BARRIERS IN THE IMPLEMENTATION OF TOTAL QUALITY MANAGEMENT IN INDONESIAN MANUFACTURING ORGANIZATIONS

Kifayah Amar
Zuraidah Mohd Zain
School of Industrial Technology - University Science Malaysia
11800 Minden - Penang

ABSTRACT

This study examines the barriers faced by Indonesian manufacturing organizations in the implementation of TQM. Out of a total sample size of 364 selected organizations identified for a multi-response survey, 78 organizations responded. The analysis identified 11 pertinent factors acting as barriers that are most frequently faced by the local organizations. These are issues related to human resource, management, attitude towards quality, organizational culture, interdepartmental relation, material, machine and equipment, information, method and training.

Keywords: barrier factors, Indonesia, manufacturing organizations, Total Quality Management.

1. INTRODUCTION

Indonesia is a developing country with a population of 200 million. This large population presents a readily accessible domestic market for goods and services for local industries. In addition to goods produced for local consumption, Indonesia also exports a fair amount of products. However, export data from 1998 to 2000 shows huge variation in the numbers, hence implying a lack of stability in this activity. For example, in 1998, total Indonesian exports were valued at US $ 40975.36 million (Pusdata Online, 2000). However the figure dropped to US $ 38872.96 million in 1999. For the year 2000, the total export was valued at US $ 62016.4 million, a year on year increase of 27.43% against the 1999 figure (Berita Resmi Statistik, 2001). Tambunan (1999) highlighted that the lack of stability may be due to the stiff competitions faced by Indonesian exporters against other exporters from Pakistan, China, Vietnam and India. An area of focus in relation to this problem is the quality of local (Indonesian) products, which are reputed to be inferior when compared to products from other countries.

On hindsight, when quality issues were first recognized when in 1983, the Indonesian government initiated numerous efforts toward improving its national productivity (Aroef, 1999). Following this, quality concepts were introduced in a number of Indonesian companies with large foreign equities, notably Japanese-Indonesian joint ventures, and companies wholly owned by Japanese concerns. For example, one of the pioneer companies, which consciously sought to cultivate a quality culture in Indonesia, is Astra International, a Japanese-Indonesian joint venture entity (Hill, 1998). Here, quality activities such as QCC and other activities under TQM have been successfully implemented, not just in the company, but also in most of its subsidiary.

Without doubt, superiority in terms of quality of a product or service is an extremely important element that could contribute positively in generating sales and hence strengthen the position of an organization in its chosen market (Deming, 1989). Thus, it can be assumed that inferior product quality plays a role in the huge fluctuation seen in the country's export figures. The pertinent question in line with the objectives of this study is to understand the reason for the variation in product quality, which in turn results in the instability of the export figures. The answer to this question probably lies in comprehending the difficulties faced by local manufacturers in their daily operations and business processes. Knowledge gained from this study would be invaluable to the Indonesian government, especially the Ministry of Industry and Trade, in its numerous policy-related decision-making processes. In addition, it serves as a guide to the ministry when it carries out seminars, workshops, and other educational activities to promote quality improvement and excellence amongst the local organizations.

2. THE STUDY

This study has similarities to the ones conducted by numerous other researchers, including Masters (1996), Adebanjo & Kehoe (1988), Tamimi & Sebastianelli (1998) and Salegna & Fazel (2000). The most important similarity is the identical objective, which is to determine the factors impeding the implementation of TQM in the organizations sampled. The difference is mainly in the demography of the samples, namely location as well as the type of industry. It is hoped that this difference serves as a comparison between organizations of different demographic characteristics, namely that between those located in industrialized nations such as the US, and those in a developing nation such as Indonesia. Although possibly lacking in sufficient detail, this comparison could help suggest possible indicators for factors behind failures in quality management for the organization.

