ABSTRACT

People-Related Total Quality Management (PRTQM) practices mainly involve with the "soft" performance of the organization as same as human resource practices. Therefore, the PRTQM practices have a direct impact on employee satisfaction. Job satisfaction is identified as the main construct which effects on employees' commitment level, which leads to the productivity of the human resource. This paper focuses on to identify the relationship between the PRTQM practices and employees' Job Satisfaction in the context of the Apparel Manufacturing sector in Western Province in Sri Lanka. Senior level managers who belong to the areas of Production and Quality of 15 randomly selected Apparel Manufacturing organizations were used as the sample and a self-administered questionnaire was used to collect data. Psychometric evaluation of the measuring tool was done through Confirmatory Factor Analysis and Reliability Analysis. The Correlation Analysis was used to measure the strength and the significance of the relationship between the level of PRTQM practices and employees' Job Satisfaction. Multiple Linear Regression Analysis was used to measure the impact of individual PRTQM factors on the Job Satisfaction of senior Managers. Results of this study illustrated a positive relationship between PRTQM practices and employees' Job Satisfaction. The average level of Job Satisfaction and identification of the opportunities for Teamwork are significantly higher in females than their male counterparts. Compensation has no significant impact on Satisfaction. The level of influences of Leadership, Training opportunities, Empowerment, and Involvement, on the Job Satisfaction, varied according to the gender of the employee. Opportunities for Teamwork, Leadership, and Involvement are the significant factors for the Job Satisfaction of male employees but the Involvement and the Empowerment are the significant factors for the female employees. Ignoring the gender difference of the senior managers, Involvement, Leadership, and opportunities for Teamwork, together shows significant impact (R² = .381) on the Job Satisfaction of employees in the Apparel Manufacturing sector.

Keywords: People-related TQM, Employees' job satisfaction, Apparel manufacturing industry
1. INTRODUCTION

Employees play a crucial role in implementing organizational strategies (Lilly & Maheshwari, 2014). According to Lilly and Maheshwari (2014) satisfied employees lead to a great performance in any type of organization.

Industrial sector of Sri Lanka is very important in terms of export revenue. Among the main categories of the industrial sector, manufacturing industry sector holds the highest number of establishments and highest density of employees (Department of Census and Statistics, Sri Lanka, 2015).

According to the Annual Survey of Industries in 2013, (ASI 2013) the manufacturing of wearing apparel is the highest in terms of density of employees (Department of Census and Statistics, Sri Lanka, 2015). According to these statistics even with the highest density of employees and the second largest number of establishments belongs to the wearing apparel manufacturing sector, their productivity is lesser than the other sectors. Hence, it arises the problem of why the employees of Apparel Manufacturing industry showing a poor productivity level than the other sectors.

Employees' productivity has significant impact from the “Employees' satisfaction” and it is considered as one of the important determinants of employees' productivity along with employee attitude and commitment (Koh & Boo, 2004; Ofoegbu & Joseph, 2013).

Parvin and Kabir (2011) stated that the working conditions, pay and promotion, job security, relationships with co-workers, and relationships with supervisors are the important factors contributing to employees' satisfaction.

Human Resource Management (HRM) expertise recognized these factors as the essential management practices in an organization (Boon, Arumugam, Safa, & Bakar, 2006). The “Soft” elements of People-Related practices in Total Quality Management (PRTQM) like commitment, involvement, training, empowerment, compensation, and teamwork are very similar to these essential HRM practices (Prajogo & Cooper, 2010).

Thinking of “Quality” in organizations started with the inspection and then evolved the quality control. Quality control expanded into quality assurance and finally developed as quality management (Hoyle, 2007).

In 1979, Crosby identified 14 steps to improve “quality” of an organization (Janakiraman & Gopal, 2007, 79) and later in 1986, Dr. Edward Deming also defined, similar 14 points for improving the "Quality" of the management of an organization (Suganthi & Samuel, 2011). With these interventions TQM philosophy emerged and is concerned to be applicable in
any part and any type of organization (Magd & Curry, 2003).

