

Measuring Determinants Of Quality Performance: Pilot Study In Sri Lankan Apparel Industry

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Abstract: The objective of this study is to identify measures of people- related determinants of quality performance. Drawing from socio- technical systems theory, competing values framework of organizational culture, organizational justice theory and social exchange theory the constructs and measures were delineated from extant literature. A pilot study was conducted on responses of 60 machine operator level employees of the apparel manufacturing organizations in Sri Lanka. Reliability and validity of the measures were established to ascertain the suitability of the measures to represent the constructs and test the conceptualised relationships.

Index Terms: Job involvement, Job satisfaction, people- related TQM, turnover intentions, quality performance.

1. INTRODUCTION

Organizations, competing aggressively in the current global market, strive to achieve and maintain superior quality products and services. In order to consistently and competently comply with customer expectations, quality performance in the context of manufacturing sector, should encompass, increased quality of products and customer satisfaction, reduced process variability, delivery, cost of scrap and rework, and cycle time [1]. Total Quality Management (TQM) is adopted by organizations as a means to improve quality performance [2], based on the vast body of empirical research supporting influence of TQM on quality performance [3], [4],[5] and [6]. Nonetheless, literature also divulges reports of failures of TQM implementation to enhance performance [3],[7],[8],[9] and [10]. Search for factors influencing successful implementation of TQM yielding anticipated improvements is a topic which has triggered much interest in the TQM research. TQM is widely described as a socio- technical system [1], [11], [12]. Since technical systems are more standardized, previous studies have proposed that differences in TQM results can be attributed to people-related social systems [13],[14],[15],[16]. There is consensus that TQM consists of two major branches- hard and soft TQM [17],[18],[19]. The soft TQM practices are described as people – related TQM practices (PTQM)[18], [20], [21] and [22]. Further, recent studies report that the implementation of 'soft' TQM will first result in the 'soft' outcomes, i.e. employee work attitudes, which will, in turn, facilitate the 'hard', i.e. quality, operational, and financial outcomes [7], [22], [23]. In view of such importance given to people-related aspects in explaining variations in TQM results, this study focused on the soft dimensions of TQM, i.e. people-related TQM practices and people-related outcomes. It is envisioned that the study will shed light on understanding of the variations in TQM results. The aim of this paper is to establish reliable items to measure the identified determinants of quality performance. With maturity of TQM research, the research focus shifted from a purely technical perspective to a broader set of antecedents and consequences. Some examples of studies investigating people- related outcomes are [17],[18],[21],[24] and [25]. Although it was suggested in some studies that people-related factors such as organizational culture [26],[27] and organizational justice [28] play significant roles in enhancing positive employee attitudes and performance in the TQM setting, only few studies focused on impact of these factors. This study, in response to the call of scholars that the TQM philosophy should be further investigated from a holistic perspective as an organization-

wide initiative [29],[20] examines people- related TQM practices, organizational culture and organizational justice as determinants of quality performance. Furthermore, the study examines the intermediary employee work attitudes, as suggested by [15] and [30] as mediators in the relationship between TQM determinants and quality performance. The context of the current study is the apparel manufacturing organizations in Sri Lanka. A preliminary study was conducted to ascertain whether the aforementioned failure of TQM in boosting quality performance exists in the study context. The apparel industry is of national economic significance to Sri Lanka, being the largest export earner, and the largest employer in the organised industrial sector [31]. Responses of questionnaires administered on 48 Quality managers, TQM consultants and regulatory officials were analysed using SPSS Version 20. Of the 77% of respondents who opined that TQM was implemented in anticipation of improved performance, only 47% affirmed that TQM implementation yielded the desired outcome. 82% responded that people- related factors were responsible for the suboptimal effectiveness of TQM in improving quality performance. Therefore, understanding factors which influence quality performance would be beneficial to practicing managers of the apparel industry, faced with intense global competition. The rest of this article is organised as follows. The following section presents a review of literature on PTQM practices, organizational culture, organizational justice, and employee work- related attitudes. Thereafter, the paper outlines the research design of the pilot study. The results of the measurements are presented and the paper concludes with a discussion and suggestions for future research.

2 REVIEW OF CONCEPTS 30

A holistic perspective of TQM and quality performance entails drawing from many theories representing varied management domains. In this pursuit, the study draws from socio- technical systems theory, competing values framework, organizational justice theory and social exchange theory to explain relationships between the concepts identified in relation to quality performance.

2.1 Theories underpinning PTQM, Culture, Justice, employee work attitudes and quality performance

Socio- technical systems (STS) theory explains TQM implementation and resulting organizational performance [11]. STS exemplifies joint optimisation of social and technical considerations rather than emphasising of one over the other.