A total of 364 manufacturing organizations were selected from the Directory of Manufacturing Industries of Indonesia (BPS, 1999). The stratified sampling technique was employed to ensure that samples are balanced in terms of their manufacturing categories, so that they reflect the varied population of manufacturing organizations across Indonesia. Table 1 shows the classification of the organizations and the number of organizations within the respective categories.

Table 1. Classification Manufacturing Organizations in Indonesia

ISIC Sub-code	Sector
31	Food, beverages & tobacco
32	Textile, clothing & leather
33	Wood & wood products
34	Paper and products, printing & publishing
35	Chemicals, petroleum, coal, rubber & plastic products
36	Non metallic mineral products
37	Base metals
38	Fabricated metal products, machinery & equipment
39	Other manufacturing industries

[Source: Central Bureau of Statistic, 2000, Jakarta]

The instrument of measurement employed was a questionnaire that contained questions meant for profiling the respondent (ownership, ISO certified, etc.), as well as open questions pertaining to factors that contribute towards ineffective TQM implementation. The questions are indicated in Table 2. Most of the questions were in a format requiring multiple responses. However, the respondent had the option of detailing out more than one difficulty in TQM implementation that he/she faced. Delivery of the questionnaires was by postal service and they were addressed to the Quality Management Department, or the function nearest to it.

Table 2. The Open Ended Questions of the Survey

A. Particulars of your organization

- Please check the nature of your industry :
  - ❑ Food, beverages & tobacco
  - ❑ Textile, clothing & leather
  - ❑ Wood & wood products
  - ❑ Paper and products, printing & publishing
  - ❑ Other manufacturing industries
  - ❑ Chemicals, petroleum, coal, rubber & plastic products
  - ❑ Non metallic mineral products
  - ❑ Base metals
  - ❑ Fabricated metal products, machinery & equipment
- Ownership : ❑ Government ❑ Foreign ❑ Joint venture ❑ Others, …..
- How many people are employed in your organization ? …..
- Has your company been certified with ISO ? ❑ Yes ❑ No
  If yes, please specify ……

B. What is the factor(s) which impede quality management implementation in your organization ?

☑	Factors	Detail
❑	Human resource	……
❑	Information related quality	……
❑	Machine & equipment	……
❑	Fund	……
❑	Raw material	……
❑	Others please specify	……

3. FINDINGS

A total of 86 responses were received and out of this, 78 were acceptable, representing a usable response rate of 24.16%. Fifty three point eight percent of the useful data came from Java while the rest came from other parts of the country. In terms of distribution across industry type, the majority came from the chemical industries (28.2%) and the food, drinks and tobacco industries (20.5%). This distribution is given in Table 3. Of the

total, 51.28% of the companies in operation were either ISO 9000 or ISO 14000 certified, or both.

Table 3. Organizational Category of the Respondent

Industry	Numbers	Percentage (%)
Chemicals, petroleum, coal, rubber & plastic products	22	28.2
Food, beverages & tobacco	16	20.5
Wood & wood products	12	15.4
Fabricated metal products, machinery & equipment	10	12.8
Non metallic mineral products	5	6.4
Other manufacturing industries	5	6.4
Textile, clothing & leather	4	5.1
Paper and products, printing & publishing	2	2.6
Base metals	2	2.6
Total	78	100

The data analysis uncovered eleven factors that contribute in diluting or dampening the efforts towards TQM implementation in an organization. These factors are categorized based on the overall answers from the respondents. The factors are human resource issues, management, attitude towards quality, culture, interdepartmental relations, material, machine and equipment, quality related information, method, training and finance. Figure 1 depicts the number of respondents who quoted these factors.

