

## A Survey of Total Quality Management in the Malaysian Small and Medium Sized Manufacturing Companies

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### Abstract

*This paper is to examine the concept of Total Quality Management (TQM) and the level of awareness and implementation in the Malaysian SMES in the manufacturing sector. The participants of this survey consisted of 32 SMEs in the Klang Valley that were selected through convenience sampling. Klang Valley was chosen since it is known as the hub of Malaysia SMEs business as almost 50 percent of Malaysia SMEs are located in this area. Personal visits and interviews are made to managers and they are requested to fill in questionnaires. Overall, a majority of the respondents (69 percent) have heard of TQM but only a few (31 percent) of the companies surveyed have implemented TQM. The paper concludes that while further research is needed to validate and explain the findings, TQM may play a valuable role in the operations of SMEs in the manufacturing sector.*

**Keywords:** TQM, SME, Manufacturing, Malaysia

### 1. Introduction

Quality is very important in business today especially with product recalls and investigations as to what went wrong. Crosby (1995) stated that nothing is more important to the prosperity of a developing nation than quality. The only way a developing nation can increase their trade activities and develop in a sustainable way is to improve the quality of their products and services. Quality has become one of the most important competitive strategic tools, and many organizations have realized that it is a key to developing products and services that support continuing success. "...It is a way of managing an enterprise towards achieving business excellence" (Dahlgard et al., 1998). An organization that adopts a Total Quality Management (TQM) approach will not only survive but also competent to the world of business. There is a continuous increase in import of goods and services into the country because of the belief that they are of higher quality. Former Prime Minister of Malaysia, Tun Abdullah Ahmad Badawi expressed that the standards against which the performances of SMEs were benchmarked must be global as well as the quality of their products and services (Bernama, 2005, August 23). In Malaysia, industrial growth has created a critical need for TQM analysis and the development of implementation model specific to that context. There are high levels of social and governmental support for TQM allied to widespread knowledge and interest. Moreover, because of their intensities and complexities, Malaysian organizations make TQM research more interesting and informative.

### 2. Literature Review

In recent years, although SMEs in Malaysia have attracted some research attention, investigations about them are still relatively limited in scope and not integrated in nature. SMEs represent an important part of the Malaysian business system. Notwithstanding their economic importance, research on SMEs is still limited and neglected. Despite the tremendous increase in knowledge in the areas of management such as finance, marketing, human resource, operation/production, and strategic management, not much of these management disciplines have been utilized by researchers in investigating SMEs. Small businesses are usually constrained by their size, their lack of technical expertise, of managerial time, and of financial resources and their human resource limitation (Moreno-Luzon, 1993; Lee and Oakes, 1995).

Ghobadian and Gallear (1997) analyzed the differences in characteristics between large and small businesses. They suggested that it is vital that these characteristics be considered when designing implementation strategies for small businesses. In addition to the peculiar characteristics of small businesses, a TQM definition that suits small businesses will have to be considered. Existing definitions are large, business oriented and do not reflect the conditions and characteristics of small ones. Moreover, the literature indicates that SMEs have received minimal theoretical and empirical research attention as a serious field of study. Recent reviews have revealed this important issue as well as indicated the gaps in our knowledge concerning SMEs in Malaysia, especially in the manufacturing sector that has surpassed the overall gross domestic product (GDP) growth rate, whereby more than 90 percent of manufacturing output comes from SMEs.

In Malaysia, author such as Yusof et al. (2000), Quek et al. (2002), and Hashim(1999; 2000) have empirically studied on TQM and/or SMEs. However the studies were not on TQM awareness and implementation from the perspective of Malaysian SMEs. Many studies found that TQM could be used by SMEs (Ghobadian and Gallear, 1997). A study by Ahire and Gohlar (1996) found that the introduction of TQM in SMEs had helped to sharpen SMEs' market focus, to become more efficient, to harness their human resources better, and to improve their competitiveness. They also concluded that TQM implementation leads to better product quality and that SMEs can implement it as effectively as larger companies. There is a general awareness of the importance of SMEs for a country's economic growth, industrial development, and employment generation.

