



Effect of Total Quality Management (TQM) on Employee Satisfaction in the Apparel Industries of Dhaka Division

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ABSTRACT

Flourishing TQM surroundings entail a loyal and well-trained work force that takes part fully in quality enhancement activities. Such contribution is armored by incentive and recognition systems which accentuate the triumph of quality objectives. Enduring education and training of all employees supports the drive for quality. Employees are encouraged to take more responsibility, communicate more effectively, act creatively, and innovatively. As people act the way they are measured and compensated, TQM connects remuneration to employee satisfaction.

Keywords — Apparel Industries, Dhaka Division, Employee Satisfaction, Total Quality Management (TQM).

1. INTRODUCTION

To illustrate the concept of quality, quality is defined as a noteworthy component of production or services in order to gain customers satisfaction. There are different definitions and competing views of the term quality by different people and the common element of the business definitions is that the quality of a product or service refers to the perception of the degree to which the product or service meets the customer's expectations. Crosby defined quality as the conformance to requirements or specifications and also suggested that to manage quality adequately; it must be able to be measured [1]. ISO 9000: (2000) defined quality as the degree to which a set of inherent characteristics fulfill requirements [2]. The American Society of Quality sees quality as being subjective, with different individuals having their own perception of it [3]. To them, quality can be seen as having two meanings – the characteristics of the product or service ability to satisfy a particular need or a product or service devoid of faults. It can be defined as a state of conformance to valid requirements where valid requirements are defined as conditions that meets the needs of customers, measurable and achievable. Peters defined quality as a 'magic bullet' which provides lower cost, higher customer service, better products and higher margins. He also explained that 'quality is in the eyes of the beholder', this mean it is what the customer say it is [4]. The implementation of TQM involves the buying in of different units involved in the process of service delivery into the ideology and practices of quality management, which should be championed by the leadership of the Apparel Industries. That is, the support and primary activities of service delivery must inculcate quality in their activities [5].

2. LITERATURE REVIEW

The total quality management concept has undergone many changes and developments ever since it has been evolved. The modification of TQM has produced Six Sigma. It is a new face on the TQM canvas. The Six Sigma is based on five

principals. DMAIC – Define, measure, analyze, improve and control. His study revealed that this approach of TQM encourage team work to attain organization success. The companies using Six Sigma have two teams i.e. Green belt and Black belt. The green belts undergo 1-2 weeks training. This is learning and knowledge transference where the trainees learn effective project management, problem solving, data analysis etc. Black belts trained on specialized skills and knowledge. The training is designed to teach them computer aided statistical applications and technologies. The training to black belts is spread over 5 weeks time. Such courses and training demand a strong background of mathematics and stats education at college or university level. The benefits attached to this TQM approach is employee involvement at all levels, accountability, extensive training for continue progress. Motorola and General Electric companies prove the success of Six Sigma approach. It is practiced in other sectors also like military and government organizations, hospitals and food manufacturing companies to deliver quality results [6]. It is rapidly growing quality approach and in India Godrej – GE, Wipro and Hero Motors all use this management practice to improve business [7]. Total quality management support businessmen to attain brilliance in their work by improving and empowering employees. VanDevender has shown total quality management linked with human resource in the article titled Total Quality Human Resources Management – TQHRM. The study has explained this emerging concept as the AACC concept:

A = alignment

A = authority

C = capability

C = commitment

Alignment and cohesion in employees work could be achieved if they know and understand the nature of the business, shareholders, target market, customers' demands and needs. Well defined Standard Operating Procedures and



policies help employees in achieving tasks and goals. Authority and autonomy be given to employees in order to meet quality in the work. No communication gap should exist between employee – employer. Employees should be shared important business news and their suggestions be welcomed if appropriate and relevant. Competencies and capabilities of employees should be enhanced through adequate training programs and development opportunities. Retention and commitment of employees is useful for uniformity and regularity in organizations operations. This would be gained by rewards and acknowledgement of employees works [8].