TQM proponents stated that the ultimate goal of TQM is customer satisfaction (Mehra & Ranganathan, 2008). But in order to satisfy external customers it is essential to satisfy internal customers first (Janakiraman & Gopal, 2007; Prajogo & Cooper, 2010). There is a shortage of adequate empirical findings in the area of TQM, to ensure the impact of PRTQM practices on employees' job satisfaction (Boon, Arumugam, Safa, & Bakar, 2006; Amin & Ahmad, 2015). Therefore, this study attempts to examine the relationship between PRTQM practices and employees' job satisfaction in Apparel Manufacturing organizations in Sri Lanka.

2. OBJECTIVES OF THE STUDY
The objectives of the current study are to measure the strength and significance of the relationship between the PRTQM practices and employees' job satisfaction and to measure the impact of the level of the PRTQM practices on employees' job satisfaction.

3. LITERATURE REVIEW
TQM is a philosophy and a prominent source of competitive advantage (Prajogo & Cooper, 2010; Boon, Arumugam, & Hwa, 2005; Suganthi & Samuel, 2011) which focusing on continuously improving the quality of the products by considering customer's expectations to achieve greater performance while ensuring the customer satisfaction (Sadikoglu & Olcay, 2014). Quality gurus have contributed to the emergence of TQM as a philosophy (Suganthi & Samuel, 2011; Janakiraman & Gopal, 2007; Ahire, Golhar, & Waller, 1996; Magd & Curry, 2003). Most studies have been focused on examining the effect of TQM in operational performance and business performance (Kurupparachchi & Perera, 2010; Prajogo & Cooper, 2010; Sadikoglu & Olcay, 2014). There have shown positive relationships between TQM practices and organization wide performances (Flynn, 1994; Sadikoglu & Olcay, 2014). However, the need for rigorous studies in understanding the relationship between TQM and a broader set of organizational outcomes is identified by many researchers (Prajogo & Cooper, 2010; Boon & Arumugam, 2005).

TQM contains techniques, tools, and practices in two types (Alsughayir, 2014; Lewis, Pun, & Lalla, 2006). The first is called "hard" TQM elements (Table 3.1) which contains a range of tools and techniques and the second is “soft” elements and it contains people-related practices (Prajogo & Cooper, 2010; Lewis, Pun, & Lalla, 2006). The “soft” factors are long term and “hard” factors give the support to the implementation of “soft” factors (Lewis, Pun, & Lalla, 2006).

In 1986 Deming (cited in Prajogo & Cooper, 2010) who contributed to the TQM philosophy by emphasizing important essential technique of Statistical Process Control (SPC) also, convey the significance
of the soft-TQM practices. Among the Deming's 14 points, more than half are concerned particular practices related to the human aspects (Prajogo & Cooper, 2010). His 14 points include practices related to the people such as training, leadership, and empowerment. In 1979, another quality philosopher Crosby (cited in Prajogo & Cooper, 2010) also have emphasized in his 14 steps of continuous improvement soft-TQM factors like training, communication, and reward system for quality. There is no general agreement or evidence on which essential TQM practices are better for human capital creating due to the fact that it seems to have a lack of empirical support (Chang, Chiu, & Chen, 2010). However, the importance of balancing both these aspects is identified for successful TQM implementation (Sirvanci, 2004; Boon, Arumugam, & Hwa, 2005).

In the recent past, there was a significant number of research studies discussed the PRTQM practices (Appendix I) and their role in influencing organisational performance and quality achievements (Fotopoulos & Psomas, 2009) and have been shown positive relationships (Prajogo & Cooper, 2010). However, there are very few studies that have studied the particular impact of PRTQM practices on employees' job satisfaction (Alsughayir, 2014; Prajogo & Cooper, 2010; Chang, Chiu, & Chen, 2010; Amin & Ahmad, 2015).