### **2.1 Definition of TQM and Basic Concepts**

TQM was first introduced in the 1920s by Edward Deming in Japan. Deming was an American citizen who became a consultant company in Japan. The concept of TQM was originally developed from the idea to create a quality product to eventually include all aspects of the organization. Whereby, this concept was later introduced to the corporate managers in Japan in the 1950's, at a time when the country was gearing itself towards industrial development. This concept has been generally accepted in the 1980's with the increasing awareness worldwide on the importance of quality (Aguayo, 1991). According to MAMPU, TQM is "a continuous process that involves the whole organization and customer driven". This process is aimed at creating a culture of excellence in any organization. Hence, TQM can be seen as a process of cultural transformation through which the existing elements of the culture are modified, replaced or strengthened with better elements. These elements encompass values and attitudes, systems and procedures, operational practices, organization structure and so forth. The word "total" in Total Quality Management means that everyone in the organization must be involved in the continuous improvement effort, the word "quality" shows a concern for customer satisfaction and the word "management" refers to the people and processes needed to achieve the quality (Macdonald, 1993).

Jurow and Barnard (1993) see TQM as "a system of continuous improvement employing participative management and centered on the needs of customers". TQM can be seen as a change in management style that aims to continuously increase value to customers by designing and continuously improving organizational processes and systems. For Dahlguard et al. (1998), TQM is "a corporate culture characterized by increased customer satisfaction through continuous improvements, in which all employees in the company actively participate". Hellriegel et al. (2002) see TQM as "the continuous process of ensuring that every aspect of production builds quality into the product. Quality must be stressed repeatedly so that it becomes second nature to everyone in an organization and its suppliers". Wheelen and Hunger (2002) define TQM as an operational philosophy committed to "customer satisfaction and continuous improvement". TQM is very different from these and other management systems. It recognizes that quality as determined by the service provider might be much different from quality as perceived by the service receiver. If the customer is not satisfied with a service, then the service does not have quality and the processes that produced the service have failed.

An extensive review of literature was carried out to identify the concept of TQM from quality gurus such as Deming (1986), Crosby (1979), Feigenbaum (1991), and Ishikawa (1985). Their propositions are the foundation for understanding the concept of TQM. As outlined by MAMPU in the Development Circular (DAC) No. 1 of 1992 entitled "Guide on Total Quality Management in the Public Service." This circular provides clear guidelines for the implementation of TQM on the basis of the seven principles. These principles are: (1) Top management support; (2) Strategic quality planning; (3) Customer focus; (4) Training and recognition; (5) Enhancing teamwork; (6) Performance measurement; and (7) Quality assurance. All these principles can be found in works by authors such as Deming, Juron, Crosby, Feigenbaum, and Ishikawa, etc.

### **2.2 The Small and Medium Sized Enterprises (SMEs) in Malaysia**

SMEs in many countries face a myriad of challenges. At the theoretical level, studies have identified some of the barriers to SMEs' growth (see Saleh and Ndubisi, 2006).

Saleh and Ndubisi (2006) in particular highlighted many challenges facing SMEs in a globalized environment, for instance, lack of managerial capabilities lack of financing, low productivity, etc. In the Malaysian context, SMEs have particular challenges, and these have been highlighted by Chee, (1986), Hashim (1999), Saleh and Ndubisi (2006), and others. Malaysian SMEs are a vital component of the country's economic development. According to the SME Annual Report 2007 by the National SME Development Council (NSDC), SMEs accounted for 99.2 per cent of total business establishments and employing over 5.6 million workers. In Malaysia, the terms small and medium-sized enterprises (SMEs) and small and medium scale industries (SMIs) are often used interchangeably to mean the same thing. However, it is important to note that the two terms does not mean the same thing. In economics, an industry means a group of companies producing the same type of products. Whereas, an enterprise refers to a company (which can be small, medium or large) in an industry. This means that enterprises of various sizes are found in an industry. Hence, it is the enterprise that is small-sized or medium-sized, and not the industry. As such, "enterprises" (and not "industries") is the accurate and appropriate term to be used. Accordingly, the acronym SMEs (and not SMIs) is used throughout the present paper. By doing so, the authors hoped to avoid confusion because SMEs can be found in almost all industries (Hashim, 2000).

