The effect of people-related TQM practices on job satisfaction

Dr Daniel I. Prajogo
Department of Management Monash University, Caulfield, Australia
Email: daniel.prajogo@buseco.monash.edu.au

Dr Brian Cooper
Department of Management Monash University, Caulfield, Australia
Email: brian.cooper@buseco.monash.edu.au

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ABSTRACT

This paper presents an empirical study which examines the relationship between people-related elements of TQM practices and employees’ job satisfaction. Data were collected from 201 employees across 23 organisations in Victoria, Australia. Using Structural Equation Modelling (SEM), TQM was treated as a second-order latent variable measured by five first-order factors (top management commitment, empowerment, training, involvement, and teamwork) and job satisfaction was also treated as a second-order latent variable measured by two first order factors (internal work satisfaction and high growth satisfaction). The findings support the validity of modelling TQM as a hierarchical, second order latent construct and demonstrate its strong relationship with job satisfaction. This study demonstrates the importance of people-related aspects of TQM in predicting job satisfaction. From a managerial and human resource management perspective, TQM can be used for developing high performance work practices. This study differentiates itself from others on the similar topic in terms of the method used which provides a stronger case for the holistic view of TQM practices in organisations.

Keywords: TQM, job satisfaction, structural equation modelling

INTRODUCTION

Total quality management (TQM) has been regarded as one of the most predominant sources of competitive advantage in the last two decades. Numerous studies have shown a positive relationship between TQM and organisational performance (Adam et al., 1997; Flynn et al., 1995; Kaynak, 2003; Powell, 1995; Samson and Terziiovski, 1999). Most studies have been directed towards examining the effect of TQM on operational performance and business performance. Nevertheless, there is still need for rigorous studies in understanding the relationship between TQM and a broader set of organisational outcomes. This study attempts to contribute to this area by examining the relationship between TQM practices and employees’ job satisfaction. Job satisfaction has been considered as one of the key determinants of firms’ success and growth (Hallowell et al., 1996). However, there is a paucity of studies that have examined the relationship between TQM and job satisfaction (Guimaraes, 1996; Jun et al., 2006; Karia and Abu Hasan Asaari, 2006; Lam, 1996; Morrow, 1997). This is despite the fact that TQM proponents have claimed that the ultimate goal of TQM, that is (external) customer satisfaction, cannot be achieved without employee (i.e. internal customers) satisfaction. Also, given the potentially long-time horizon necessary to study the effects of TQM, researchers and practitioners alike may well be advised to turn their attention to more immediate or proximal effects of TQM, such as job satisfaction (Morrow, 1997). This study contributes to the existing body of knowledge on the TQM-performance relationship by asking: is TQM related to employees’ job satisfaction?
THEORETICAL FRAMEWORK

People-related TQM and organisational performance

There has been common agreement that TQM comprises ‘hard’ and soft’ elements (Kekale and Kekale, 1995; Kochan et al., 1995; Lewis et al., 2006; Wilkinson et al., 1997). The first involves a range of tools and techniques (e.g. SPC, seven tools, QFD, FMEA, etc.) and the latter is primarily concerned with people factors (e.g. commitment, involvement, empowerment, teamwork). In this study, we focused on the ‘soft’ or people factor of TQM practices. The importance of balancing both aspects in determining the effectiveness of TQM implementing in an organisation has been well recognised in the literature (Lam, 1996). For example, whilst emphasising the need for using statistical process control (SPC) techniques for controlling and improving quality, Deming (1986) still articulated the importance of people in managing quality. Out of his fourteen points, more than half are concerned with particular practices related to people and organisation, including institute training on the job, improve leadership, drive out fear from the workplace, and remove barriers to pride of work. Similarly, Crosby (1979), in his fourteen steps of continuous improvement emphasised the people factors, including training, communication, and reward system for quality. In essence, these arguments suggested that these practices essential in enabling employees to develop and utilise their full potential to achieve the business objectives of the organisation (Dean and Bowen, 1994).

This premise does not neglect the role of the ‘hard’ aspects of TQM. Firms certainly can achieve superior performance by applying TQM tools, techniques, and systems in building quality into their product design, production, and delivery processes to meet customers’ needs and expectations. The point to make here is that upgrading technology and promoting hard TQM practices may not necessarily improve performance, because ultimately it is ‘people that make quality happen’ (Dale et al., 1997; Thomas, 1995; Wilkinson, 1992). From a strategic perspective, organisations need to develop sources of competitive advantage, and people have been considered as organisational asset which cannot be easily imitated by competitors (Wright et al., 1994). Empirical studies have also shown the role of people-related TQM practices in affecting organisational performance. Beginning with the groundbreaking study by Powell (1995), TQM studies have also shown that it is the ‘soft’ elements of TQM which contribute to organisational performance (Dale and Lightburn, 1992; Dow et al., 1999; Rahman and Bullock, 2002; Samson and Terziovski, 1999).

