

THE EFFECTS OF TOTAL QUALITY MANAGEMENT ON THE EMPLOYEE PERFORMANCE IN MALAYSIAN MANUFACTURING INDUSTRY

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Abstract: Total Quality Management (TQM) is a management philosophy and operating approach that aims to consistently exceed the current and future expectations of all stakeholders, based on continuous improvement in all processes, goods and services. To survive in today rapidly changing global business, TQM is very important to the organization. The main objective of this study is to analyse the relationship between TQM and employee performance. A total of 350 questionnaires have been distributed to 10 manufacturing companies in Malaysia and effective sample of 294 usable completed surveys (84.0 percent usable response rate). Reliability testing was conducted to test the questionnaire before pilot test was done. Statistical analysis and regression were used to predict and estimate the relationship. The model was assessed using Analysis of Moment Structure (AMOS) based Structural Equation Modeling (SEM). The findings showed that TQM practices have a significant impact on employee performance.

Keywords: Total Quality Management, Employee Performance, Job Satisfaction, Manufacturing, Quality.

I. INTRODUCTION

Total Quality Management (TQM) is been using by the manufacturing companies to manage the quality within their organization. To improve product effectiveness, efficiency, flexibility and competitiveness, the manufactures realized the importance of taking the customer's needs into account (Ahmad and Yusof, 2010). TQM is a process that is used strictly for managing quality.

It is important to understand that it must be a continuous way of life and a philosophy of perpetual improvement in everything that is done. Quality is the key success factor to survive and sustain in the global market and to determine the success or failure of the firms in manufacturing industry (Mohammad Talha, 2004). The effectiveness of TQM implementation can be seen in Japanese companies.

TQM has transformed Japanese companies to be more competitive in the global market to win the market share (Garvin, 1988). Now Japanese products are proven to be the best in quality and can compete with their competitors and survive in this stiff market. Based on the previous studies through reviewing and synthesis of TQM literature, the author has identified 7 critical success factors of TQM as follows : (1) Top Management Leadership; (2) Customer focus; (3) Education and Training; (4) Information analysis; (5) Employee empowerment; (6) Human resource development; and (7) Management policies and strategy. These factors are independent variables. Dependent variable is employee performance which is measured by job performance and employee satisfaction (Zahari, 2015).

II. LITERATURE REVIEW

2.1. Top Management Leadership (TML)

Top management leadership is one of the driving factors in implementing Total Quality Management in the organization. Good leadership will drive the employees to have higher involvement in the implementation of Total Quality Management process (Negri, 2003). To ensure the continuous quality improvement process, leadership is needed to address the critical role of management. (Deming, 1986; Crosby, 1979; Garvin, 1988). To implement Total Quality Management, a team efforts headed by the top management is required. To ensure the responsibilities will be delegated more effectively, each person in the organization has the responsibilities and it is important for the entire organization regardless of their level to understand the role of leadership in Total Quality Management. To create employees ownership and responsibilities, supportive environment, continuous quality improvement and systematic change management process, the strong commitment from top management is very important (Ali Mohammad Mosadeghrad, 2014). To enhance the quality in all aspects in the organization, leaders must be able to organize and lead the employees, define the vision and mission, coaching management style, enhance employee empowerment and long range orientation (Sadikoglu and Zehir, 2010; Yusuf et. al, 2007)

2.2. Customer Focus (CS)

Customer satisfaction is the key of the successful organization and in the end will maximize and sustain the company business (Stock *et al.*, 2007). Customer satisfaction is one of the measurements of the quality. The customer satisfaction will highly be achieved by

emphasizing the quality in the products and service delivery. No matter what condition of the products are, they will directly impact the product success, thus will impact the customer satisfaction (Khanna *et al.*, 2011). To enhance customer satisfaction, employees and the customers must have effective communication between them. The company must fulfil the requirement by the customers and do the customer feedback analysis to measure the quality performance of the products and customer services (Raj Kumar, 2011). Due to the changing requirements, needs, preferences and expectations from the environment and customers, the organization need to be ready and alert to face these possibilities (Deming, 1986; Johston, 1991). In TQM, all the employees must be informed and trained about the importance of customer satisfaction. By implementing this way, they will have quality-minded and customer focus when performing the work and response rapidly to the customers. Thus, the quality philosophy will continuously enhance the customer satisfaction (Mahesh Chandra, 1993).

