

**THE IMPACT OF ORGANIZATIONAL VARIABLES AND QUALITY
PERFORMANCE ON CUSTOMER SATISFACTION OF THE
MANUFACTURING INDUSTRY WITH QUALITY MANAGEMENT SYSTEM
CERTIFIED IN NORTHERN REGION OF MALAYSIA**

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ABSTRAK

Kajian ini bertujuan untuk mengkaji hubungan di antara pembolehubah organisasi yang berkaitan dengan kualiti dan prestasi kualiti serta kesan-kesan dan pengaruhnya ke atas kepuasan pelanggan bagi industri pembuatan yang terletak di bahagian utara Semenanjung Malaysia. Kajian ini adalah berdasarkan kepada kajian soal selidik di mana sebanyak 243 borang soal selidik telah dihantar kepada organisasi-organisasi yang mempunyai sijil kualiti yang terletak di bahagian utara Semenanjung Malaysia seperti Negeri Pulau Pinang, Kedah, Perak dan Perlis. Bagi pembolehubah yang berkaitan dengan kualiti yang diuji seperti kepimpinan kualiti, budaya kualiti, strategi kualiti, teknologi kualiti dan alat-alat kualiti, ganjaran dan balasan, keputusan daripada analisis menunjukkan bahawa pembolehubah organisasi ini mempunyai hubungan yang nyata dengan kesepadanan kualiti, rekaan kualiti dan kepuasan pelanggan. Hubungan-hubungan ini adalah selaras dengan rangka teori yang telah dicadangkan dalam kajian ini dan hasil keputusan ini juga selaras dengan keputusan kajian-kajian lalu yang telah dibincang dalam kajian ini. Hasil kajian ini telah menunjukkan kepentingan dan kefahaman industri pembuatan yang mempunyai sijil kualiti tentang kepimpinan kualiti, budaya kualiti, strategi kualiti, teknologi dan alat-alat kualiti, ganjaran dan balasan, dan kesannya ke atas konformasi kualiti dan rekaan kualiti yang secara langsung mempunyai kesan yang ketara dalam pengaruhan kepuasan pelanggan mereka. Akhir sekali, implikasi dan cadangan untuk kajian yang akan datang turut dibincangkan pada penghujung kajian ini.

ABSTRACT

The purpose of this research is to study the relationship and effects of Organizational Variables and Quality Performance on Customer Satisfaction in Quality Management System Certify manufacturing industry situated in Northern Region, Malaysia. This study was conducted by distributing questionnaires to 243 quality accredited manufacturing firms or organizations located in Northern Region (Penang, Kedah, Perak and Perlis state) of Malaysia. As for tested organizational variables such as Leadership for quality, Quality Culture, Quality Strategy, Quality Technology & Tool, Rewards & Recognition, findings revealed that significant relationships exist with Conformance Quality, Design Quality as well as Customer Satisfaction. The results contribute to a better understanding on how organizational quality variables, mediated by design quality and conformance quality, can be effectively employed in whole manufacturing firms and thus affecting customer satisfaction. Finally implication of the results and suggestions for future research are discussed at the end of research.

Chapter 1

INTRODUCTION

1.0 Introduction

Intense global competition has forced many firms to examine their core business processes and to devise plans to respond to an increasingly competitive market place (Tan, Kannan, Handfield & Ghosh, 2000). As a result, many companies need to critically assess their key competencies and to develop strategies to compete effectively in a global economy (Tan et al., 2000). Underlying responses to global competition has been the recognition of the role of product and process improvement in business strategy (Tan et al., 2000).

Many industries nowadays require their suppliers to achieve certain quality standard certification by means of third-party registration in order to fulfill customer's requirements. It's seems to become a norm to certify for a certain quality standard and this serve as a competitive advantage for a company to stay ahead from their competitors and also to sustain in the business market. At the forefront of these efforts have been attempts to improve flexibility and quality, stimulate innovation, and reduce lead times, while simultaneously keeping costs down (Tan et al., 2000). Any company that tries to run its business without a quality system, such as ISO9000, is failing to recognize the importance of quality as a driver to business viability, sustainability and prosperity (McTeer & Dale, 1995).