People-related TQM and job satisfaction

Whilst soft TQM practices have been shown to be positively related to organisational performance, this study is focused on employees’ job satisfaction. Job satisfaction is chosen as the measure of TQM impact for the following reasons. First, “soft” or people-related TQM practices will primarily impact on “soft” performance. In this regard, it has been argued that non-financial benefits are not less important than bottom line results. Deming (Deming, 1986) has criticised the
overemphasis on short-term profit by managers which causes them to lose sight on the long-term benefits. Second, even when studies have shown that “soft” TQM practices affects organisational performance, they, arguably, will firstly affect the “soft” performance before affecting the “hard” aspects performance. As Morrow (1997, p. 366) suggested, “given the potentially long-time horizon necessary to study the effects of TQM, researchers and practitioners alike may well be advised to turn their attention to more immediate effects of TQM”. Thirdly, we contend that job satisfaction resulting from TQM implementation will lead to a greater commitment in adopting TQM programs and producing intended results, high quality performance (Lam, 1996). On the other hand, when there is rejection of TQM programmes, it is difficult to expect positive outcomes from the implementation. Therefore, one of the roles of the ‘soft’ TQM factors is to create an environment where the ‘hard’ TQM can be implemented by empowering and supporting employees to maximise their potential in contributing to the achievement of high quality outcomes of their work (Rahman and Bullock, 2002).

The arguments suggesting a link between people-related TQM practices and job satisfaction have been discussed in the literature with several of them being highlighted below (Ahire et al., 1996; Anderson et al., 1995; Black and Porter, 1996). The role of top management in the implementation of TQM has been well recognised in the literature. Indeed, top management commitment is considered as the first step organisations need to secure before they embark on putting TQM in place. At the same time, many TQM failures have also been attributed to the absence of top management support (Sohal and Terziovski, 2000).

Employee involvement or participation in quality improvement is central in the implementation of TQM. This involves developing both top down and bottom up communication channels, providing mechanisms for employees to voice their concerns or suggestion on quality issues, until participation in decision making processes (Daily and Bishop, 2003). Studies have shown that employees who feel more involved in jobs tend to be more satisfied with their jobs, which enhances their commitment to their organisation (Lawler et al., 1998; O'Driscoll and Randall, 1999). Further, increased participation in decision making by lower-level members of the organisation has been found to have a positive effect on the level of job satisfaction which then affects both organisational commitment and job performance (Kim, 2002; Rodwell et al., 1998; Wagner, 1994).

TQM proponents and scholars have affirmed that empowerment is one of the key “ingredients” of TQM without which continuous improvement will never happen. Empowerment provides an environment where workers can unleash, develop, and utilise their skills and knowledge to their fullest potential for the good of the organisation as well as for themselves” (Ripley and Ripley, 1992, p. 21). In the context of TQM, employee empowerment is commonly operationalised in two forms. First, it encourages employees to respond to quality-related problems, including identifying the problems and taking initiatives to solve them, by delegating authority and allocating resources for employees to attain it (Hill and Huq, 2004). Second, empowerment provides employees with the freedom to take responsibility for their ideas, decisions, and outcomes, hence, releasing them
from rigid and bureaucratic controls, which is similar to job enrichment. Studies in both TQM and HRM fields have shown that empowerment positively impacts on job satisfaction (Blackburn and Rosen, 1993; Seibert et al., 2004; Spreitzer et al., 1997; Ugboro and Obeng, 2000).

Deming (1986) has strongly emphasised the importance of training without which employees will not be able to play active roles in quality improvement activities. Training provides employees with skills and confidence in achieving high quality outcomes from their works. Training also reflects the organisation’s commitment to help employees develop their skills which would in turn give them opportunity to move forward in their career development (Bowen and Lawler III, 1992). These all would affect the employee satisfaction in the work place (Lawler et al., 1998).

Teamwork has taken various forms in TQM, including Quality Control (QC) Circles and quality improvement teams. The need for teamwork in TQM is based on the assumption that most quality problems can only be solved by involving people from various departments in the organisation (Imai, 1986; Ishikawa, 1985). The successful teamwork provides employees with motivation and self-efficacy which in turn will fulfill the social needs in the work place which leads to job satisfaction (Kirkman and Rosen, 1999; Rahman and Bullock, 2002).

Therefore, on the basis of these theoretical arguments and empirical findings, we hypothesise:

H1: There will be a positive relationship between people-related TQM practices and employee job satisfaction.

METHODS

Sample and Procedure

Data were collected from 201 non-managerial employees across 23 organisations in Victoria, Australia. A manager in each participating organisation was recruited to serve as the contact for this research. Each manager was instructed to distribute the questionnaires to non-managerial employees within their work unit. A covering letter was included with each questionnaire to explain the nature of the project and the voluntary and anonymous nature of participation. Questionnaires were returned directly to the researchers using reply-paid envelopes.

Just over half of the respondents were female (53.7%) and the mean age was 42.90 years (SD = 10.81, range: 19 to 63). The average tenure of the employees was 7.35 years (SD = 8.22, range: 1 to 40 years).