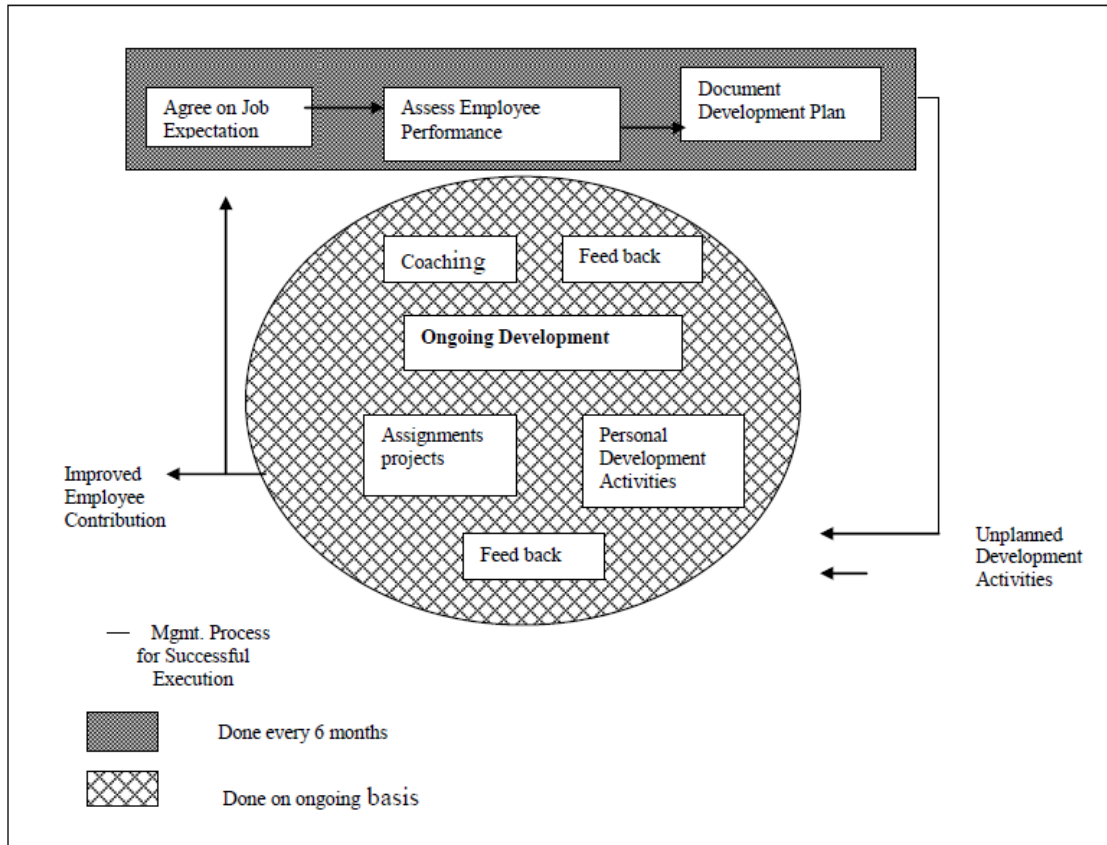
2.1 The stages of Quality management and Characteristics

Total Quality Management	Policy deployment Involves suppliers and customers Involve all operations Process management Performance measurement Team work Employee involvement
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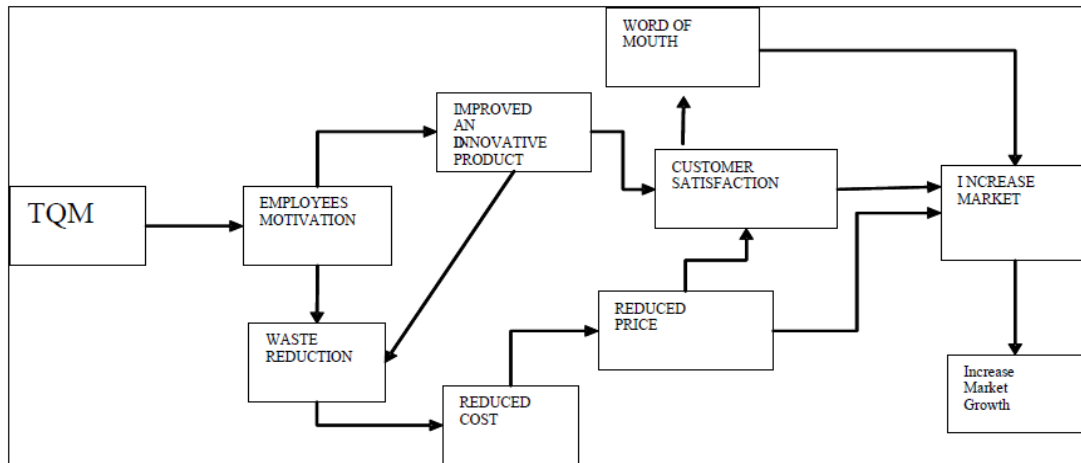
Quality Assurance	Quality system development Advanced quality planning Comprehensive quality manuals Use of quality costs Involvement of non production operation Failure mode and effect analysis
Quality Control	Develop quality manuals Process performance data Self inspection Product testing Basic quality planning Use of basic statistics Paper work control
Inspection	Salvage Sorting, grading and re-bending Corrective actions Identify sources of non conformance

Source- Adapted from Dale et al. [9] [10]

2.2 Effective employee performance model prepared by Eastman Chemical Company



Adapted from Tiona VanDevender [8].