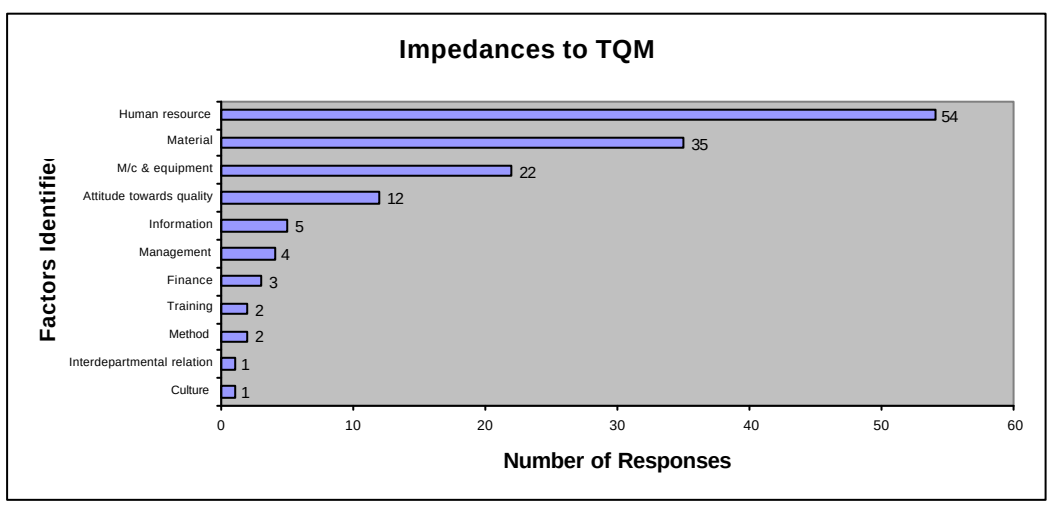

Figure 1. Impedances to TQM

As can be seen, the highest quoted factor of hindrance to TQM implementation is that of issues relating to human resource, with 38.3 % of the respondents reporting it. Next in descending degree of being highly quoted are material at 24.8 %, machine and equipment at 15.6 %, attitude towards quality at 8.5 %, information at 3.5 %, method and training at

1.4% each and least of all interdepartmental relations and culture at 0.7 % each. These factors are discussed in the following paragraphs.

4. DISCUSSION

Tamimi & Sebastianelli (1998), in their study, found several factors working against TQM implementation. The major barriers cited by samples included not linking management's compensation to achieving quality goals and lack of training in areas such as group discussions, communication techniques, quality improvement skills, problem identification and problem solving techniques. The other factor is inadequate resources to employ quality management.
In addition, Masters (1996) found the following contributing factors leading to ineffective TQM implementation :

- Lack of management commitment
- Weak comprehension of quality management
- Inability to change organizational cultures
- Lack of accuracy in quality planning
- Absence of continuous training and education
- Insufficient resources

Likewise, Adebanjo & Kehoe (1998), who studied TQM implementation in UK manufacturing organizations, identified quality problems as listed below :

a. Upper management does not insist on systematic measuring of customer satisfaction level and training programs.
b. Lack of training programs to enhance workers' skills and involvement in quality improvement activities.
c. Organizations do not place enough importance on cases of goods returned nor relates such cases to customers.
d. Many organizations do not involve suppliers when making improvements to products and in general suppliers have difficulties in meeting the organizations' requirements.
e. Insufficient teamwork facilitators and team building techniques such as Belbin are not employed.
f. Worker evaluation lacks a systematic approach and hence salary adjustments do not commensurate with job functions. Appreciation for contribution by workers is not apparent.

In the US, Salegna & Fazel (2000) surveyed the obstacles faced by TQM and non-TQM organizations. The results showed three major obstacles facing TQM organizations. These are insufficient of time, poor communication and lack of real employee empowerment. For non-TQM organizations, the obstacles include lack of motivation, insufficient time and lack of strategic planning for change.

The findings of this study show some similarities with the inferences from the studies done by Tamimi & Sebastianelli (1998) and Salegna & Fazel (2000). We will first of all examine issues pertaining to human resource. This highly significant factor which impedes TQM implementation comprises of a range of issues. These include insufficient

levels of education, lack of skill, lack of understanding of quality management and poor assimilation of quality work culture. Besides these points, issues such as non-conformance to procedures, low worker morale, industrial action, high worker turnover and absenteeism also play some role. These factors are thought to contribute significantly towards ineffectiveness of TQM implementation in the organizations sampled in this study. Gauging from the responses above, there is little doubt as to why the Indonesian worker's quality performance lags a significant way behind other Asian countries, in particular Japan. Both studies by Tamimi & Sebastianelli (1998) and Salegna & Fazel (2000) also place human resource issues as the single most significant contributor in assuring effective TQM implementation.