2.3. Education and Training (ET)

Training and education will help the employees to perform well in their jobs and expand the knowledge base of all employees. Through the training programme, the employees can able to strengthen the skills and knowledge that each employee needs to improve. A development programme and effective training will bring all employees to a higher level so they will have similar skills and knowledge (Wruck *et al.*, 1998). Education and training increases the employees working abilities and experiences, decrease the errors, enhance the knowledge and work skills, improve the teamwork and overcome the turnover rate (Kaynak and Hartley, 2008). When employees are helped to improve themselves, the organization will earn the benefits. Through the education and training, it will not just improve the skills but enhance self-esteem and pride. Employees get the messages that management cares about them as people. If the employees do not have the knowledge about TQM and fail to understand what TQM is, it can lead to lack of their motivation to participate in continuous improvement (Bateman, 2002).

2.4. Information Analysis (IA)

Information analysis is the availability of information systems and the procedure and system that provide accurate and timely information for managers to make decision (Flynn *et al.*, 1994). To achieve its objective and to react to any external changes, organization should measure, analysis, review and discuss data on business performance (Sadikoglu and Zehir, 2010). There are also some companies that share and provide financial information to the entire organization. In empowered organization, this information is distributed and disseminated by

training the employees to read and understand the company's cash flow, balance sheet and income statement analysis in order to help employees understand that every action and decision making will give implication to the company finance. Therefore, when the employees are aware and acquainted with financial implication of their action taken, they will understand and feel more committed and always come out with better decision (Vanichchinchai, 2011). The organization also displays performance at most of the workstations so that everybody can review their performance, having information sharing among departments for quality target and use quality tools and technique greatly for process management and improvement (Vanichchinchai and Igel, 2011).

2.5. Employee Empowerment (EE)

Making the team members involved in implementing TQM has become increasingly important in organization (Zadry & Yusof, 2007). Managers do not really understand what employee empowerment means and fail to establish boundaries for employee empowerment. Employee empowerment is a philosophy or strategy that enables people to make decisions about their job. Workers feel empowered when they are in an environment where their ideas are respected and they feel free to make suggestions without fear of ridicule by superiors or fellow workers (Gaudreau Meyerson, 2012). Implementing the principle of empowerment in stages fosters this type of environment and can increase employee productivity and input. Besides that, employees empowerment is also significant to keep them satisfied and productive (Fernandez and Moldogaziev, 2013). Empowered employees will make the best decision because that decision will affect their work and customers without supervisory review from the managers (Hogan and Coote, 2014). The goal of training and education is to equip the employees to do their own problem solving. In order to do that, all they need are the skills and information through training to help them to answer and deal with any problem faced. To encourage the employee empowerment, the management need to put the trust and give the employee the training so that they can understand in detail what actually employee empowerment is and how to implement it in the right time and in the right situation.

2.6. Human Resource and Development (HRD)

Competitive advantages can be gained by the organization if the organization uses its people effectively and strategically, draws on their expertise and define the objective clearly. If the talents and abilities within the organization are utilized effectively, the organization can enhance the level of quality (Crosby, 1979; Deming, 1986; Garvin, 1988). By providing a conducive and effective work area and training for organizational growth, the skills and

potential of their employees can be developed (Zakuan et al., 2010). The effective Human Resource Development can help to maximize the profits, reduce the costs and increase the revenues of the organization (Khan, 2003). The HR departments need to ensure their companies have the employees who are committed, knowledgeable, skillful, always motivated, high responsibilities and quality oriented attitude (Allen and Kilmann, 2001). To ensure that happened in the organization, the company needs to maintain a good workplace, good communication, continuous training, recognition and reward, and employee performance improvement. When the employees are motivated, they will have a good performance, thus will also enhance the performance of the organization (Sadikoglu and Zehir, 2010).

2.7. Management Policies and Strategies (MPS)

Business need to implement effective strategies to succeed. The important thing for a business owner to keep clear is that strategic management is a mind-set philosophy for doing business, but business policies are the specific method for running the organization on a day-to-day business. The organizations will be better equipped to meet their goals and objectives if the owner and managers adopt a clear TQM philosophy (Jeremy C Bradley, 2014). In order to compete and survive in the global market, the company must have strong strategic planning management (Sadikoglu and Zehir, 2010). The organization who implements TQM philosophy must have a clear vision, mission, policies, strategy for improving quality and quality target for the short and long term business plan (Vanichchinchai, 2011).