According to Adam, Corbett and Rho (1994), quality was found to have a “positive and significant relationship to performance”. Similar studies by Maani, Putterill and Sluti (1994) and Sluti, Maani and Putterill (1994) showed empirically that improving quality had positive effects on operational performance and on certain indicators of business performance. Therefore, this study introduces how organizational variables of quality such as quality culture, quality technology and tools, quality strategy, leadership for quality, rewards and recognition play an important role in quality performance and will help management to develop quality strategies towards the improvement in product and process quality to achieve customer satisfaction in order to sustain in business market.

1.1 Background

Companies that are quality standards certified and renew must apply change methodologies to institutionalize the relevant quality standard requirements into business. From the research study conducted by Johnson (2004), organizational key variables with great similarity to those of a typical quality management system associated with quality performance outcomes was developed. Factors such as conformance to quality standards, leadership for quality, quality culture, and key organizational performance measures – quality and delivery ratings served as a contributor in quality standard performance outcome in this study. Each of the below key variables was modified from framework in the research conducted by Johnson (2004) due to the application on quality management standards.

- Leadership

- Strategy
- Technology
- Culture
- Rewards / recognition

In the academic literature, empirical research in the area of organizational variables such as the implementation of quality management tools and techniques and the effects on the business performance (Brah & Lim, 2006; Bunny & Dale, 1997), rewards and recognition process and its role for a total quality management based strategy (Allen & Killmann, 2001; London & Higgot, 1997), quality leadership in school and quality communications (Spinks & Wells, 1995; Berry, 1997), quality strategy as a new global competitive strategy and its impact in manufacturing enterprises as well as public sector (Peters, 1996; Leonard & McAdam, 2004; Mehra & Agrawal, 2003, Pun, 2005; Donnelly, 1999; Brown, 1998; Handley, 1995), quality culture in UK industry, Asian companies and schools and its effect on quality performance and management of organization change (Abraham, Fisher & Crawford, 1997; Corbett & Rastrick, 2000; Adebajo & Kehoe, 1999; Sinclair & Collins, 1994; Berry, 1997; Sohal, 1998) have primarily sought to explain the individual nature of relationship processes and their effect on operating or business performance. As such, these variables were selected and indicated in the framework of this study in order to test on it's effectiveness and relationships on quality performance and customer satisfaction of manufacturing industry located in Northern Region, Malaysia.

On the other hand, there is a considerable body of empirical research that has examined the impact of quality management practices on quality performance (Flynn et al., 1996; Adam et al., 1997; Hendricks & Singhal, 1997; Choi & Eboch, 1998; Easton &

Jarrell, 1998; Samson & Terziovski, 1999; Fynes & Voss, 2001). There is a considerable emphasis on the impact of operations practices on performance in many of these studies. However, there might lack of empirical studies gathering all the mentioned organizational variables and study their effect and relationship on quality performance, which this study will look into.

1.2 Problem statement

An empirical analysis from Tan, Kannan, Handfield and Ghosh (2000) indicated that over the past ten years, intense global competition has forced many firms to examine their business practices and to evaluate how to meet the challenges economic globalization has presented. Underlying these efforts has been an examination of strategic priorities and in particular recognition of the need to improve product and process quality (Tan et al., 2000). While quality improvement has become a pervasive element of business strategy, allowing some companies to respond to increase competitive pressures, it has not been universally effective (Tan et al., 2000).

According to research conducted by Combe and Botschen (2004), quality management is dominated by rational paradigms for the measurement and management of quality, but these paradigms start to “breakdown”, when faced with the inherent complexity of managing quality in intensively competitive changing environment. Throughout the 1990s, firms examined and, in many cases, changed their quality focus. Instead of relying on inspecting quality into products, they begin to seek for the room of

improvement from organizational variables standpoint and its relationship as well as effects on customer satisfaction.

