, product quality and customer satisfaction and (ii) business performance measured by the enlarge domain of performance related to financial and marketing such as sales growth, profitability and market share.

V. ACCREDITATION AS MODERATING VARIABLE

In food business, quality and safety are very essential and critical. No food production, processing, distribution company or organization can be self-sustained unless the issues of food safety and quality are properly recognized and addressed [25]. Consequently, this paper distinguished organizational accreditation element into two dimensions: quality certification and award received.

First the all the conceptual framework for TQM implementation elements can also be used as a process or system for achieving quality awards [25], [26]. According to [27], the need of quality certification is not only to fulfill customer's requirement but also stimulate the opportunity in expanding the business and competitive advantage [24], [25]. Winning quality award offers significant publicity opportunities, particularly to organizations that used quality to achieve a marketing edge [28], [29]. Award raises the profile of the organization and generates pride for the employee, also as a symbol of quality and business excellence [28].

Thus, for this research, an accreditation is proposed to be the moderating variable which may influence the relationship among the critical success factors and SME's performance in Malaysian food industry. The measurement will be based on numbers and types of quality accreditations and excellence award received.

VI. THE CONCEPTUAL FRAMEWORK FOR MALAYSIAN FOOD SME

Based on comprehensive review of previous study, a conceptual model has been developed to model the relationship between three latent variables and

performance as presented in Fig. 1. There are several indicators have been identified as appropriate for SME's to adopt for measuring the implementation of TQM and its consequence to the business performances in the Malaysian food processing industry. As shown in Fig. 1, three latent variables are grouped under the business excellence framework for the Malaysian food processing industry. These latent indicators are categories by three parts; Independent variables-critical success factors; Dependent variable-organizational performances and Moderating variable-accreditations.

Fig. 1 summarizes a quality management framework based on the above discussion. The framework is link to the organizational performance. Critical success factors proposed for Malaysian food industry SMEs consists of eight elements, they are; Leadership, Corporate planning, Human resource management, Customer focus, Supplier focus, Information management, Process management and Quality assurance. The role of top management leadership would in turn affect the corporate planning, human resource management, information management, customer focus, supplier focus, process management and quality assurance implementation in the organization. The implementation of those constructs has a great influence to food industry SMEs performance. Thus, it needed to be given more attention by the company's management to well plan those constructs for enhancing their organizational performance.



Figure 1. Quality Management Conceptual Framework for SMEs in Malaysian food industry

As discussed above, accreditation is recommended as a moderating variable that may influence the relationship of total quality management practices (CSF) on organizational performance. Thus, consequently, the authors believed that the element of accreditation would moderate the organizational performance in the Malaysian food SMEs. Hence, the moderate relationship showed by the solid arrow that link the CSF to organizational performance and accreditation in the middle act as moderating variable in the relationship as in the Fig. 1.

However, the authors do not deny that the accreditation will enhance the organizational excellence due to some literatures shown their positive and important impact on the performance, that accreditation may mediate the CSF and organizational performance relationship. Fig. 1 show this relationship by the dashed arrow. In order to investigate the relationship, a preliminary structural model is significant and will be used to analyze the structural effect of TQM critical success factors to the business performance and the impact of accreditation.

VII. CONCLUSION

The Malaysian food industry has taken a paradigm shift and it is at present not regarded as agriculture or agro-product based related sector any longer. The contributions made by this sector are apparently better appreciated now, especially as it has helped to improve Malaysia's economy. However, a major challenge is faced by small and medium enterprises (SME) due to the lack of financial support and the shortage of skills, knowledge or the actual know-how. These constraints therefore are retarding the productivity, innovation and financial benefits of the SME's. Regardless of the size and limitations faced, SMEs will be able to succeed in achieving business excellence if they are able to convert their weaknesses into strengths and become more open, seek opportunities and take advantage of existing situations to turn around their own businesses. Many research studies are conducted over the years pertaining a business excellence model especially in the large companies. There are also studies in the SMEs but they are less focusing on the food industries. In order for the food industries SME to acquire bright opportunities in the market, it is essential that the best quality techniques and total quality management (TQM) approaches be applied. Consequently, the important contribution of this paper is to identify the critical success factors with TQM approaches. Furthermore, the conceptual framework for accessing the relationship among critical success factors and food processing SMEs performance is to be proposed.

Many studies have been performed to identify critical success factors for success on quality management or TQM practices implementation in organizations. However, little and most likely no previous study had tried to investigate the relationship between TQM practices and organizational performance particularly Malaysian food processing SMEs. Therefore, the model developed is purposely designed for SMEs in Malaysian food processing industries.

Next, the empirical study will be conducted by using this proposed conceptual model in order to verify the research hypotheses and to answer the research questions. Furthermore, because of the proposed framework is highly conceptual, even so these constructs were combining from the literatures; they have to be validated empirically through a questionnaire or some other empirical method such as case study approach. Consequently, the impact of the hard and soft quality management factors in the Malaysian food SMEs to the organizational performance

will be investigated empirically. The next stage of this study is to propose a structural model relationship of the CSFs and the organizational performance that are influence by an accreditation by using a structural equation modeling. Furthermore, the CSFs will be carefully examined throughout the organization in order to identify the critical or the most significant areas that lead to the success of quality management implementation that contributes to excellence performance. Finally, this enables managers in the food industries to give more attention to the most significant CSF to their organizational performance.

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