

Chapter 1

INTRODUCTION

1.1 Background

*“QC circles are based on idea that everyone **would like to use**
his brain in addition to his labor.”*

Junji Noguchi, Union of Japanese Scientists and Engineers

(Ross & Ross, 1982)

As under-developed, developing, and developed countries, are hit by the economics ills of inflation, recession, depression or economic slowdown, they are awakened by the concern for productivity improvement. While the under-developed and developing countries lack knowledge, expertise and resources for improving productivity, the developing countries take a lethargic attitude toward productivity improvement since they have achieved affluence.

Why do organizations go out of business? The ultimate reason for corporate failure is probably due to the lack of concern for productivity improvement, be it in manufacturing, service or marketing activities. The problems of improving productivity, employee moral, high turnover rates and loss of quality have plagued various industries for many years. Top management has relentlessly been searching for solutions to solve these problems. There are many alternatives available for improving productivity. Although the

sophistication of new technologies have provided solutions by relying on machines instead of human resources, yet, corporations simply cannot survive without the human touch. "A major portion of our energies has been directed at the productivity improvement opportunities which can be taken advantaged of by the labor-management co-operation" said Kuper (1978). In the words of Otis (1978), "...clearly the human factor is one of the most important aspects of increased productivity output"

Many corporations, especially those in Japan, however have managed to solve their problems pertaining to productivity and employees' low motivation. They have learnt to use the potentials of their employees optimally. One of the ways of tapping the gold mine of their human resources is through team-problem solving called Quality Control Circles (QCC). Different names have been used by different organization to describe this technique such as Participative Problem Solving (PPS) Teams, Work Improvement Teams and others. At Motorola (M) Sdn. Bhd. the term "PPS", is used interchangeably with QCC.

In the 1980s, QCC was widely used as a productivity improvement tool and in the 1990s this tool is still being adopted extensively, though in a different form. The service sector of America blossomed with the concept of the Quality Circles in the late fifties. By the mid eighties, 90% of the Fortune 500 companies had QCC programs (Gururaj, 1996).

For Malaysia to achieve the objective of a developed nation status by the year 2020, it is crucial that productivity improvement be inculcated in the minds of every individual and

organization. A higher productivity will strengthen the economy of the country which will then result in the improvement of the standard of living, namely a better quality of life in terms of employment, education, health, housing, transportation and other facilities. Productivity and modernization would lead to further industrial growth, thereby gaining a competitive edge in the world markets.

In Malaysia, the Institute Of Quality Control Malaysia (IQCM) and Hewlett Packard (M) Sdn. Bhd are both the pioneers in promoting QCC. The QCC concept is now widely known and practiced with the National Productivity Center (NPC) playing an important role in continuously stepping up promotional activities of the QCC. Together with the Institute Tadbiran Awam Negara or INTAN, they are both responsible in promoting QCC activities through seminars and conventions nationwide for the private and public sectors. In general, the QCC practices in Malaysia can be divided into two sectors the private and the public sectors. In the private sector, their activities are more extensive especially in the palm oil industries, shipping industries, beverage factories, cement and the electrical and electronic component manufacturing industries (Marsidi & Guok, 1988). The general hospitals, Public Services Department and Ministry of Housing and Local Development are some examples of government agencies which are using the QCC techniques in improving for their service quality and productivity. QCC activities are also prevalent in the service sectors like the air lines, travel agencies, hotels as well as the financial institutions.

Local research has been conducted on QCC activities in the government sectors (Rohana, 1987) and a comparative study of QCC activities of selected organizations was done by Lee (1983). In 1990, Guok conducted a study on the effects of environment on the effectiveness of QCC and non QCC work groups in the Klang valley . However, there is a lack of specific research on the application and the effectiveness of Quality Control Circles (QCC) in facilitating continuous improvement in the manufacturing environment in Malaysia. This research grew out of the need to look into the application of QCC in the manufacturing sector and to assess the benefits that can be obtained from such activities.

There's a need to adapt the old QCC concepts to the current organizational scenario. As organizational structure gets flatter, the role of the QCCs will be expected to adapt to such changes. The factors that contribute to the success of the QCCs and how beneficial they are to the organization must be evaluated.

There has also been a general concern on the life cycle of the QCC. Most QCCs dissolve once a project is completed. In line with the concept of continuous improvement, it is necessary for an organization to continuously support or encourage the QCC teams to remain active. It is also the intent of the research to evaluate the factors that could prolong the life cycle of the Motorola Quality teams .