Reeves and Bednar (1994) claimed that there are two separate aspects of quality have often been confused with the concept of overall quality. Following this, Clark et al. (1990) argue that total product quality is composed of two dimensions: firstly, design quality, which is defined as the extent to which quality, is designed into the product and secondly conformance quality, which is, defined by how well the actual product conforms to the design once it has been manufactured. Design quality determines the features, type's materials, and level of workmanship that will go into the final product. Certainly, the hand made Swiss watch with the solid gold case and multi-jeweled movement is a product with exquisite design quality. On the other hand the five figure price tag on this product will not meet the expectations of the overwhelming majority of watch customers. Design quality itself does not insure that the customer will be satisfied. In fact today average watch customer is more likely to buy low priced watches with colorful plastic bands and cases. Such watches can be mass produced at a low cost and are just as reliable for telling time as the most expensive watches. To achieve customer satisfaction you cannot treat design quality as an absolute scale that descends from the highest grade to the lowest. Good design quality is that which matches the customers design requirements including product price.

There is a consensus among researchers (Albrecht, 1988; Albrecht & Zemke, 1986; Gronroos, 1983, 1990; Zemke, 1989) that customer satisfaction is the key determinant of business success. However, there is lack of consensus concerning the precise method by which customer satisfaction is achieved (Moore, Hopkins, Willie & Shirley et al, 1998).

As discussed in Quality Progress on the massive toy recall in Sep 2007, Quality has been subjects of major media headlines. Recent incidents involved children's toys imported from China, bringing more attention to the nation's quality lapses where a coalition of environmental and health organizations released test results on 1200 toys and children's products that found 35% contained lead, many with levels far above the federal recall standard used for lead paint (Edmund 2008). This incident should be a sobering reminder of the tremendous risk and liability issues (Edmund, 2008).

The main purpose of this research is to study the relationship and effects of organizational variables and quality performance on customer satisfaction in manufacturing industry situated in Northern Region, Malaysia.

1.3 Research Objectives

Generally, this study is to examine the relationships between the organizational variables of quality on quality performance and on customer satisfaction. Specifically, this study is to:

- a) To investigate what are the organizational variables of quality that affecting Customer Satisfaction.
- b) To examine the relationships of the variables of quality on the quality performance, which are design quality and conformance quality.
- c) To examine the mediation effect of design quality and conformance quality between quality variables and Customer Satisfaction.

- d) To identify the effect of design quality and conformance quality on customer satisfaction.

1.4 Research Questions

Based on the problems discussed in the problem statement, the research questions of this study are:

- a) What are the organizational factors of quality that affect customer satisfaction mediated by quality performance ?
- b) What are the organizational factors of quality influence the customer satisfaction ?
- c) What are the mediated factors that affect customer satisfaction?
- d) What are the reasons for implementing Quality Management System ?

1.5 Significance of the study

It is important to know and understand the organizational variables of quality that can improve the quality performance and customer satisfaction. It cannot be denied that these quality variables such as Leadership for Quality, Quality Culture, Quality Strategy, Quality Technology and Tools, Reward and Recognition, are important in improving the quality performance on Design Quality and Conformance Quality as well as customer satisfaction but there has not been any empirical research looking into this perspective.

Therefore, there is a need for research that establishes linkages between the organizational variables of quality and quality performance as well as customer satisfaction.

According to Johnson (2004), there have been multiple studies conducted looking at various organizational variables applied in quality management. However, there has not been a study that has tied all the key organizational variables together. This broadened approach to the application of organizational variables to the impact of quality performance and customer satisfaction in quality certified organizations and is more comprehensive than prior studies and contributes to the body of knowledge in the quality management profession and management strategy. This bridges the gap between organizational variables and quality performance as well as customer satisfaction in quality certified organizations.

This research will contribute to the study of organizational variables of quality and quality performance that applicable to practitioners for their applications as well as academics for their future research. The study is also expected to provide value added information to organizational quality management by investigating the organizational variables of quality under Quality Registration organizations and their influence on quality performance and outcome. Furthermore, this study is expected to be important to the practical as it providing tools for identifying organizational factors that influence quality performance and seek for the room for improvement on product and process quality in order to increase and / or maintain their product competitiveness in market to achieve customer satisfaction.

1.6 Scope of Study

This study will only focused on manufacturing industry in Northern Region Malaysia that has been obtained a quality management system (QMS) certificate registration from registered certification body (CB) such as SIRIM, UL, etc. because most of the manufacturing located in this region and so far there's only a few research such as Johnson (2004), Voss and Blackmon (1994), have been conducted regarding this topic. Investigation will only be performed on manufacturing industry that establishes quality management system from the quality certified and registered certification body.