In the TQM context, STS calls for technical proficiency and employee involvement beyond traditional management approaches. Implementation of TQM without the introduction of STS principles will only enable achievement of short-term efficiency [1] and [11]. Competing Values Framework (CVF) captures multidimensional culture orientations of organizations. The four contrasting cultural dimensions namely group, developmental, hierarchical and rational, demonstrate influence on varied outcomes at employee and organizational level [26, [32]. Rational culture orientation prompts product quality [33], [26]; hierarchical culture with authoritarian leadership traits, negatively influences relationship between employee and organization, resulting in increased turnover intention. Group culture orientation is linked to employee satisfaction [34], [35]. Despite linking varied performance measures with specific culture dimensions, organizations can exhibit a balance of more than one culture traits. Organizational justice, referring to employees' perceptions of fairness of organization's decisions and decision-making processes, exerts influences on behaviour [36]. Three dimensions of justice perceptions classified by scholars, are, distributive justice, procedural justice, and interactional justice [37]. The influence of organizational justice perceptions on performance are rooted in equity theory according to which employees who perceive injustice seek to restore justice, through altering their level of performance. Organizational justice research, demonstrates that fair treatment exerts important influence on employee attitudes, such as satisfaction, absenteeism, and commitment [38]. The premise of social exchange theory (SET) is that social exchange relationships evolve when employers take care of employees, engendering beneficial consequences for both. Employees repay a favourable work environment and conditions through better performance and other favourable attitudes and behaviours, but also adjust their attitudes and behaviours negatively in response to treatment they perceive as unfavourable [39]. In the TQM context, it is predicted that positive employee work attitudes resulting from perception of favourable work conditions created by soft or PTQM practices, which lead to improved quality performance.

2.2 Determinants of Quality Performance

Effect of TQM in improving quality performance has been well established in TQM literature [12], [40],[41], [42], [43], [44]. Responding to the call of scholars to view TQM from a broader and holistic perspective, this study incorporates organizational culture (OC) and organizational justice (OJ) perceptions as additional determinants complementing TQM in determining quality performance. As noted earlier, there is consensus that TQM practices are developed around two dimensions, the 'hard' and 'soft' TQM practices [19],[45],[46]. Soft practices, also termed as 'people-related TQM practices' in the studies by [18], [20] [22], empower employees and harness their potential to maximise quality performance. The PTQM practices adopted in this study include top management commitment, employee empowerment, employee involvement, training, and teamwork. Top management commitment for quality is characterised by acceptance of responsibility for quality, evaluation based on quality performance, participation in quality improvement efforts and formulation of strategies and goals for quality improvement. Leaders in a TQM system foster employee development, establish effective organization-wide communication and use information efficiently and

effectively. In addition, leaders provide resources for quality improvement, encourage employee participation in decision-making, and empower employees [47]. Employee empowerment encourages and rewards employee initiative and imagination; sets the stage for employees to unleash, develop, and utilise their skills and knowledge to their fullest potential towards organizational and self-welfare [48]. In the context of TQM, employee empowerment encourages employees to respond to quality-related problems, including identifying problems and taking initiatives to solve them [49]. Moreover, empowerment provides employees with the freedom to take responsibility for their ideas, decisions and outcomes [50]. Employee involvement or participation in quality improvement involves developing both top-down and bottom-up communication channels, providing a platform for employees to voice their concerns on quality issues, and direct participation in decision-making processes [18], [22]. When organizations provide opportunities for and support improvement activities, employees provide more improvement ideas for performance improvement [45],[51], [52]. In the TQM milieu, training refers specifically to employees being trained on TQM processes, procedures and quality techniques and methods [43], [53]. It is envisioned that unless employees have received formal and systematic training in quality management, other TQM elements such as employee empowerment and involvement would not be effective [54]. Teamwork is operationalized through various forms in TQM, including quality control circles and quality improvement teams [22]. The need for teamwork in TQM is grounded on the assumption that most of the quality problems can be solved only by involving people from multiple functions in the organization. Teamwork and group problem solving are an important part of QM, permitting decision making to be decentralized [53]. The aptitude of an organization to improve quality depends on its ability to offer a climate and culture for change through its decision-making and operating systems and, human resource practices [56]. An organizational culture emphasizing transparency, honesty, trust, respect, effective communication, empowerment, learning, teamwork, coordination, innovation, customer focus, and continuous improvement provides a foundation for implementing TQM [55], [56], [57]. Shifting organizational culture from traditional approach to a corporate quality culture necessitates managerial commitment and leadership, as well as continuous education and training. The conceptual argument is that specific types of performance require different types of organizational culture [58]. TQM implementation in the appropriate cultural dimension is the key to effectiveness and achievement of anticipated results. Organizational justice research, which focuses on the role of fairness in the workplace, demonstrates that fair treatment has important effect on individual employee attitudes. Distributive justice accounts for variance in personal outcomes such as pay and overall job satisfaction [59]. Procedural justice is associated with organizational commitment and trust in supervisors ([60]. Interactional justice relates to the quality of interpersonal treatment employees receive when procedures are implemented [61]. Contemporary TQM transcends the traditional technical approach and has evolved to be socially focused [62],[63]. As suggested by [30], employee work attitudes are the immediate outcomes of TQM implementation and act as mediators in the relationship between TQM and quality performance [15], [25]. Among employee work attitudes