Prajogo and Cooper (2010) have highlighted three reasons for examining the relationship between PRTQM practices and employees' job satisfaction. First, “soft”, or PRTQM practices largely affect to “soft” performance not the financial performance. Second, those specific PRTQM practices will first affect the “soft” performance before affecting the “hard” aspects performance. Third, it has been assumed and insisted that job satisfaction in return may lead to a higher commitment by employees in enhancing TQM programs. A related work

| Elements of “Soft” TQM | Elements of “Hard” TQM |
|------------------------|------------------------|
| Top management commitment | Cause and effect diagram |
| Strategic quality planning | Scatter diagram |
| Employee involvement | Affinity diagram |
| Supplier management | Relations diagram |
| Customer focus | Force-field analysis |
| Process orientation | Run chart |
| Continuous improvement | Control charts |
| Facts-based decision-making | Quality function deployment |
| Human resource development | Failure mode and effect analysis |

Table 3.1: “Soft” and “Hard” TQM Elements

Source: Fotopoulos & Psomas (2009, p. 152)
in the literature also emphasized the fact that the TQM concept is not limited to enrich only the effectiveness of financial performance, but it also improves internal customers' satisfaction (Amin & Ahmad, 2015) and TQM is a way of managing with the impression to enhance employees' attitude (Wood & Peccei cited in Boon, Arumugam, & Hwa, 2005). Therefore, it is visible the likeliness of PRTQM practices to the HRM practices, thus, the arguments suggesting that PRTQM practices impact on the employees' job satisfaction as same as HRM practices (Prajogo & Cooper, 2010; Boon, Arumugam, & Hwa, 2005).

Employee job satisfaction can be defined as “a pleasurable or positive emotional state resulting from the appraisal of one's job experience” (Locke cited in Saiyadain, 2003). Some studies have recognised employees' satisfaction as a crucial factor for survival and success of the Service Organisations (Chang, Chiu, & Chen, 2010). However, according to Lilly & Maheshwari (2014), satisfied employees lead to great performance in any type of organisation. Employees' satisfaction may leads to high level of retention and therefore, it minimizes high level of absenteeism results to recruitment and re-training and, these can affect to the bottom line of the organisation (Ofoegbu & Joseph, 2013). Evidence from previous studies indicated that satisfied employees tend to be more loyal to the organisation and maintaining a loyal workforce is a qualification for the successful TQM implementation (Chang, Chiu, & Chen, 2010). The growing interest in employee satisfaction has led to the studies about the antecedents and consequences in TQM literature (Matzler, Fuchs, & Schubert, 2004). The related studies have emphasized the factors contributing to employees' job satisfaction such as; training and development, leadership, teamwork, pay and promotion, employee participation, employee empowerment as management practices recognised in the area of HRM (Boon, Arumugam, & Hwa, 2005; Parvin & Kabir, 2011; Khuong & Tien, 2013) and TQM literature (Chang, Chiu, & Chen, 2010; Amin & Ahmad, 2015; Ahire, Golhar, & Waller, 1996).

Importance of training is highlighted, unless employees have received formal and systematic training in quality management, other TQM elements such as; employee empowerment and involvement would not be effective (Ahire, Golhar, & Waller, 1996). Training is a valuable source for employee to expand their knowledge and skills to engage team work for the efficient manner (Chang, Chiu, & Chen, 2010). Training can be in different forms such as; on the job training or information can be provided to employees about educational programs available in professional institutions (Pekar, 1995). The positive and significant impact of training on employees' job satisfaction has been identified in the literature (Boon, Arumugam, & Hwa, 2005; Prajogo & Cooper, 2010).
One of the key elements of TQM is employee empowerment involves encouraging employees to respond to quality related problems and it also requires supply them with the resources and authority to do so (Prajogo & Cooper, 2010). Teamwork takes place in various forms such as; quality control circles (QCC) and quality improvement teams (Prajogo & Cooper, 2010). Working as a team leads to better employee attitude and supportive relationship between members facilitates the work (Alsughayir, 2014).

Top management leadership is considered as the preliminary step (Prajogo & Cooper, 2010) and critical ingredient (Chang, Chiu, & Chen, 2010) before an organization starts with putting TQM in implementation because the right tools and the right systems to do a good job by employees can be supplied only by management (Pekar, 1995). Managers of all layers of the organization must be committed to quality improvement (Pekar, 1995) and that must be visible (Ahire, Golhar, & Waller, 1996).