Adapted from Omachonu and Ross ^[11]

2.3 Employee Satisfaction

An employee must be happy with his job for they are a crucial part of an organization in implementing its strategy and be well informed as to how they affect customers; this can lead to a great performance in the company. A successful TQM environment requires a committed and well-trained work force that participates fully in quality improvement activities. Such participation is reinforced by reward and recognition systems which emphasize the achievement of quality objectives. On-going education and training of all employees supports the drive for quality. Employees are encouraged to take more responsibility, communicate more effectively, act creatively, and innovatively. As people behave the way they are measured and remunerated, TQM links remuneration to customer satisfaction metrics ^[12], in the airline industry, which is characterized by a substantial level of contacts with customers, employees play a rather crucial role in creating customer satisfaction, through their service delivery approach. The goal of any business is profitability, but the manners in which they achieve this differ from firm to firm depending on the type of organization either for manufacturing or service. Most service organizations strive to attain profitability through the processes of service delivery which creates customer satisfaction, the manufacturing industry might add values to their products to create customer satisfaction. However, creation of these valued added activities will depend on how satisfied the employees are. That is, the satisfaction of customers is dependent on employee's satisfaction.

One of the major emphases of TQM is the empowerment of employees, in an attempt to generate improved individual and organizational performance and also to help employees achieve certain personal goals by giving them the rights to participate in the decision making process and allowing them have control of their immediate job environment ^[13]. Past findings have shown that empowerment programmes provide employees with a positive experience thus leading to greater

employee satisfaction ^[13]. Thus this research will find out if empowerment, through delegation of authority in the Bangladeshi Apparel Industries leads to greater employee satisfaction.

2.4 Bangladeshi Apparel Industries

Ready-made garments manufactured in Bangladesh are divided mainly into two broad categories: woven and knit products. Shirts, T-shirts and trousers are the main woven products and undergarments, socks, stockings, T-shirts, sweaters and other casual and soft garments are the main knit products. Woven garment products still dominate the garment export earnings of the country. The share of knit garment products has been increasing since the early 1990s; such products currently account for more than 40 per cent of the country's total RMG export earnings ^[14].

Although various types of garments are manufactured in the country, only a few categories, such as shirts, T-shirts, trousers, jackets and sweaters, constitute the major production-share ^[14]. Economies of scale for large-scale production and export-quota holdings in the corresponding categories are the principal reasons for such a narrow product concentration. The RMG sector of Bangladesh contributed a lot in terms of employment generation, involving women in the formal sector, increased substantial export earnings etc. One significant aspect of the RMG's contribution is in human development aspect. The sector's unique contribution is in the growth and development of backward linkage industry of the country. Country's total backward linkage industry in the RMG sector has flourished based on the knitwear industry. It is providing crucial impetus to the spinning, fabric, and dyeing industry. A good number of printing factories are totally dependent on knit sector as well ^[15].

3. HYPOTHESIS FORMULATION

Hypothesis - TQM Industries will have a higher degree of employees' satisfaction than Non-TQM Industries.



• **Null Hypothesis (H_0)** - There is no difference in employee's satisfaction in TQM Apparel Industries and non TQM Apparel Industries.

• **Alternate Hypothesis (H_1)** - There is a significant difference in employee satisfaction between TQM Apparel Industries and non TQM Apparel Industries.

4. METHODOLOGY

Fundamentally both descriptive and inferential research was conducted to identify different dimensions of Employee Satisfaction in Apparel Industries. The focus of the research is the different level male and female workers of the garment industries positioned in Dhaka division. Around 1000 Apparel Industries which are situated in all over the Dhaka division, but for our work 25 factories was selected through the purposive random sampling. Among those 10 are TQM Apparel factories and rest 15 are non TQM factories. Primary data was collected through a structured questionnaire (having 12 questions with a Likert type 5 point scale) from 5 members of staffs of 25 garment industries. Total 125 manpower were participated in this survey. Questionnaire survey has been done in different departments with direct interview. For data analysis and graphical representation Statistical Programme for Social Science (SPSS) was used.