elucidated from literature, this study focuses on job satisfaction, job involvement and turnover intention, the basis of selection being three-fold. Job satisfaction is the predominant work attitude studied in TQM literature. Turnover intention is a critical challenge, currently faced by the Sri Lankan apparel industry, the context of this study. In attempts to mitigate the employee turnover and to boost quality performance, the apparel manufacturers in Sri Lanka adopt strategies such as Quality Control Circles to encourage job involvement. Soft TQM practices including training and development, leadership commitment, empowerment, teamwork, and employee participation serve to create a conducive working environment. The positive employee work attitudes resulting as a consequence include job satisfaction [25], [64]; job involvement [65], [66], and turnover intention [17], [65].

3 STUDY DESIGN

This study attempts to provide a comprehensive list of measures for PTQM practices, organizational culture and organizational justice, employee work attitudes (job satisfaction, job involvement, turnover intention) and quality performance. Questionnaire was developed with reliable items, delineated from literature. The questionnaire was tested for content validity, to ascertain that the contents of the instrument cover a representative sample of the domain to be measured. In addition, this exercise reduces ambiguity and improves clarity of each item. In the study, content validity was extensively evaluated by a panel of recognised experts, including three senior academics in TQM, organizational behaviour and research methodology fields. The questionnaire, amended with the comments of the academic reviewers was subsequently reviewed by two practising Quality managers and a senior Quality Management regulator. The initial questionnaire consisting of a total of 107 items (Appendix), utilised a five-point Likert scale ranging from 1= strongly disagree to 5 = strongly agree. This is a popular scale used in business research. Sekaran and Bougie (2016) have pointed out the need to provide a neutral point to balance the rating scale. In this questionnaire, 3 (neither disagree or agree) was the neutral point. The questionnaire was translated into Sinhalese language, to enable the machine operator level respondents to comprehend the questions. After the translation, the Sinhala version was re-translated to English by another professional translator to check for translation errors. The questionnaire, thus rigorously reviewed, was finalised and considered fit for administration. Machine operator level employees in the Top 100 apparel export organizations in Sri Lanka, were identified as the population for this study. The selection is deemed appropriate on the premise that these organizations being leading exporters to global brands, would have TQM programs in place. For the pilot study, 60 employees from 10 organizations (from the list of Export Development Board of Sri Lanka, 2018), were selected on convenience sampling basis. The data was analyzed using SPSS Version 20. The mean values of the overall constructs and the individual items were recorded. Reliability measures were set at Cronbach's alpha values greater than 0.70; highest inter item correlations of 0.3 to 0.9 and corrected item- total correlation values above 0.3 [67]. To confirm the reliability findings, preliminary factor analysis was carried out on the pilot test results, from which significant level of Bartlett's test of Sphericity and Kaiser-Meyer-Oklun (KMO) value of 0.60 or

greater, indicate sample adequacy and appropriateness of factor analysis [68]. Additionally, internal consistency values were computed through the average variance extracted (AVE) and construct reliability (CR) . AVE and CR values of above 0.50 and 0.60, respectively, considered as acceptable [69].

4. RESULTS

Table 1 presents the profile of the pilot study respondents. The majority of them are 20 to 30 years old: possess G.C.E. (Ordinary level) qualifications and have tenure of 1 to 3 years.

4.1 Constructs Measurements even constructs are addressed in this study, three of them (PTQM, OC and OJ) are second order latent constructs with five, four, and three dimensions respectively. Four first order constructs in the study are job satisfaction, turnover intention, job involvement and quality performance. The first construct PTQM practices consists of 5 dimensions namely, top management commitment, employee empowerment, employee involvement, training and teamwork. The 5 dimensions were measured by 6,5,5,6, and 6 items respectively. The reliability and preliminary exploratory analysis results of each of the dimensions are presented below. Top management support had an overall mean value of 4.03, whilst each of the 6 items had mean values ranging from 3.92 to 4.10. The highest inter item correlation values of all 6 items were within the range of 0.585 to 0.722 and the corrected item- total correlations were above 0.3. Correlation coefficient alpha for top management commitment measured by the 6 items was 0.883. Therefore, all 6 items can be accepted as reliable measures of top management commitment. Exploratory factor analysis conducted to confirm the correlation values resulted in KMO value of 0.814; factor matrix values 0.696 to 0.837 and 57.3% total variance explained. 5 items represented the dimension of employee empowerment. The overall mean of this dimension was 4.00 and means of the 5 items were within the range of 3.90 to 4.07. Reliability analysis of the items revealed that highest values of all 5 items for inter item correlation values were within 0.510 and 0.771. Furthermore, the corrected inter item total correlations were above .464 and correlation coefficient alpha with all 5 items was 0.875. All 5 items were thus rendered suitable to represent employee empowerment. Exploratory factor analysis confirmed the correlation values with KMO measure of 0.819, factor matrix 0.498, and 0.880, with 61.5% total variance explained. Item EE 3 (technical assistance is available to solve quality related problems) with factor matrix 0.498 was retained since it approximates the minimum factor matrix value of 0.5.