1.7 Definitions of terms

To clarify the language of this study, the following definitions have been defined:

1.7.1 Quality

“Fitness for use” via product features that are possessed by a product or service which are intended to meet customer needs, and product deficiencies that result in product or service dissatisfaction by customers (Tummala & Tang, 1996).

1.7.2 Quality Management System (QMS)

Quality Management System (QMS) includes the quality assurance process as one element, but in addition, it is organization wide, reaches from supplier through processes

to customers, involves and empowers all employees, and uses various kinds of data to enhance planning and decision-making (Mahoney & Thor, 1994).

1.7.3 Quality Management Standard

Standards of quality developed through the International Organization for Standardization (ISO) to ensure that organizations follow specific well-documented procedures in the making and/or delivery of their products or services, and nothing more. These procedures are meant to guarantee that the products or services of an organization are in accordance with customer specifications (Wiele, Williams & Dale, 2005).

1.7.4 Leadership for quality

Leadership is broadly described as a process by which behaviors, values, beliefs and attitudes of members of a group, organization or community are influenced in a way, which promotes collaborative action towards the quality achievement of shared outcome (Berry, 1997).

1.7.5 Quality strategy

Formation of strategy for the management of quality (Donnelly, 1999).

1.7.6 Quality technology and tools

Technology is popularly known to help enrich jobs and increasing job satisfaction. IT is one of the essential components of logistics systems and supports daily operations in many ways. IT is classify into high-cost and revolutionary technology, medium-cost, medium

revolutionary technology and low-cost, incremental technology. High-cost and revolutionary technology includes robotics, automated material handling equipments and automated storage and retrieval equipments. Medium-cost medium revolutionary technology includes data handling hardware (barcodes, optical scanners, local area network and hand-held data entry devices) and software. Low-cost, incremental technology includes software applied to inventory control and warehousing (Brah & Lim, 2006). Quality management tools and techniques are used based on the involvement of the quality function to facilitate their application. This were introduced as a means of increasing awareness of the total quality management concepts and the importance of continuous and company-wide improvement (Bunney & Dale, 1997)

1.7.7 Quality Culture

The set of habitual and traditional ways of thinking, feeling and reacting that are characteristics of the ways a particular quality society meets its problem (Sinclair & Collins, 1994).

1.7.8 Rewards and Recognition

Rewards and recognition is a process that provides a clear and visible statement to all employees of the organizational values and employee involvement (London & Higgot, 1997).

1.7.9 Conformance Quality

Conformance quality, which is defined as how well the actual product conforms to the design once it, has been manufactured. Conformance quality has been defined as the ability to meet targets for quality within the manufacturing unit and operationalised as a construct using measures such as defect rates, new product yield and scrap and rework (Flynn, Schroeder & Sakakibara, 1994).

1.7.10 Design Quality

Design quality has been defined as the features, styling and other product attributes that enhance fitness for use or “utility” for the consumer (Fine, 1986). It is defined as the extent to which quality is designed into the product.

1.7.11 Customer Satisfaction

Customer towards products or services generally defines customer satisfaction as a feeling or judgment after they have used those (Jamal & Naser, 2003).

1.8 Organization of the thesis

This thesis is presented in five chapters including introduction, literature review, methodology, results and discussions, and final discussions and conclusion. The introduction chapter will provide an overview of the research introduction, background, problem statement, research objectives, scope and significance of this study as well as the definition of the key terms. Chapter 2 will cover literature survey of variables on quality

management systems, quality performance, factors that contribute to quality performance and organizational factors of quality, which are related to the current project. Chapter 3 will cover the project methodology, which includes the postal questionnaire. Results of the postal questionnaire survey were presented in chapter 4 together with some discussions. Chapter 5 consists of final discussions and conclusions as well as the suggestion for future research where the thesis will be ended. The appendixes are presented to support this thesis for further understanding.

Chapter 2

LITERATURE REVIEW

2.0 Introduction

This chapter presents a detailed review of work reported in the literature on organizational factors of quality and quality performance measurements. Reviews of these and related literature are then discussed, followed by some evaluations and case studies. As a result, this will lead to the development of the theoretical framework and generation of hypothesis at the end of the chapter.