5. DATA ANALYSIS

Data extracted from the questionnaires were statistically analyzed using the SPSS software. Detailed analysis of the results derived from this analysis is presented below

Table 5.1: Distribution of respondents by Gender

Sex	TQM	Non TQM	Total	%
Male	32	65	97	77.6
Female	18	10	28	22.4
Total	50	75	125	100

Table 5.2: Distribution of respondents by Departments

Sections	TQM	Non TQM	Total	%
Fabric Cutter	8	11	19	15.2
Pattern Making	9	15	24	19.2
Sewing Machines Operation	4	8	12	9.6
Line Supervision	8	12	20	16
Production Execution	7	9	16	12.8
Helpers in Sewing Section	5	8	13	10.4
Quality Control Department	9	12	21	16.8
Total	50	75	125	100

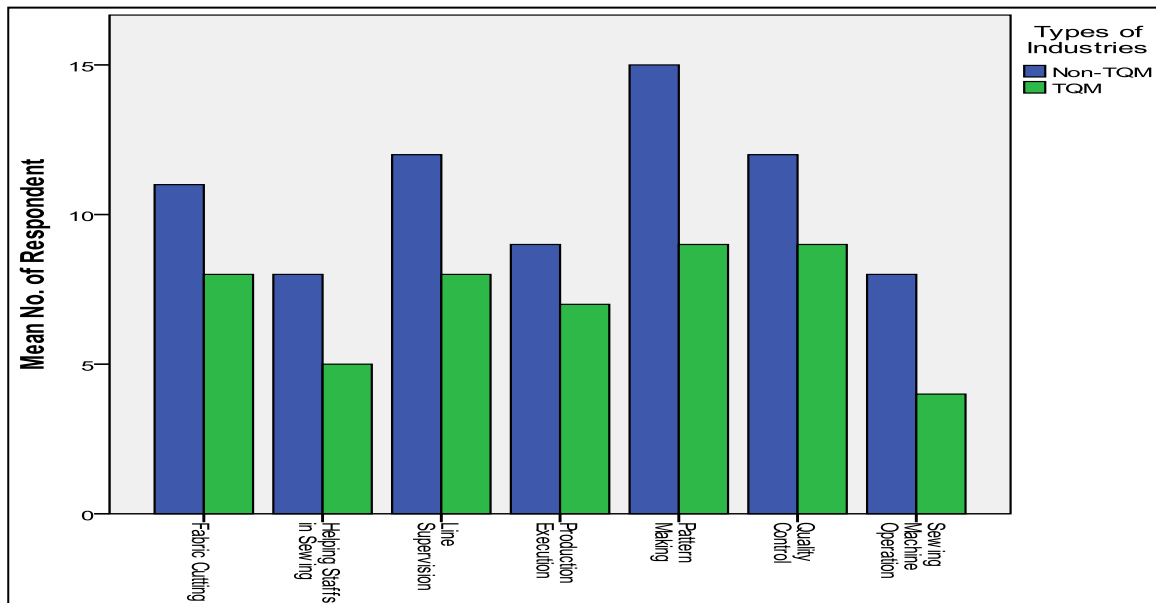


Figure 5.1: Graphical representation of TQM & Non TQM respondents based on satisfaction with authority



Table 5.3: Distribution of Non TQM respondents based on satisfaction with authority

Satisfaction Level	Scale	Fabric Cutter	Pattern Making	Sewing Machines Operation	Line Supervision	Production Execution	Helpers in Sewing Section	Quality Control Department	Total	%
Extremely Satisfied	5	1	1			2		1	5	6.66
Satisfied	4	2	3	3	1		2	3	14	18.66
Stable	3	4	3	2	4	3	1	3	20	26.66
Dissatisfied	2	3	3	2	5	1	2	1	17	22.6
Extremely Unsatisfied	1	1	5	1	2	3	3	4	19	25.3
Total		11	15	8	12	9	8	12	75	100