There were 6 items representing employee involvement. The overall mean of this dimension was 3.88 while the mean values of the 6 individual items were 3.63 to 4.08. Highest inter item correlations within 0.497 and 0.614 were obtained for all 5 items with corrected inter item- total correlation being above 0.501-0.718 The correlation coefficient alpha of this dimension with the 6 items, was 0.851, rendering the items

Table 1
Demographic Profile of Pilot Study Respondents

Items		Frequency	Percentage
Age	Less than 20 years	4	6.7
	20- 30 years	37	61.7
	31-40 years	14	23.3
	41 to 50 years	5	8.3
Education	Below G.C.E. (Ordinary level)	4	6.7
	G.C.E. (Ordinary Level)	25	41.7
	G.C.E. (Advanced level)	16	26.7
	Other	15	25.0
Tenure	Less than 1 year	19	31.7
	1 to less than 3 years	23	38.3
	3 to less than 5 years	10	16.7
	5 to less than 7 years	5	8.3
	7 to less than 10 years	1	1.7
	10 years or more.	2	3.3

item total correlation of 0.556 to 0.689. As expected, the factor matrix of value of HC 9 was 0.464 while the other items had factor matrices of 0.555 to 0.814. Item HC 9, also loaded by itself onto a separate factor. After deleting item HC 9, reliability and exploratory factor analysis were repeated. Cronbach alpha of the repeat reliability test improved from 0.845 to 0.873 and KMO measure improved from 0.820 to 0.844 with 49.3 % variance in hierarchical culture explained by 8 items. 8 items were selected to measure group culture dimension, which had mean value of 3.93. The highest inter correlation matrix were 0.480 to 0.719; corrected inter- item total correlations were 0.480- 0.783, and Cronbach alpha value was 0.884. KMO value of 0.878, factor matrices ranging from 0.503 to 0.837 and the 8 items explaining 53.1% variance confirm that the 8 items are representative measures of group culture. Rational culture had a mean value of 0.388 and was represented by 8 items with mean values 3.72 to 4.02. Inter item correlations ranged from 0.412 to 0.747 and the corrected inter item total correlations were 0.503- 0.734. The Cronbach alpha of 0.852 was proof of sufficient reliability of items. Exploratory factor analysis results of KMO 0.826, factor matrix values of 0.536 to 0.809 and 54.9% variance explained, verify that the 8 items are representative of the dimension rational culture. Mean value of developmental culture was 3.95. The mean values of the 7 items were 3.77 to 4.03. Inter item correlations were 0.672 to 0.793, and corrected inter item total correlations were 0.645 to 0.801. Cronbach alpha of 0.908 signaled high reliability of the selected items. The results were further verified by exploratory factor analysis which revealed KMO value of 0.837 and factor matrices 0.677- 0.842 .Based on these results the 7 items are considered reliable measures of developmental culture. The third construct in the study was organizational justice which had 3 dimensions namely, distributive justice, procedural justice and interactional justice. 5, 7, and 6 items were chosen from literature to measure each of the dimensions. The chosen items were subjected to reliability and exploratory factor analyses to verify the suitability of these measures to represent the respective dimensions. Results of the analyses are presented below. Distributive justice was represented by 5 items and had an overall mean of 3.88 and 3.72-3.97 for the 5 items. Inter-item correlations were 0.688 to 0.876. Corrected inter item total correlations ranged from 0.679- 0.879 and the correlation coefficient alpha value was 0.923. KMO value of the exploratory factor analysis was 0.868, factor matrices ranging from 0.713 to 0.933. Additionally, 71.4% of variance is explained by the 5 items. Accordingly, the selected items are considered measures of distributive justice. 7 items were selected to measure procedural justice, which had an overall mean of 3.83 and a range of 3.75 to 3.995. Inter item correlation values for the items were from 0.670 to 0.808, and the corrected inter item total correlation values were 0.720 to 0.830. The correlation coefficient alpha was 0.931. Exploratory factor analysis was conducted to verify the reliability and the resultant KMO was 0.836, factor matrix values were 0.753 to 0.899, and 67.1% of variance was accounted for by the selected items. On the basis of above results, the 7 items are adjudged as satisfactorily representing procedural justice. Interactional justice measured by 6 items showed an overall mean of 3.88, with means of individual items displaying values from 3.53 to 4.03. The highest inter item correlation values were from 0.608 to 0.836. The corrected inter item total correlations were 0.532 to 0.838, and