Another significant resource factor in the samples surveyed is that of poor condition of machines used in production processes. Issues such as high downtime, use of old and unreliable machinery, and poor coordination of equipment spare part procurement result in ineffective maintenance programs which in turn render production processes inefficient. The third resource factor is that of method. To illustrate, some of the respondents stated that not all activities to control product quality have a standard method or performed in a consistent way. Besides that, raw material quality has also been found to be a barrier in the respondent's quality implementation. For example, raw material does not conform to the specification, its delivery is unscheduled and it is difficult to procure imported raw material. A final resource factor limiting effective TQM is the lack of sufficient funds to mobilize TQM driven activities such as instituting training programs, provide quality resources, etc. This finding is consistent with the study done by Tamimi & Sebastianelli (1998) who found identical reasons.

It was also uncovered that management itself was found to hinder effective implementation of TQM, leading to its eventual failure. This came in the form of lack of commitment in the leadership to implement TQM, which percolates down to each level of workers for whom the manager is a role model. Also, in several of the sampled organizations, structural problems in the form of high turnover at management level contributed significantly in forming a formidable barrier to successful assimilation of TQM in the organization. This is because the leader is the driver for any quality initiative, and as such, leadership instability can only lead to unfavorable outcomes. Similar findings have also been concluded by Tamimi & Sebastianelli (1998) and Salegna & Fazel (2000).

In addition, the attitude of employees towards quality is seen to be one of the greatest barriers in the respondent organizations. Some respondents found that it is very difficult to change the mindset of the employees with regards to quality. They said that many believe that quality is an added cost, and hence could not accept it as an integral part of the job.

Another factor found to impede successful TQM implementation is that of training. As is already well known, training for all levels of an organization is of fundamental importance and as such must be provided continuously. This study finds that 1.4% of the sampled organizations had insufficient training on quality. In addition, management-related training also had not achieved organizational training targets amongst the respondents.

Culture and interdepartmental relations are ascertained to be impedances to TQM also. Some respondents reported that their company work culture and company mission and objectives are not synergistic. Additionally, lack of coordination between departments is

also seen to be detrimental towards successful TQM implementation. For example, it was observed that there are very wide differences of opinion between the Quality and Production departments on many organization-related matters.

5. CLOSING REMARKS

This study has uncovered eleven factors seen to be barriers against the successful implementation of TQM in Indonesian manufacturing organizations. The eleven factors include human resource, management, attitude towards quality, organizational culture, interdepartmental relation, material, machines and equipment, information, methods and training. Several of these eleven are similar to the factors found to impede TQM implementation in other countries, as reported by various other researchers like Masters (1996), Adebanjo & Kehoe (1998), Tamimi & Sebastianelli (1998) and Salegna & Fazel (2000).

From this study, it can be gauged that the obstacles against successful TQM implementation are almost similar amongst organizations from different parts of the world. However, there are also differences in the said hindrances. Many respondents in previous studies as well as this current one stated that very little resource has been allocated for TQM implementation. Nevertheless, previous studies have not investigated some of the barrier factors in detail. For example, resource factors (such as raw material, machine & equipment, funds and method) have not been elaborated the way they have been in this study.

On the basis that the factors that impede successful TQM implementation are somewhat similar worldwide, it can be extrapolated that the remedies that have been used in overcoming the problems can also be applied to Indonesian industries. Thus, it is important that both the successful as well as the not-so-successful stories of TQM implementation be studied in great detail, so that Indonesian industries need not re-invent the wheel when attempting to implement TQM in their respective organizations.

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