### **2.3 Definitions of Malaysian SMEs**

There are not less than 18 ministries and more than 60 government agencies involved in assisting the development of the SMEs sector in Malaysia (Hashim, 2000). However, these agencies used different criterion to classify SMEs. In other words, the term SMEs still appears to have been differently defined by the various supporting agencies. The National SME Development Council (NSDC), on 9 June 2005, approved the common definitions of SMEs across all economic sectors for adoption by all Malaysian Government Ministries and Agencies involved in SME development, as well as financial institutions. Malaysian SMEs can be grouped into three categories: Micro, Small and Medium. These groupings are decided based on either the number of people a business employs or on the total sales or revenue generated by a business in a year. In summary, detailed definitions of SMEs by size are listed in Table 1.

Defining SMEs appropriately is important because it has serious implications on the directions of research to be conducted and the formulation and implementation of the related policies. Put another way, a precise and more appropriate definition that reflects the size, the nature and the needs of SMEs is essential and advantageous not only for a particular SME, but also for policy makers and supporting agencies in planning and nurturing the proper growth and development of the SMEs sector as a whole. Given the importance of a precise and more appropriate definition of SMEs, this paper advocates that more empirical studies should be carried out in this area. As indicated earlier, in attempting to define SMEs, the definition(s) should not be developed based on quantitative criteria alone, but qualitative criteria should also be taken into consideration (Hashim and Abdullah, 2000). Such a practice is common in developed countries such as in the United States of America and the United Kingdom. It is believed that an SME definition that is 'quantitative-qualitative' in nature would be more 'appropriate' to capture the true nature of SMEs in the Malaysian context.

### **2.4 SMEs in the Manufacturing Sector**

Malaysia's manufacturing industry has been charting remarkable growth since the early 1980s when the country witnessed a transition from being a predominantly agricultural economy to one that was industrial-based. Today, the manufacturing industry continues to develop rapidly and has since become an important catalyst to the country's economic growth. SMEs in the Malaysian manufacturing sector are involved in activities such as processing and production of raw materials, for instance, textiles, food, beverages, wood, rubber, petroleum and the assembling and manufacturing of electrical and electronics appliances and components among others. Malaysian SMEs account for more than 90 per cent of the total manufacturing establishments in the country. In terms of geographical location, the majority of manufacturing companies in Malaysia were found to be located in the West Coast of Malaysia, which is industrialized and has port facilities. Selangor and Johor have the largest concentration of manufacturing companies such as textiles and apparel and wood-based industries followed by Perak, and Pulau Pinang. SMEs in Selangor are predominantly in the transport equipment and electrical sectors while in Johor, there is a large concentration in the textiles and apparel and wood-based sectors. The majority of other sectors (such as food and food-related manufacturers) are concentrated in the states of Perak and Johor. This is likely due to the vast forest concentration in Johor and Perak, and somewhat deforestation in Selangor to provide communication and transportation infrastructure to link the nation's capital city with other parts of Malaysia and the world (SMIDEC, 2004).

## **3. Research Methodology**

The participants of this study consisted of 32 SMEs in the Klang Valley that were selected through convenience sampling.

Klang Valley was chosen since it is known as the hub of Malaysia SMEs business as almost 50 percent (<http://www.smeinfo.com.my>) of Malaysia SMEs are located in this area. Personal visits and interviews are made to managers and they are requested to fill in questionnaires. According to Gopal (1970), interviews are an important method for obtaining facts which may help to supplement personal information. There are 39,373 SMEs in the manufacturing sector, mostly in textile and apparel, metal and mineral products and food and beverages production. About half of the SMEs in the sector are micro enterprises, followed by small (40.1 percent) and medium (5.2 percent) enterprises. Meanwhile, there are 32,126 SMEs in the agriculture sector, primarily in food crops and market produce, horticulture and livestock. Also 93.1 percent of the SMEs in agriculture sector are micro enterprises (SME Annual Report 2009/10). Thirty two (32) employees covering all categories and departments were selected. The breakup of 32 respondents for the questionnaire survey is shown in Table 2. The primary data for the study was collected through the survey method by using standardized structured self-administered questionnaires. The questionnaire was designed to elicit information from all respondents. Open-ended and closed-ended – both types of questions have been included in the questionnaire. Open-ended allows the respondents to provide their own words. By using closed-ended question, respondents can choose an alternative answer from among the several available alternatives. The data has been analyzed using SPSS version 12.0.