tested to be reliable measures of employee involvement. The reliability analysis results were confirmed by exploratory factor analysis findings of KMO measure of 0.825, factor matrices ranging from 0.566 to 0.719 and 49.7% total variance explained by tested items. 5 items were identified to measure training. While the overall mean value was 3.90, mean values of each of the specific items ranged from 3.73 to 4.00. All 5 items showed highest inter item correlation values 0.448 and 0.689, in addition to corrected inter item- total correlation above 0.512. The correlation coefficient alpha value the dimension with all 5 items being 0.831, the items are deemed suitable to represent training. Exploratory analysis findings confirmed the correlation values with KMO measure of 0.773, factor matrix values ranging from 0.559- 0.819 and 52.7% variance explained by the items. Teamwork had an average mean value of 3.98 with the 6 items chosen to represent the dimension displayed mean values 3.88- 4.12. The highest inter item correlations corresponding to the items ranged 0.491 to 0.741 and the least corrected inter item- total correlations for all items was 0.518. Further the correlation coefficient alpha for the dimension consisting of the 6 items was 0.882. The 6 items tested are, thus, suitable to represent the dimension of team work. The KMO measure confirming the correlation values was 0.857, factor matrix values 0.553 to 0.922 and 57.5% variance explained by the 6 items. Hierarchical culture, group culture, rational culture, and developmental culture dimensions constituted the second order construct of organizational culture. The four dimensions were measured by 9, 8, 8, and 7 items respectively. Results of the reliability and preliminary exploratory analysis results of each of the dimensions, conducted to confirm the suitability of the tested items to represent the dimensions, are presented below. Hierarchical culture with an average mean of 3.95 was represented by 9 items with mean values ranging from 3.35 to 4.15. Reliability results of item HC 9 (Even small issues are referred to higher ups for decision) were marginal, with highest inter item correlation index value of 0.348 and corrected inter item total correlation was 0.307. All other items exhibited inter item correlations between 0.515 to 0.734, and corrected inter

the correlation coefficient alpha was 0.895. KMO value was 0.735 with all items exhibiting factor matrices above 0.5 (0.576 – 0.879). The 6 items explained 60.7% variance in interactional justice. Accordingly, all 6 items are deemed as representative of the dimension. Items measured the construct of job satisfaction, with overall mean of 3.84 and individual item means from 3.48 to 3.94. Inter item correlations ranged from 0.628 to 0.701, corrected inter item total correlation from 0.625 to 0.735 and correlation coefficient alpha value was 0.847. Confirmation of reliability results was provided by exploratory factor analysis findings reporting KMO value of 0.724, factor matrix values of each item above 0.5 (0.669 to 0.822) and 53.6% of variance explained by the 5 items. Thus, the selected items are reliable measures of the construct job satisfaction. Job involvement was represented by 10 items. Overall mean of the construct was 3.66 and the individual item means were 3.05 to 3.90. Reliability analysis results showed that the inter item correlations of JI 2 (job is only a small part of who I am) and JI 7 (I am detached from my job) were marginal (0.300 and 0.312, respectively). Furthermore, the highest corrected inter item total correlations of these two items (JI 2 and JI 7) were below 0.3 (0.072 and 0.279, respectively). The inter item correlations of the rest of the 8 items were within acceptable range (0.3 – 0.9) and the corrected inter item total correlations were above 0.3. Based on the reliability statistics, items IJ 2 and IJ 7 were deleted and the reliability test was repeated. Inter item correlations of the remaining 8 items were 0.589 to 0.787 and the corrected inter item total correlations were 0.570 to 0.849. The Cronbach alpha value increased to 0.887 from the initial test value of 0.817. Not surprisingly, the exploratory factor analysis results were not favourable to the two items IJ 2 and IJ 7. Item IJ2 loaded singly into a separate factor, while the factor matrix value of IJ 7 was below 0.5. Exploratory factor evaluation was repeated after removing the two non-conforming items, one at a time. The final KMO measure improved to 0.774 and all remaining 8 items displayed factor matrices 0.606 to 0.917. 8 items were thus verified as reliable measures representing the construct job involvement. 7 items were selected to measure turnover intention, the construct displaying overall mean of 2.87 and individual item means from 2.55 to 3.35. Item TI6 did not conform to the required parameters with maximum inter item correlation of -0.119, and corrected inter item total correlation of -0.187. All other 6 items were within acceptable ranges of greater than 0.3 inter item correlations and corrected inter item total correlation values. After deletion of TI 6, Cronbach's alpha was 0.872; inter item correlations ranged from 0.480 to 0.782 and corrected inter item total correlation from 0.525 to 0.801. Exploratory factor analysis was carried out to confirm the results of the 7 items of the turnover intention construct. Similar to the reliability results, item TI 6 showed factor matrix scores of 0.269 which is below 0.5. After deleting the item, KMO value was 0.835 and all 6 remaining items had factor scores of 0.554- 0.884. Accordingly, 6 items are considered representative measures of the construct turnover intention. The final construct in the study is quality performance which is represented by 7 items. The overall mean value of the construct was 3.78 and the individual item mean values ranged from 3.55 to 4.05. Further, reliability analysis showed that inter item correlation of the items was within 0.623 to 0.771 and corrected inter item total correlation values were