2.8. Employee Performance (EP)

When discussing about internal marketing of the company, one of the most significant factors that need to be emphasized is the performance. To reach the highest level of performance is challenging and tough due to the more and more challenges faced. The performance is the indicator to ensure the continuous development and market standard and also requirements of innovation. Organizational efficiency depends on the employee performance (Gruman and Saks, 2011). Nowadays, the researchers are interested to do research on human capital as one of the factors in an organization's financial performance. Employee performance has positive effects towards organizational performance (Carmeli and Tishler, 2004). The organizational effectiveness improvement is currently seen as critical to the growth and survival of organization by the process of measuring and managing employee performance (Den Hartog et al., 2004). According to Hansen and Wernerfelt, (1989) they had illustrates the importance of employees and the relationship to the organizational performance. Human factor is one of the determining variables besides environmental factors and organizational factors on the

organizational culture, which will influence employee behaviours and organization performance (Kidd, 2006). Author will describe employee performance into two criteria which are employee involvement and employee satisfaction and based on the previous studies (Walumbwa et al., 2011)

2.9. Job Performance

Job performance is a variable commonly researched in conjunction with job satisfaction and there are several literatures that put attention on job performance. Job performance is defined as the value an organization can expect from discrete behaviours performed by an employee over time (Motowidlo, 2003). High performing employees will result to high performing organization because they are interrelated to each other. However, if the employee has low performance, it will negatively impact the organization too. During the performance management process, employee efforts are managed based on measured performance outcomes. Thus, to critically design an effective job performance management process, the decision what constitute good performance and how different criteria of high performance can be measured are involved (Den Hartog and Verburg, 2004). According to Borman and Motowidlo, (1993) they differentiate two types of job performance which are task performance and contextual performance. Task performance is about the things that are typically in the job description and involve the transformation of materials into goods and services such as sales or operating manufacturing equipment. The contextual performance refers to the behaviour that contributes to organizational effectiveness through its effects on the psychological, social and organizational context of work (Motowidlo, 2003). Therefore, the job performance needs to be considered to measure employee performance in this research.

2.10. Employee Satisfaction

Employee satisfaction has a positive influence on business performance (Jun et al., 2006). Employee satisfaction is an emotional state resulting from experiences of work (Locke and Schweiger, 1979). He defined the concept of job satisfaction based on his argument which is the satisfaction is achieved when the employee realizes one's important job values provided these are congruent with or help to fulfil one's basic needs. He highlighted the conducive values that contributing to job satisfaction which are mentally challenging work, personal interest, work that is not too physically exhausting, pay for performance, working condition, high self-esteem and organizational support. Besides that, according to Luthans, (1989), there are three aspects in employee satisfaction which are emotional response to the work environment, the relationship between expectation and outcomes and satisfaction with pay. When employee satisfaction can be achieved, the employee

loyalty level will also increase and reduce the turnover rate (Jun et al., 2006). According to Mosammod Mahamuda Parvin, (2011), there are six factors that contributing to the employee satisfaction which are level of work condition, level of pay and promotion, level of fairness, level of job security, level of teamwork and level on relationship with immediate supervisor. Personal motivation influence the employee's performance by working environment, rewards and benefits, the clearness of work tasks, promotion opportunity, career development and the quality of communication. Satisfied employees expect to receive good acknowledgements and benefits by staying in the company unlike dissatisfy employees who intend to leave their jobs if level of satisfaction is lower and not get what they expect in the company. Thus, satisfied employees have higher level of loyalty (Guimaraes, 1997).

III. RESEARCH FRAMEWORK

A theoretical framework involves identifying the network of relationship among variables as shown in Figure 1.

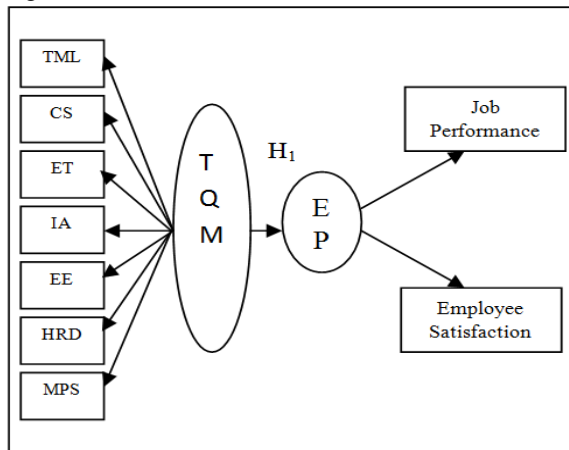


Fig.1. A theoretical framework with hypothesis development

From above research framework, the hypothesis (H1) is TQM practices are positively significance and direct effect on employee performance.