Ideas about compensation are that the value of the reward should be matched to the value of the accomplishment and it should be consistent for everyone in every time (Pekar, 1995).

Employee involvement or participation in quality improvement is central and this requires developing both top-down and bottom-up communication channels, providing a mechanism for employees, give their concerns and suggestions on quality issues and direct participation in the decision making process (Prajogo & Cooper, 2010). Organisations can develop formal systems to encourage, track, and reward employee involvement but, if the extent and quality of participation declines, it may lead to dissatisfaction of the workforce (Ahire, Golhar, & Waller, 1996).

4. METHODOLOGY

The conceptual framework of the current study (Figure 4.1) was developed by using theoretical perspectives and literature that related to the research area. The utilized measures are exhibited in Appendix II.

4.1 Hypotheses of the Study

Literature provides evidence for the existence of a relationship between the PRTQM practices and employees' job satisfaction (Prajogo & Cooper, 2010). Therefore, the hypotheses postulated in this study are;

· H1: Higher the independent factors (quality of TML, quality of ET, the level of EE, the level of EI, opportunities for T, and the level of C), higher will be the job satisfaction of the employees.

· H2: Gender of the employee moderate the relationship of independent factors (quality of TML, quality of ET, the level of EE, the level of EI, opportunities for T, and the level of C) to the job satisfaction of the employees.
4.2 Study Method and Sampling Procedure
The population of the current study defined as all senior managers of Apparel manufacturing organizations in Western Province, Sri Lanka. Ten organizations were selected randomly from the BOI zones (Wathupitiwala, Katunayake, and Biyagama) and five organizations were selected from outside the zones. All the senior managers who work in the selected organizations were considered as the study sample.

A cross-sectional survey was utilized to gather quantitative data for the study. A self-administered questionnaire was used as the measuring tool and it was distributed among all the senior managers in the above said organisation.

4.3 Method of Data Collection
Data collection was done within a specific period of time across the multiple sections. Data collected from 129 employees out of 200 questionnaires distributed across 15 apparel manufacturing organisations. The response rate is 64.5%.

PRTQM measures developed and validated by Ahire, Golhar, and Waller (1996) was used as the base for the questionnaire and the researchers have made appropriate modifications when necessary. The measures adopted in this study are; 14 items for Leadership (top management commitment) including the importance given to quality by senior managers, setting quality goals, allocation of resources, and performance evaluation of managers based on quality; 16 items for Employee Training including availability of resources for training, completeness, adequacy and effectiveness of training, participation in training sessions, training given on “TQM”, “continuous improvement”, and “basic statistical-techniques”; 5 items for Employee Empowerment including authorisation to inspect own work, encouragements to finding and fixing problems, providing resources to fix the problems, providing assistance for solving problems, and supporting infrastructure; 6 items for Employee Involvement including encouragements to give suggestions about quality, evaluating participation in quality improvement, and suggestion consideration and implementation; 3 items for Compensation including financial incentives as a reward for superior quality performance and profit sharing with

![Figure 4.1: Conceptual Framework](Source: Developed by researcher)
employees; and 3 items for Opportunities for Teamwork including involvement with quality improvement teams and usage of cross-functional teams for solving quality problems.

Measures of Job Satisfaction were adopted from the work of Prajogo and Cooper (2010). Job Satisfaction was measured through the Internal Work Satisfaction (4 items) and Growth Satisfaction (4 items).

5. DATA ANALYSIS AND FINDINGS

Confirmatory Factor analysis and Reliability analysis were used to test the unidimensionality, consistency and reliability of constructs in the measuring tool, prior to the data analysis. All items of the tool consist of 5-point itemized scale measures and the Cronbach's Alpha was used to test the reliability of each construct separately. All Cronbach's Alpha values exceed 0.6 and it indicates the reliability and consistency of each construct in the tool (Table 5.1).

Average scores given by the respondents for each PRTQM practice and the Job Satisfaction were analyzed to compare the differences in the lives of two gender groups of the managers (Table 5.2). All the scores are higher in female managers than the male managers, but the identification of the opportunities for Teamwork and the Job Satisfaction show significantly (5% level) higher level among female managers.