0.698 to 0.769, with Cronbach alpha value of 0.913. The results were affirmed by exploratory factor analysis, reporting factor matrix values for all items in the range of 0.732 to 0.804 (higher than 0.5), KMO value of 0.853 and 59.9% variance in quality performance explained by the 7 items tested. Thus, the 7 items are verified as satisfactory measures to represent the construct quality performance. Results of the reliability, exploratory factor analysis, AVE, and CR, in the pilot study are presented in Table 2. The findings indicate that all the retained items had KMO measures above 0.7, with significant levels of $p < 0.001$ for Bartlett's test of sphericity. Further, AVE and CR values were above the threshold values (≥ 0.5 and ≥ 0.6 , respectively), confirming the validity of the items. The Cronbach alpha values of the items above 0.6 affirm the reliability of the retained items.

5 DISCUSSION

This study has protracted the understanding of factors which determine the success of TQM in delivering augmented quality performance. The criticality of positive employee work attitudes, conducive organizational culture and organizational justice perceptions have emerged as pre requisites for quality performance. This is a significant contribution since there is a lacuna in people-related factors which challenge quality performance. More importantly, the study presents a comprehensive scale to measure a large number of constructs related to quality performance. Goodness of all the identified measures was established (Appendix). The role of people-related TQM practices, is exemplified by the findings [18],[20],[21]. The five PTQM practices are seen to be valuable to create positive employee and organizational level outcomes. According to the pilot study findings, comprehensive quality goal setting process and management review of quality issues are practices which convince the first level employees of management commitment to quality. In addition, top management is required to demonstrate their commitment through active participation in quality improvement programs. The findings resonate the literature emphasizing top management commitment as the critical driver of TQM [2],[3]. Comparison of the overall mean values show that top management commitment is the most valued practice followed by empowerment, teamwork, training and finally involvement. To impress upon the employees that empowerment practices are in place, provision of required resources, technical assistance and formation of a problem-solving network need to be established. Surprisingly, employees being allowed to inspect their own work was attested the least important feature of empowerment. It is interesting that similar results are reported in [18]. This may be attributed to lack of training to instil confidence and should inform managers on capacity building requirements. However, it is interesting to note that employees desire involvement in designing of their own job and that their suggestions on quality improvements are seriously considered. Participation in quality audits are desired by floor level employees who also value feedback on quality performance. The findings, resembling [18],[20], reinforce the value of training, even from the employee perspective. It is evident that

Table 2 KMO, Reliability, Validity measures of the constructs							
Construct	Dimension	No. of items	KMO	Bartlett's sphericity (p-value)	AVE	Construct reliability	Cron-bach α
People- related TQM practices	Top management support	6	0.814	0.000	0.57	0.82	0.883
	Employee empowerment	5	0.819	0.000	0.61	0.75	0.875
	Training	5	0.773	0.000	0.53	0.71	0.831
	Employee involvement	6	0.825	0.000	0.50	0.78	0.851
	Teamwork	6	0.857	0.000	0.57	0.82	0.882
Organizational culture	Hierarchical culture	8	0.844	0.000	0.50	0.88	0.873
	Group Culture	8	0.878	0.000	0.53	0.90	0.884
	Rational culture	8	0.826	0.000	0.50	0.61	0.852
	Developmental culture	7	0.831	0.000	0.59	0.94	0.908
Organizational justice	Distributive justice	5	0.868	0.000	0.71	0.94	0.923
	Procedural justice	7	0.836	0.000	0.67	0.95	0.931
	Interactional justice	6	0.765	0.000	0.61	0.90	0.895
Job satisfaction		5	0.724	0.000	0.54	0.80	0.847
Job involvement		8	0.774	0.000	0.51	0.89	0.887
Turnover intention		6	0.835	0.000	0.54	0.80	0.872
Quality performance		7	0.853	0.000	0.60	0.88	0.913