Measures

We adopted the TQM measures developed by Ahire et al. (1996). The measures have a strong theoretical grounding their development as well as showing strong construct validity and reliability. The original measures comprise 12 scales, but we only included those which are people-related. The five scales included in our study were top management commitment (six items), employee empowerment (five items), employee training (five items), employee involvement (six items), and
teamwork (three items). The Cronbach’s alpha coefficients for the five scales were above 0.80, indicating strong internal consistency reliability in the present sample.

Measures of job satisfaction were adapted from the work by Hackman and Oldham (1980). We selected two measures of job satisfaction: internal work satisfaction (four items) and high growth satisfaction (four items). These two elements were selected because of their fit to the purpose of our study which examines job satisfaction not only in terms of the extent to which the job provides personal satisfaction but also how it provides an opportunity for personal growth and development. The internal consistency reliability of both measures of job satisfaction was very good, with Cronbach’s alpha coefficients above 0.80.

**Method of analysis**

Latent variable structural equation modelling (SEM) was used to estimate the parameters of our hypothesised model. SEM analyses were performed using a covariance matrix as input to the LISREL software package (Joreskog and Sorbom, 1993) with maximum likelihood as the method of estimation. Prior to estimating our model, we examined the statistical assumptions of SEM. Results of evaluation of assumptions of normality, linearity, absence of multicollinearity, and homoscedasticity were satisfactory.

**RESULTS**

First, we estimated the measurement model for the substantive constructs. A hierarchical, second-order factor model was used to represent the construct of TQM based on two reasons, theoretical and empirical. From a theoretical point of view, the literature has been in agreement that TQM needs to be implemented in a holistic rather than piece meal fashion. For example, Deming’s (1986) fourteen management philosophy on quality needs to be tied together in the context of business. Taiwo (2001) suggested that TQM implementation required managers to have system thinking to understand how TQM must permeate throughout all aspects of the organisation. Empirically, studies (Ahire et al., 1996; Issac et al., 2004) have shown that TQM elements are strongly correlated to one another, supporting synergy among the elements. The study by Tamimi (1998) has examined the validity of the second-order factor model of TQM, and the result indicated a good fit.

In a hierarchical factor model, the higher-order factor is presumed to account for the correlations among the first-order factors (Kline, 2001). In support for this second-order factor, we found relatively high positive correlations among the five first-order TQM factors, ranging from .61 to .78. Specifically, TQM was operationalised using five first-order factors with their corresponding items as indicators (TOPMAN = top management commitment, EMPOWER = employee empowerment, TRAINING = employee training, INVOLVE = employee involvement, and TEAM = teamwork). The five first-order factors loaded on to a second-order factor labelled ‘TQM’.
A hierarchical, second-order factor model was also used to represent the construct of job satisfaction. Specifically, job satisfaction was operationalised using two first-order factors with their corresponding items as indicators (WORK = internal work satisfaction and GROWTH = high growth satisfaction). The two first-order factors loaded on to a second-order factor labelled ‘JOBSAT’ (= job satisfaction). Finally, the scale of measurement for each of the constructs was established by fixing one of the unstandardised factor loadings to be equal to one (1).

The full structural equation modelling on the relationship between people-oriented TQM practices and job satisfaction is presented in Figure 1. The model yielded a good fit to the data $\chi^2 (df = 451) = 873.60; \text{RMSEA} = .068$ with 90% confidence interval for RMSEA: .061 to .075; CFI = .978; SRMR = .059. Figure 1 shows the standardised path coefficients for our hypothesised model. The five first-order TQM elements (TOPMAN, EMPOWER, TRAINING, INVOLVE, TEAM) strongly loaded into the second-order TQM construct, with all standardised path coefficients above .70. However, note that one item in the empowerment factor was deleted due to a poor factor loading.

Similarly, both first-order job satisfaction elements (WORK and GROWTH) strongly loaded into their second-order construct (JOBSAT). As predicted, the TQM factor was positively related to job satisfaction ($\beta = .68, p <.01$), in support of H1.

CONCLUSION

This study has shown two major findings. First, it confirms empirically the holistic nature of TQM practices, particularly those related to people. Second, TQM practices, as expected, had a strong and positive relationship with job satisfaction, the latter capturing not only satisfaction with the work itself but also the personal development and growth. This finding demonstrates the role of people (or soft) - related aspects of TQM in predicting job satisfaction among employees, which in turn is likely to enhance their work performance. This finding is also instructive for organisations implementing these practices regardless of the banner they may use (i.e. TQM, Continuous Improvement, High Performance Work Practice, etc.) if they are to develop a work environment which results in job satisfaction and high performance.

One limitation of this study is that the relationship between TQM and job satisfaction is examined in a “vacuum” environment. Few variables (control or moderator), such as the role and position of the employees or human resource policy of the firm, could be added to provide a more comprehensive picture in understanding the interaction of several aspects of working environment which determine the work outcomes.

REFERENCE


Figure 1 Full Structural Equation Modelling between TQM and job satisfaction