The correlation coefficient was used to measure the strength and the significance of the relationship between the level of PRTQM practices and employees' Job Satisfaction. Since the variable Job Satisfaction was not fulfilled the requirements of the Normality test, the Spearmen's Coefficient of Correlation (non-parametric) was used to measure the relationships.

According to the figures in table 5.3, all the PRTQM practices other than the Compensation show significant positive correlation with the Job Satisfactions of the managers.

PRTQM practices such as Compensation and Teamwork are not showing a significant relationship with female employees' Job Satisfaction. Leadership, Empowerment, and Compensation are not showing a significant relationship with the Job Satisfaction of their male counterparts.

| Table 5.1: Reliability Analysis |
|--------------------------------|
| Variable          | Cronbach's Alpha value |
| Leadership        | 0.82                   |
| Quality of training | 0.78               |
| Empowerment       | 0.68                   |
| Involvement       | 0.79                   |
| Teamwork          | 0.66                   |
| Compensation      | 0.68                   |
| Job satisfaction  | 0.88                   |

Source: Survey data

Simple linear regression models fitted to observe the impacts of individual PRTQM factors on the Job Satisfaction of the Senior
Managers. Further, the moderating impact of the gender of the employee was tested. Results show that the gender of the employee has significant (5% level) moderating impact on the individual relationships from Leadership, Training, Empowerment, and Involvement, to the Job Satisfaction.

Multiple linear regression analysis was carried out in order to measure the impact of the level of PRTQM practices on employees' Job Satisfaction. The stepwise selection method used to extract the best model for the data. Initially, two separate models were fitted for male employees and the female employees in the sample (Table 5.4).

Teamwork, Leadership, and Involvement have significant impacts on the Job Satisfaction of male employees with the model accuracy of 39%. But Involvement and Empowerment are the significant factors influence to the Job Satisfaction of female employees with the model accuracy of 43%.

In general, the PRTQM practices such as Involvement, Leadership, and Teamwork show significant impacts on the Job Satisfaction of the senior managers in Apparel industry (Table 5.5). The accuracy of the fitted model is 38.1% and the Involvement has the highest impact on the Job Satisfaction.

As a moderating factor, “Gender” of the employee is not showing any significant impact on this overall model (multiple linear regression model).

6. DISCUSSION AND CONCLUSIONS

This study examined the impact of the PRTQM practices on employees' Job Satisfaction in Apparel manufacturing organizations in Western Province Sri Lanka. Similar studies have been conducted in Australia (Prajogo & Cooper, 2010), Pakistan (Amin & Ahmad, 2015), Saudi-
Female employees claimed that the quality of the leadership, opportunities for training, the level of empowerment, opportunities for involving in the decision-making activities, the level of compensation given, and the opportunities for work as a team are in average level but their ratings are higher than the ratings of their male counterparts. The level of Job Satisfaction and the identification of opportunities available for Teamwork are significantly higher in females than their male counterparts.

In achieving the objective of measure the strength and significance of the relationship between each PRTQM practice and Job Satisfaction, it was apparent that findings were different from previous studies. The results show significant positive relationships of Leadership, employee Training, employee Involvement, employee Empowerment, and Teamwork with the Job Satisfaction. This indicates that the Job Satisfaction is a result of collective practices of PRTQM and when the PRTQM practices are in higher level the Job Satisfaction of the employee will also be high. This finding is supported by the findings of Prajogo and Cooper (2010). Compensation had a positive but an insignificant relationship with Job Satisfaction. The insignificance of the relationship between reward (compensation) and Job Satisfaction as also found by Amin and Ahmad (2015). Findings of Alsughayir (2014) also confirmed the strong positive relationship between working as a team (Teamwork) and the Job Satisfaction.

The general objective of this study is to
examine the impact of the PRTQM practices on employees' Job Satisfaction. The study considered the impact of quality of the Leadership, employee Training, employee Empowerment, employee Involvement, and Teamwork on the Job Satisfaction as similar to two other previous studies done by Prajogo and Cooper (2010) and Amin and Ahmad, (2015).