in order to be part of quality related problem solving and quality related decision making, all employees should be equipped with relevant training covering TQM concepts, statistical techniques. Since the employees show readiness to be trained, it is suggested that the management provides required resources for training. Teamwork is a central concept in TQM. Respondents of the pilot study, emphatically agreed that they are actively involved in quality improvement teams. The findings indicate that organizations have used team-based activities extensively to solve quality problems. Cross functional teams, Quality control circles were observed to be the common modes of implementing problem solving teams. Respondents also opined that teams are effective in producing quality products. Overall, the findings of the pilot study related to the PTQM practices construct strengthen the notion that people- related TQM practices set the stage by creating a supportive working environment to yield quality performance. The responses reveal that these soft practices have the potential to create intrinsic motivation in employees which the management can easily turn into improved performance. The four dimensions of organizational culture disclose interesting revelations. The overall mean values indicate that employees acknowledge the prevalence of hierarchical culture slightly higher than the other dimensions, followed by equal weightage for group culture and then developmental culture. Rational culture lags behind by a small difference. The finding informs that although different culture dimensions have been conceptualised for specific performances, it is possible that organizations exhibit a mix of the culture orientations, as reported in previous studies [26]. Strategies to harness performance through efficiency and control measures, management focus on delivery reliability, predictability and

formalised procedures are valued by the employees, in direction towards quality performance. Simultaneously, teamwork, value and concern for human resources, participative and consensus – based management style are esteemed. Developmental orientation discloses uniqueness, challenges, innovation, and risk-taking enticing floor level employees. This finding signals to the management that if stimulated with intriguing challenges, employee creativity and improvement potential can be unleashed. Rational culture dimension marks market leadership creates pride in the employees. Management strategies to drive competitiveness and goal achievement are valuable practices to involve employees towards improved performance. The findings are of significance to top managements hopeful of change initiatives such as TQM. Building a conducive cultural climate congruent with the strategized performance orientation is a pre requisite. Organizational justice findings are perhaps the most value adding insights, given that only few studies [28] on this terrain. Rewards based on responsibilities, experience and extra efforts put forth are important considerations influencing fairness perceptions. Management action in taking the stresses and strains of the job into consideration would certainly boost the justice perceptions. Furthermore, procedures to provide feedback regarding distribution of rewards and avenues for appeal for more information are valued by employees. Additionally, interactions with the superior in considering employee viewpoint, providing timely feedback, kindness and concern for employees' rights cements the favourable justice perceptions. Employee perception that the immediate supervisor deals in a truthful manner is of grave significance in fairness perception. Top management focus on building supervisor – subordinate

relationships at all levels in the organization is fundamental for any change initiative. Study findings reveal that distributive, procedural and interaction justice dimensions are equally important influencers of justice perceptions. The study addressed 3 employee work attitudes of which job satisfaction rated highest mean values, indicating its importance. Employees assess their satisfaction with the current job on consideration whether it is their ideal job, measuring up to expectations, whether they would take up this job over again and if the job can be recommended to a friend. Job satisfaction can propel other attitudes including job involvement and decreased turnover intention. Thus, the onus is on the management to consistently escalate employee job satisfaction. Decision on job involvement arises due to the estimation of the extent of employee interests being job centric, extent of important things involving the job, ties with the job and alignment of personal goals with the job. These findings signal that a job design which harmonious with the employee's personal needs would fully involve the employee. Turnover intention manifests when employees look forwards to quitting the current job, are hopeful and contemplating finding a new job. Turnover intention results in counter-productive job performance. Enhancement of quality and delivery of products, increase in customer satisfaction are indicators of improved quality performance. Moreover, reduction in rework and scrap cost, cycle time and equipment down time also are significant measures of quality performance. Together, these measures compose of broad set of indicators in customer, financial and operational extents to judge the quality performance. The findings of the study similar to findings of [1].

5 CONCLUSION AND FUTURE RESEARCH DIRECTIONS

This study achieved the objective of identifying the determinants of quality performance, derived through review of extant literature. The findings support the argument that a conducive culture along with positive organizational justice perceptions among employees is a pre requisite for organizations embarking on change initiatives such as TQM. It is also advocated that positive employee work attitudes should be nurtured, which will act as mediators, propelling quality performance [15], [25]. In analogue with [18],[20], [21], [22], the paper advances PTQM practices to achieve the employee work attitudes and quality performance. The contribution of the study lies in establishment of reliable measurement items for a comprehensive set of constructs related to quality performance and its determinants. An integration between the PTQM practices, organizational culture and organizational justice can help the apparel industries in Sri Lanka to achieve and sustain high quality performance. Further, implementation of TQM as a holistic philosophy can help in making sustainable improvements through enhanced employee work attitudes. It is hoped that the study provides suggestions to mitigate the challenge of high employee turnover faced by the Sri Lankan apparel industry. The findings provide useful insights to practising quality managers on how to implement TQM successfully, not just what to do [2]. To researchers, his study opens new dimensions for future research in TQM. This study focused only on a pilot study with a small sample to test the reliability of the measures. Future research should incorporate detailed analysis with a large, representative sample to test the parameters suggested in this study. Future studies may propose additional employee work attitudes as

mediators, to gain a complete understanding of the factors affecting quality performance.