IV. RESEARCH METHODOLOGY

A final survey has been conducted and a total of 350 surveys were distributed to the employees in ten selected manufacturing companies in Malaysia. The demographical characteristic includes gender, length of services, nationality of the company, employment type and position. Of the 350 surveys, 302 were returned equivalent to 86.3 percent response rate. However, six surveys were found to have more than 10 percent of unanswered items and two surveys were excluded because respondent provided the same answers to all questions in the survey, resulting in an effective sample of 294 usable completed surveys (84.0 percent usable response rate). Engineer showed

the highest percentage with 28.6%, followed by executive and admin (27.2%), operator (17.7%), technician (16.3%), manager (9.5%) and director (0.7%). Thus, it could be positively assumed that majority are very familiar with the quality management within their organizations. The questionnaire was originally constructed in English. Five points Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Natural, 4 = Agree, 5 = Strongly Agree) will be used in the questionnaire for easily measure the data collection.

V. DATA ANALYSIS AND FINDINGS

The model was assessed using Analysis of Moment Structure (AMOS) based Structural Equation Modeling (SEM). This study had tested a hypothesis which is TQM practices are positively significance and direct effect on employee performance. First order factor was used to examine the relationship between TQM and EP using structural model as shown in Figure 2. The goodness-of-fit indices showed that this model fitted the data adequately. The chi-square was 85.037 and the degree of freedom was 28. The chi-square/df was 3.037. Furthermore, the GFI was 0.981, AGFI=.881, TLI=.932, CFI=.937 and RMSEA=0.079. The model that fitted the criteria for the path model was satisfactory, thus the model was accepted to fit the data. The standardised rc for the relationships between TQM and EP was 0.73 as shown in Table 1. Based on the path analysis, H1 was supported as the rc² value was 0.53, suggesting that 53% of the variance in EP can be explained by TQM. The result showed a positive and significant relationship ($\beta=0.73$, $CR=9.481$, $p<0.01$) between extent of TQM and EP. The following suggested values for low, medium and high effects for rc were based on (Cohen, 1988): (1) $rc>0.10$: small effect; (2) $rc>0.30$: Moderate effect; and (3) $rc>0.50$: High effect. Thus, TQM practices had a strong and significant effect, which contributed to the employee performance (Cohen, 1988). This hypothesis was thus supported as shown in Figure 2.

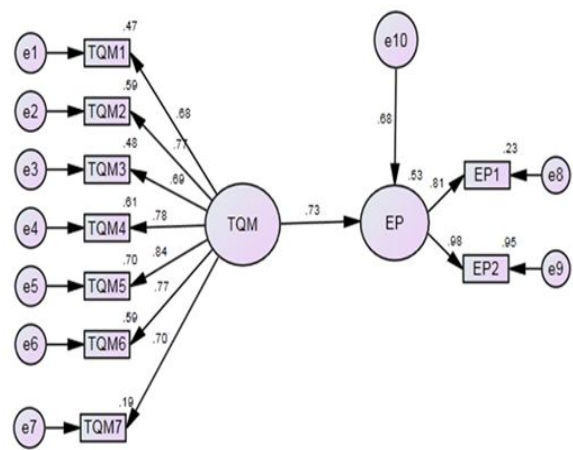


Fig.2. Result of the relationship between TQM and employee performance using SEM.

Table 1. Result of testing hypothesis H₁

| Hypothesis | Standardised estimated | rc ² | CR | Result |
|------------|------------------------|-----------------|-------|-----------|
| H1 | 0.73** | 0.5329 | 9.481 | Supported |

Note: *p<0.05; **p<0.01 (one-tailed test)

CONCLUSIONS

Most of the previous TQM models focused on the impact of TQM towards business performance only. Based on the previous study, there is still lack of study discussing the relationship of TQM practices and employee performance. Most of the studies related the TQM practices with the organizational performance. The relationship between TQM and business performance in previous studies were found mixed (Sadikoglu and Zehir, 2010). The performance is measured in an overall view of the organization and less study is emphasizing the employee performance (Jun et al., 2006). Therefore, this study has filled the gap by emphasizing the employee performance only. This study has proven that TQM has significant and positive relationship towards employee performance. The researchers are highlighting the significance of the people component in the firm's reputation and performance (Bontis and Fitz-enz, 2002; Abbott, 2003). According to Bontis and Fitz-enz (2002) they found a strong positive correlation between human capital and business performance. It is clear to conclude that, employees are significantly vital asset to an organization (Kidd, 2006). According to Hansen and Wernerfelt, (1989) they had illustrates the importance of employees and the relationship to the organizational performance. Human factor is one of the determining variables besides environmental factors and organizational factors on the organizational culture, which will influence employee behaviours and organization performance (Kidd, 2006). Therefore TQM practices will help to enhance the employee performance.

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