2.1 Quality Management System and Standards

According to Johnson (2004), there is several quality standard in which a company can obtain third-party registration. There are the International quality standards, ISO9001:2000 and ISO/TS16949:2002, with the later specifically geared to the automotive industry (Johnson, 2004). Prior to the inception of ISO/TS16949:2002, QS9000 was considered the quality standard requirement to conduct business in the automotive industry internationally (Johnson, 2004). In 1992, Chrysler Corporation, in conjunction with the Automotive Industry Action Group (AIAG), directed the Chrysler / Ford / General Motors supplier quality requirements task force to harmonize the fundamental supplier quality system manuals and assessment tools. This reduced the redundancy of having multiple assessments by multiple customers to one standardized quality assessment process known

as quality system requirements, QS9000 (Johnson, 2004). ISO/TS 16949:2002 is likely to replace QS9000 (Johnson, 2004).

ISO9000 refers to a series of standards for quality management systems, consisting of ISO9000, 9001, 9002, 9003 and 9004, were first issued in 1987 and revised in 1994 by the International Organization for Standardization (ISO) (Tummala & Tang, 1996). The ISO9000 standards are generic in terms of their application, meaning the same standards will apply to service, manufacturing or R&D organizations. They are also generic in terms of the industries they apply to, be it automotive, telecommunications, medical devices or pharmaceutical (Liu, 2008). ISO 9000 describes the guidelines for use of a particular standard whereas ISO9004 describes the guidelines for establishing an internal quality management system within the broad and general context of total quality management (Tummala et al., 1996). The other three standards, ISO9001, 9002 and 9003, are the generic standards containing minimum requirements for establishing and maintaining a documented quality system to instill confidence in customers that the intended products or services meet customer requirements (Tummala et al., 1996). Of the three, ISO9001 is the most comprehensive standard, including all activities in all stages, namely design / development, production, installation and servicing (Tummala et al., 1996). When people say ISO9000, they are referring to the quality management systems (QMS) standards and requirements specified in ISO9001:2000. It is a standard for providing assurance about the ability to satisfy quality requirements and enhance customer satisfaction in supplier-customer relationships (Liu, 2008).

Similarly, if a company is engaged in production, installation and servicing only, then it can use ISO9002 to establish and maintain a documented quality system, whereas it

can use ISO9003 if it is engaged only in final inspection and test (Tummala et al., 1996). From the date of publication, the adoption of ISO9000 standards was phenomenal. Originally they were adopted by the European Community (EC), requiring that anyone doing business with the EC should have the ISO9000 certification. This was followed by the European Free Trade Association (EFTA) member countries and later by several other countries including USA, Japan and China under exactly similar or equivalent names (Tummala et al., 1996). The initial aim behind the ISO9000 series was to build confidence between suppliers and manufacturers in business-to-business transactions and international trade (Wiele, Iwaarden and Williams, 2005). ISO9000 standards also help to ensure that organizations follow specific well-documented procedures in the making and/or delivery of their products or services, and nothing more (Wiele et al., 2005). These procedures are meant to guarantee that the products or services of an organization are in accordance with customer specifications (Wiele et al., 2005). The major purpose of these standards is to provide an effective quality system reflecting a company's practices of producing goods and services that conform to specified requirements in order to enhance and facilitate trade (Tummala et al., 1996)

The Department of Defense (Preston, 1995) has evaluated the application of many standards, including the MIL-Q-9858A – Quality Program Requirements for procurement, which was officially cancelled in October 1996. In an earlier memorandum on 5 September 1995 issued by the Air Force, they were pleased to announce the full support of contractors to substitute ISO9001, ISO9002, ANSI / ASQ Q9001 or ANSI / ASQ Q9002, or other comparable systems for MIL-Q-9858A (Preston, 1995). The original date of the MIL-Q-9858A dates back to December 1959 (Uzumeri, 1997). The focus of a quality

management system is to bring suppliers into the decision process using cross-functional teams to increase innovation and cut costs (Lee & Lazarus, 1993). McFadyen and Walsh (1992) state there is no guarantee of business after completing quality certification, but failure to do so may result in loss of future business opportunities. The quality management system focuses on planning, organizing, controlling human resources processes associated with quality initiatives, and the technical system is comprised of the quality design and performance process, and the quality conformance process (Mandal et al., 1998). Because there is a link in organizational systems, a change in one system will have an impact on the other system (Johnson, 2004). Quality, as an issue and drive, is now far more horizontal and has taken on most of the parameters of classic best practices : financial performance, management strategy, human resources deployment implications, manufacturing process control and refinement, quality culture, supplier relations, and so on (Bergstrom,1996).