Appendix

Construct/ Sub Construct	Item Code	Item	Factor loading	
People-related TQM practices	TM 1	Top management has quality objectives.	.806	
	1.Top management commitment	TM 2	Top management is responsible for quality performance.	.696
		TM 3	Top management participates in continuous improvement programs.	.700
	TM 4	Quality objectives are more important than cost objectives.	.669	
	TM 5	Quality goal setting process is comprehensive.	.817	
	TM 6	Quality issues are reviewed at management meetings.	.839	
2. Employee empowerment	EE 1	Employees are encouraged to fix own quality related problems.	.769	
	EE 2	Resources are provided to correct quality related problems.	.895	
	EE 3	Technical assistance is available to solve quality-related problems	.862	
	EE 4	Problem solving network is available for quality – related problem solving.	.847	
	EE 5	Employees inspect quality of their own work	.501	
3.Training	TR 1	Resources for quality related training are available.	.680	
	TR 2	Quality related training is given to all supervisors and managers.	.819	
	TR 3	Quality related training is given to all employees.	.559	
	TR 4	Trainings cover TQM concepts.	.853	
	TR 5	Trainings cover statistical techniques	.677	
4.Employee	EI 1	Employees design	.755	

	DC 4	Management style is characterised by individual risk taking.	.745		IJ 6	concern for my rights Superior deals in a truthful manner.	.827
	DC 5	Management style is characterised by innovation.	.838	Job satisfaction	JS 1	I would recommend my job to a friend.	.742
	DC 6	Management style is characterised by uniqueness.	.842		JS 2	Very satisfied with the current job.	.717
	DC 7	Success is defined by innovation and newest products.	.677		JS 3	Job measures up to my expectations.	.669
					JS 4	Would take up this job over again.	.822
					JS 5	This is my ideal job.	.702
Organizational justice	DJ 1	Fairly rewarded considering responsibilities.	.933	Job involvement	JI 1	Most important things involve my job.	.705
1. Distributive justice	DJ 2	Fairly rewarded based on experience.	.912		JI 3	I am personally involved in my job.	.647
	DJ 3	Fairly rewarded considering effort put forth.	.862		JI 4	I live, eat and breathe my job.	.659
	DJ 4	Fairly rewarded for the work well done.	.716		JI 5	Most of my interests are job centric.	.916
	DJ 5	Fairly rewarded for the stresses and strains of the job.	.782		JI 6	I have strong ties with the job.	.753
					JI 8	Most personal goals are job oriented.	.606
2. Procedural justice	PJ 1	Procedures designed to for accurate information collection for decision making.	.857		JI 9	Job is central to my existence.	.683
	PJ 2	Procedures provide for appeal or challenges to decisions.	.756		JI 0	Absorbed in my job most of the time.	.657
	PJ 3	Procedures consider all sides affected by decision.	.770	Turnover intention.884	TI 1	Hope to find a new job in the near future.	.811
	PJ 4	Procedures generate standards for decision consistency.	.753		TI 2	Thinking of quitting the current job.	.808
	PJ 5	Procedures to hear concerns of all those affected.	.797		TI 3	Looking forwards to quitting the job.	.884
	PJ 6	Procedures for useful feedback.	.887		TI 4	Will quit this job now if possible	.679
	PJ 7	Procedures allow requests for additional information and clarifications.	.899		TI 5	Planning to leave in the near future.	.554
					TI 7	Actively searching for another job.	.630
3. Interactional justice	IJ 1	Superior considers my view point.	.756	Quality performance	QP 1	Quality of products has increased.	.825
	IJ 2	Superior suppresses personal biases.	.573		QP 2	Delivery of products has improved.	.804
	IJ 3	Superior provides timely feedback.	.872		QP 3	Cost of scrap has decreased.	.732
	IJ 4	Superior treats me with kindness	.722		QP 4	Cost of rework has decreased.	.784
	IJ 5	Superior shows	.876		QP 5	Cycle time has decreased.	.746
					QP 6	Customer satisfaction has increased.	.759

QP 7	Equipment downtime has decreased.	.766
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