1.2 Scope of Study

The scope of this study is confined to the development, implementation and sustaining activities of Motorola's Participative Problem Solving (PPS) Teams.

1.3 Study Objectives

The general objectives of this study are:-

1. To identify **the differences in characteristics between the QCC in the 1980's and the PPS in the 1990s**
2. To explore **the contributions of the Participative Problem Solving (PPS) teams in Motorola and how they have benefited members and Motorola as a whole.**
3. To evaluate **the facilitative factors that encourage the continuous development of PPS teams in Motorola (M) Sdn. Bhd.**

Specifically, the following objectives are sought:-

- * The department with the most active members.
- * The level of employee participation.
- * The factors needed to ensure success of the program.
- * The kinds of training required.
- * The level of members' commitment.
- * The problems encountered by members.
- * The rewards and recognition received by individuals and PPS teams.

1.4 Significance of Study

Among the expected benefits to be obtained from this study are:

- * That the findings of the study would be used as source of guidance for Motorola to assess the existing performance of its PPS teams and provide answers for a more effective implementation of the system in the future.
- * To provide insights and share the learning experience for other organizations to benchmark

1.5 Research Design and Methodology

The respondents were selected based on convenience sampling from various departments in Motorola. The 220 respondents chosen were employees who had participated in the PPS activities, either currently or some time in the past. The survey forms were either personally distributed to the sample through the assistance of the PPS coordinators and trainers of different departments in Motorola.

An analytical model to identify factors which are likely to influence PPS functions and development will be used based on an adaptation model by Michel Perigord (1990) on the motivations of Quality Control Circles. This model borrowed Maslow's hierarchy of needs. It showed what QCC can contribute in terms of the employee's sense of power and freedom in their environment, depending on the extent to which their needs are met. It also takes into consideration the concept of empowerment or group autonomy, the use of statistical tools as well as the performance of the team, which are important in today's environment. Based on this model, a questionnaire-type survey was developed to gain insights on the PPS activities from the organization's staff.

The questionnaire was divided into three parts; namely:-

PPS Activities

The main focus in this section was to gauge how active the participants had been, the reasons why they participated and what kind of problems the teams had solved. In addition, this section also reviewed the tools used and what areas of training the members have gone through to support the activities

PPS Organization and Management

In this section, the author sought to find answers to the level of management support towards the PPS activities. The support given was analyzed by reviewing the rewards and recognition system the organization had established. The level of empowerment given and what type of decisions were empowered to the team to make were also evaluated. In addition, this section also seek to review the benefits obtained both individually as well as collectively as an organization were also reviewed in this section.

General Characteristics

The salient characteristics of participants in terms of their sex, marital status, age and their categories were analyzed in this section. The level of participation of non-direct labors were also gauged.

In order to evaluate how the PPS activities in Motorola could contribute to continuous improvement, the kind of problems these teams solved as well as the reasons the teams were initiated were reviewed. The problem solving techniques used were also analyzed so as to gauge how improvement opportunities were identified as well as the ways to standardize and maintain such improvements.

Random interviews with Motorola personnel to access the benefits and the implications of the PPS activities to the overall performance of the organization, formed part of the data collection process.

Statistical analysis of the data for the survey was performed using the Statistical Package for Social Science Programme (SPSS/Win). As the intent of the survey is to be only descriptive, only frequency distribution analysis were used.

1.6 Organization of the Report

Chapter 1 discusses the background of the study. This includes a discussion of the objectives, scope and significance of the study.

Chapter 2 begins with a literature review of the QCC concept in terms of its applicability in today's business environment. It sets out to discuss the elements of the team and the benefits to be accrued from using team approach in problem solving. The chapter introduces the reader to the QCC philosophies and principles. The history as well as the fundamentals of the QCC will also be discussed.

Chapter 3 describes in general, the roles of QCC in implementing the Total Quality Management Philosophy successfully. QCC, other than being a way to improve productivity is an essential tool for continuous improvement . Another important element in the philosophy of the TQM is employee involvement and this is also discussed in this chapter. The differences of the QCC in the 1980's and the 1990's (and beyond) is also reviewed in this chapter.

An overview of Motorola (M) Sdn. Bhd. and its organizational structure and culture are described in chapter 4. The PPS activities and the coordination of these activities by a steering committee are also discussed.

An analysis of the survey results is presented in chapter 5.

Conclusions from the analysis and the summary of the case study are presented in chapter 6. Several recommendations on the effective implementation of the QCC are suggested at the end of this report.