#### 4. Results and Discussion

In section 2 of the questionnaire, the respondents were asked to answer a few categorical (Yes or No) questions. The responses were summarized in Table 3. As we observe 68.8 percent of the respondents heard of Total Quality Management and 59.4 percent are aware about its basic principles. However, only 31.3 percent of respondents said that their company has started implementing TQM. This shows that the selected companies have yet to implement TQM and educate its employees by means of various seminar/training programs. We also observe that 100% of the respondents agree that the organization focuses on continuous improvement of products and 87.5 percent processes. But only 65.6 percent view that the organization focuses on continuous improvement of its employees. Therefore, the small and medium sized companies need to invest more to enhance employee skills in the continuous basis. Total Quality is an approach to doing business that attempts to maximize the competitiveness of an organization through the continual improvement of the quality of its products, services, people, processes, and environment. Thus, internalizing quality programs in an organization to improve quality and maintain a competitive edge is an enormous task.

In an effort to address a variety of organizational problems, irrespective of the complexity of the problems, improving performance levels as well as tackling customers' complaint and/or criticism, many organizations have turned to a set of practices known under the general rubric of quality management. Thus, successful implementation of TQM in the SMEs depends on a long-term perspective where the seven core principles need a proper addressing. Total quality management is a long-term process. It can take an organization years to put the fundamental principles, procedures and systems into place as well as create an organizational culture, which is conducive to continuous improvement. The survey methodology used in this study has several limitations. The analyses were conducted based on 32 SMEs only, which is considered to be quite small sample size. Therefore, the results of this study must be treated with caution. The results presented in this paper is a part of an on-going research on benchmarking implementation of TQM in the Malaysian small and medium sized manufacturing companies.

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**Table 1: Definition of SMEs in Malaysia**

Category	Micro-enterprise	Small enterprise	Medium enterprise
1. Manufacturing, Manufacturing-Related Services and Agro-based industries	Sales turnover of less than RM250,000 OR full-time employees less than 5	Sales turnover between RM250,000 and less than RM10 million OR full-time employees between 5 and 50	Sales turnover between RM10 million and 25 million OR full-time employees between 51 and 150
2. Services, Primary Agriculture and Information & Communication Technology	Sales turnover of less than RM200,000 OR full-time employees less than 5	Sales turnover between RM200,000 and less than RM1 million OR full-time employees between 5 and 19	Sales turnover between RM1 million and 5 million OR full-time employees between 20 and 50

Note: The working definition for SMEs in the mining and quarrying and construction sectors is based on the SME definition for the services sector. Source: SMIDEC

**Table 2: Category of respondents**

Category	Communicated	Actual	Percentage of Response
Managerial (including agro-based)	18	18	100.0
Manufacturing related service	14	14	100.0
Total	32	32	100.0

**Table 3: Summary responses to a number of questions in Section 2 of the questionnaire**

No.	Item	Response			
		Yes	%	No	%
1	Have you heard of Total Quality Management (TQM)?	22	68.8	10	31.3
2	Are you aware of the basic principles of TQM?	19	59.4	13	40.6
3	Has your company started implementing TQM?	10	31.3	22	68.8
4	Does your organization focus on continuous improvement of employee?	21	65.6	11	34.4
5	Does your organization focus on continuous improvement of products?	32	100.0	0	0.0
6	Does your organization focus on continuous improvement of processes?	28	87.5	4	12.5