The complexity of the modern manufacturing organization and the need to ensure that all aspects of business processes are focus on meeting organizational objectives, including the primary mission of customer satisfaction, has led to the development of quality management system (QMS) standards such as ISO9001 (Gordon, 2008). The purpose of a QMS similar to or based on ISO9001 is to help reduce the variation not only in the product, but also in the complex and integrated business processes on which we have become so dependent (Gordon, 2008). “Quality management has enabled us to unlock the ability for more creativity and massive improvements”, said Sanjay Labroo, CEO of Asahi India Glass Ltd for auto glass division that awarded the 2007 Deming Application Prize in Tokyo (Daszko, 2008).

2.2 Organizational Variables of Quality

Multiple studies conducted looking at various organizational variables applied in quality management. There also been a few studies focusing on a TQM perspective but not explicitly framing the relationship between organizational variables of quality and quality performance. Organizational variables of quality are predictors of successful quality management system implementation and improvements in quality performance in an organization as shown in research conducted by Johnson (2004). As such, the following variables were selected in this study that include :

- Quality technology and tools
- Rewards and recognition
- Quality culture
- Quality strategy
- Leadership for quality

2.2.1 *Quality Technology / Tools*

A research conducted by Brah and Lim (2006) shown that the technology play important and complementing roles in improving the performance. The use of IT is crucial in improving operational, quality and overall business performance. This study shows that high technology firms perform significantly better than low technology peers do. Technology is found dramatically playing a major role in the businesses. While the IT helps to break the internal silos within an organization, it also assists the coordination of

activities with the members of the supply chain and the customers (Brah et al., 2006). Besides, the technology generally improves the quality of the product and services. Results support the notion that IT improves business operations, increase the delivery quality of services or products, provide greater flexibilities to customers and bring about an increase in productivity of employees (Brah et al, 2006). Perhaps, this contributes to an improved operational and quality performance. Besides, from the empirical evidence provided by the case study on “Analysis of roles of IT on quality management” conducted by Mjema, Victor and Mwinuka (2005), shows that the use of IT on quality tools such as flow charts, histograms, and Pareto charts for quality control helped to control work process in production and to deliver consistent product quality. Initially a number of the quality management tools and techniques were introduced and applied as a means of increasing awareness of the total quality management concepts and the importance of continuous and company-wide improvement (Bunney & Dale, 1997).

Table 2.1

Analysis of application of tools and techniques

Tools	Application				
	Data collection	Problem solving	Customer / supplier relationship	New product introduction	Quality awareness
Cause and effect	√				
Pareto analysis		√			
SPC		√			√
Quality costing	√				√
Departmental purpose analysis			√		
Q-Mapping / flowcharting		√		√	
FMEA	√			√	
QFD	√		√	√	
Check sheet	√				
Histogram		√			
Scatter plot		√			
Graphs				√	√
Mistake proofing		√			

Source: Bunney and Dale (1997)

The choice of tools and techniques was depending on the phase of quality management process. Fact finding tools such as cost of quality and departmental purpose analysis - DPA will be considered to be used when under diagnostic and preparation phase. In management focus and commitment phase, certain data analysis tools such as cause and effect analysis, Pareto analysis and flow charts were used to identify problematic areas, their effects and thus helps to provide effective solution. While focusing on a particular

problem, the application of Pareto charts, control charts and flowcharting became helpful tools. When dealing with more intensive or improvement phase, more complex tools such as statistical process control – SPC and failure mode and effect analysis – FMEA help to facilitate company-wide improvement. Besides, the choice of tools and techniques was also affected by the resources available within the company to facilitate their successful application.