PRTQM practices differently influence to the male and female employees on their Job Satisfaction. Male employees Job Satisfaction occur as a result of opportunities available for Teamwork, quality of Leadership and opportunities for Involve/take responsibility in organizational activities, while the female employees Job Satisfaction occur as a result of two similar factors such as the opportunities for Involve/take responsibility in organizational activities and level of authority (legally and officially) given to them (Empowerment) to handle their managerial activities.

Ignoring the gender difference of the senior managers in Apparel industry, Sri Lanka, their Job Satisfaction depends on their Involvement, the quality of the Leadership, and opportunities available for work as a team (Teamwork) in their organization. The senior managers' expectation is to involve and take responsibilities in their organizational activities with the legal and official authority to take decisions and actions related to their managerial activities. Further, they expect clear directions for the goals that have to be achieved and the collaborative working environment from the top management of the organization. Alsughayir (2014) has found that Teamwork and Reward (compensation) have an impact on Job Satisfaction in Saudi Arabian Telecom Company. Though the Teamwork is a significant factor of Job Satisfaction, the Compensation is not showing a significant relationship with Job Satisfaction among the senior managers in the Apparel Manufacturing Industry, Sri Lanka.

7. RECOMMENDATIONS
This study provides an insight of PRTQM practices that make an impact on Job Satisfaction of employees in Apparel Manufacturing Organizations in Sri Lanka. Employees' satisfaction is considered as an important driver of productivity along with employee commitment and employee attitude. The productivity of any manufacturing organisation depends on the performance of the employees. From that view, this study attempted to examine whether there is an impact from PRTQM practices on Job Satisfaction of employees in Sri Lankan Apparel manufacturing industry. The decreasing trend in the productivity (output) of the Apparel Industry in Sri Lanka (ASI 2013) can be controlled by strengthening the senior managers who are engaged in executing administrative activities. Enhancing their Job Satisfaction will be one of the management strategies that can be used by the top management of the organization.
Regardless of the gender of the senior managers, providing opportunities to involve/take part in managerial activities, decision-making bodies, and allowing them to share their ideas and views will be effective strategies to enhance their Job Satisfaction. Further, providing facilities and creating a culture to work as a team with the senior administrative and the junior employees will also be good for their satisfaction. Finally, the transparency of the qualities of the leadership and directing them clearly to the goals of the organization will enhance the satisfaction of the senior managers. Giving authority/power (empowerment) to take decisions legally and officially specially for the female senior managers will be favourable for their satisfaction.

Since it is implicated that employee involvement and leadership have a significant influence on satisfaction, top managers have a critical role in determining employee satisfaction. Leadership dimensions and employee involvement dimensions such as; clarity of the quality goals, importance given to quality as a strategic issue, allocation of resources to quality improvement efforts, performance evaluation of managers based on quality, encouragement for employees to give suggestions and implementation of them, and framework for evaluating the quality of participation are recommended to enhance within those organization settings.

8. LIMITATIONS OF THE RESEARCH

There are several limitations of this study. First of all, it may lack generalizability, due to the sampling technique. The population considered in the study is only the organizations in Western Province, Sri Lanka. It does not necessarily reflect the perception and level of satisfaction of employees in the Apparel manufacturing organizations outside the Western Province Sri Lanka.

Limited availability of previous studies, literature, and figures was another constraint, especially in Sri Lankan context. Therefore, this particular research is limited to less background knowledge in the area of study.

Further research could be conducted considering some other PRTQM practices which are identified in the literature but not considered in this study to examine those relationships with the employees' Job Satisfaction. In addition, it is important to extend the focus on other provinces in Sri Lanka and other industries to generalize the findings.