The use of quality management tools and techniques was dependent on the purposes of their application. Based on the study conducted by Bunney et al.,1997 on “The Implementation of Quality Management Tools and Techniques” in a chemicals manufacturing, they believe that there was a need to promote the use of several basic quality tools in quality before moving on to more complex process control and process capability studies. The use of tools and techniques is a vital component of any successful improvement process. The findings of the study confirm the importance of the correct training at the right time and to the right people if the benefit of tools and techniques is to be realized. Few important points that need to be considered by an organization in order to make effective use of quality tools and techniques suggested by Bunney et al, (1997):

- a) Training should be undertaken just in time and given in such a way that employees can practice what has been taught in a systematic manner.
- b) Specific training needs to be considered for improvement teams
- c) Employ local examples which employees can associate with in training
- d) Use a planned approach for the application and use of tools and techniques.
- e) Ensure management understanding (i.e. use of tools and techniques in their own decision-making and lead by example).

- f) Do not expect a single tool / technique to be a solution to all issues.
- g) Make facilitators responsible for encouraging the use of tools and techniques in everyday work processes.
- h) Do not underestimate resistance to graphical tools.
- i) Practice patience and persistence.
- j) Encourage as many people as possible to become involved in measuring and analyzing process performance.

2.2.2 Rewards and Recognition

Reward and recognition systems for individual employees remain one of the controversial areas of quality management (London & Higgot, 1997). An effective reward and recognition process provides a clear and visible statement to all employees of the organizational values and the commitment to employee involvement (London et al, 1997). Previous processes of reward and recognition were based on a system of written nomination but lacked any formality, anonymity and suffered from management bias, as candidates were not anonymously reviewed (London et al, 1997). Another review by Gomez and Balkin (1992) contends that the old model of compensation (with pay structures based on job analyses, description, specifications, and classifications) is no longer effective in today's business environment (Allen & Kilmann, 2001). They conclude that modern organizations must align their reward system practices with their organizational strategy in order to achieve higher levels of performance at both the individual and organizational level (Allen et al., 2001). Recent results from a US Council

of Communication survey concluded that recognition for a job well done is the top motivator of employee performance (Sweatman, 1996). Respondents believe that the reward system practices are important contributors to organizational performance (Allen et al., 2001).

Alignment of the reward system with organizational strategy helps to determine organizational effectiveness (Allen et al., 2001). The reward system should be aligned to motivate employee performance that is consistent with the firm's strategy, attract and retain people with the knowledge, skills and abilities required to realize the firm's strategic goals, and create a supportive culture and structure (Nadler & Tushman, 1988). Blackburn and Rosen (1993) and Knouse (1995) investigated the HR practices of national, state and local quality award winning organizations and found that these organizations typically made changes in their reward systems to make them more supportive of a quality-focused strategy (Allen et al., 2001). A Hewitt Associates (1996) survey of 27 utility companies found that 81 per cent of the companies have linked their compensation and reward systems to their quality initiatives (Allen et al., 2001). In Australia, many companies are currently addressing the issue of reward and recognition for employees as part of quality and continuous improvement programmes (London et al., 1997). As a result, several attempts have made to develop a process of employee reward and recognition for quality activities as part of its process of continuous improvement (London et al., 1997).

Lawler's (1981) comments about the important relationship between reward systems and all change efforts: Reward system can and often do have an influence on the effectiveness of organizational change efforts. When the impact of a change program on the reward system can become an important impediment to individuals accepting the

change. On the other hand, when the reward system is considered and made part of the change strategy, it can make a positive contribution to a change effort. It is precisely because of the systematic nature of organizations that almost any change effort has implications for the reward system. The current study should encourage others to proceed with empirical research on the impact of the reward system, reward system changes, and changes initiatives. The use of appropriate reward practices should be considered in ensuring an even greater positive effect on firm performance. Managers should implement policies and programs that link performance to the strategic quality objectives at the organizational, group and individual levels. This includes use of such extrinsic reward practices as suggested by Allen et al. (2001):

- Profit sharing that links organizational performance with individual rewards.
- Gain sharing which rewards work groups with bonuses for improvements they make in quality, productivity or cost reduction.
- Pay-for-performance plans in which pay is based on achievement of quantifiable goals that are linked to the organization's quality strategy.
- Strong assurances of employment security so that employees do not fear losing their jobs because of making their work processes more efficient.

It is also important to use intrinsic reward practices to support a quality strategy (Allen et al., 2001). The use of intrinsic rewards tends to generate a positive impact on firm performance. Managers should:

- Put in place a system for employees to make quality improvement suggestions to management