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**Appendix I**

**People-related TQM practice used in recent studies**

| TQM practice          | Authors                                                                 |
|-----------------------|-------------------------------------------------------------------------|
| Top management leadership | Saraph, Bensn, and Schreder (1989), Flynn (1994), Ahire, Golhar, and Waller (1996), Lee and Rho (2003), Ooi and Arumugam (2005), Lewis, Pun, and Lalla (2006), Teh, Young, Arumugam, and Ooi (2009), Prajogo and Cooper (2010), Jha and Kumar (2012), Ebrahim, Wei, and Rad (2014), Sadikgh and Olcay (2014) |
| Customer focus        | Flynn (1994), Ahire, Golhar, and Waller (1996), Lee and Rho (2003), Ooi and Arumugam (2005), Lewis, Pun, and Lalla (2006), Teh, Young, Arumugam, and Ooi (2009), Ebrahim, Wei, and Rad (2014), Sadikgh and Olcay (2014) |
| Empowerment            | Ahire, Golhar, and Waller (1996), Prajogo and Cooper (2009), Jha and Kumar (2012) |
| Category                  | References                                                                 |
|--------------------------|-----------------------------------------------------------------------------|
| Strategic planning       | Lee and Rho (2003), Ooi and Arumugam (2005), Lewis, Pun, and Lalla (2006),  |
|                          | Teh, Young, Arumugam, and Ooi (2009), Jha and Kumar (2012), Sadikglu and   |
|                          | Olcay (2014)                                                                |
| Human resource           | Flynn (1994), Lee and Rho (2003), Lewis, Pun, and Lalla (2006), Teh, Young,|
| management               | Arumugam, and Ooi (2009), Ebrahimi, Wei, and Rad (2014)                     |
| Supplier management      | Lee and Rho (2003), Flynn (1994), Ahire, Golhar, and Waller (1996), Jha and |
|                          | Kumar (2012), Ebrahimi, Wei, and Rad (2014), Sadikglu and Olcay (2014)     |
| Process management       | Flynn (1994), Lee and Rho (2003), Teh, Young, Arumugam, and Ooi (2009),    |
|                          | Jha and Kumar (2012), Ebrahimi, Wei, and Rad (2014), Sadikglu and Olcay (2014) |
| Information analysis     | Lee and Rho (2003), Teh, Young, Arumugam, and Ooi (2009), Ebrahimi, Wei,    |
|                          | and Rad (2014)                                                              |
| Training                 | Ahire, Golhar, and Waller (1996), Ooi and Arumugam (2005), Lewis, Pun, and |
|                          | Lalla (2006), Prajogo and Cooper (2009), Jha and Kumar (2012), Sadikglu    |
|                          | and Olcay (2014)                                                            |
| Employee involvement     | Ahire, Golhar, and Waller (1996), Ooi and Arumugam (2005), Lewis, Pun, and |
|                          | Lalla (2006), Prajogo and Cooper (2009), Jha and Kumar (2012), Ebrahimi,  |
|                          | Wei, and Rad (2014)                                                         |
| Teamwork                 | Ooi and Arumugam (2005), Lewis, Pun, and Lalla (2006), Prajogo and Cooper  |
|                          | (2009), Jha and Kumar (2012)                                                |
| Organisation culture     | Ooi and Arumugam (2005), Lewis, Pun, and Lalla (2006), Jha and Kumar (2012) |
| Social responsibility    | Lewis, Pun, and Lalla (2006)                                                |
Appendix II
Measures of PRTQM practices

**TOP MANAGEMENT LEADERSHIP**
- Clarity of the quality goals
- Importance given to quality as a strategic issue
- Importance given to quality versus cost
- Importance given to quality versus production schedule
- Allocation of resources to quality improvement
- Performance evaluation of managers based on quality

**TRAINING**
- Availability of resources
- Level of training
- Employee levels participating in training sessions
- Types of the training

**TEAMWORK**
- Quality circle usage
- Cross-functional team

**INVOILVEMENT**
- Encouragements to give suggestions
- Framework for evaluating quality of participation
- Suggestion implementation

**EMPOWERMENT**
- Authorized to inspect their own work
- Encouraged finding and fixing problems
- Given resources to fix the problems
- Technical assistance given for solving problems
- Supporting infrastructure for problem solving

**COMPENSATION**
- Providing financial incentives
- Availability of profit sharing program

**EMPLOYEES’ JOB SATISFACTION**