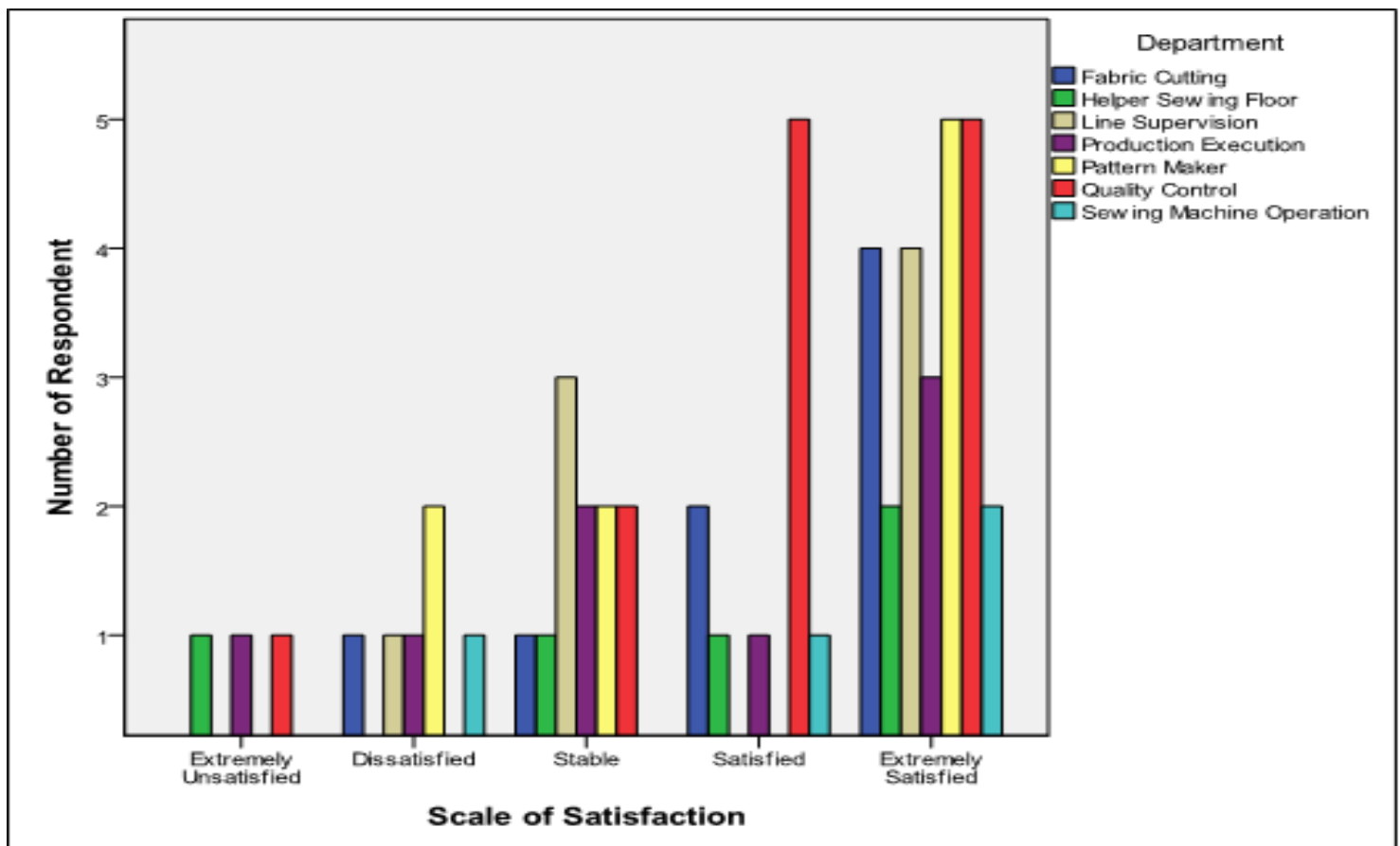


Figure 5.2: Graphical representation of Non-TQM respondents based on satisfaction with authority


Table 5.4: Distribution of TQM respondents based on satisfaction with authority

Satisfaction Level	Scale	Fabric Cutter	Pattern Making	Sewing Machines Operation	Line Supervision	Production Execution	Helpers in Sewing Section	Quality Control Department	Total	%
Extremely Satisfied	5	4	5	2	4	3	2	5	25	50
Satisfied	4	2		1			11	1	55	10
Stable	3	1	2		3	2	1	2	11	22
Dissatisfied	2	1	2	1	1	1			6	12
Extremely Unsatisfied	1					1	1	1	3	6
Total		8	9	4	8	7	5	9		100

After putting all the values in the SPSS, following tables were found which will be used for calculating the Z-test.

For TQM Industries

Statistics		
VAR00003		
N	Valid	600
	Missing	0
Mean		3.86
Std. Error of Mean		.044
Median		4.00
Mode		4
Std. Deviation		1.080
Variance		1.167
Range		4
Minimum		1
Maximum		5
Sum		2318

For Non-TQM Industries

Statistics		
VAR00005		
N	Valid	900
	Missing	0
Mean		2.88
Std. Error of Mean		.041
Median		3.00
Mode		3
Std. Deviation		1.225
Variance		1.501
Range		4
Minimum		1
Maximum		5
Sum		2591

After getting all the data, the value of Z-test was calculated.

$$Z=16.307$$

Whereas, in 0.05 level of significance and 95% confidence level the critical value of Z is 1.96, which clearly indicated that our Calculated Value(C.V.) is much higher than Tabulated Value (T.V.).

$$C.V. > T.V.$$

As a result Null hypothesis is rejected and alternative hypothesis is accepted, so, there is a higher degree of satisfaction in employees of TQM industries than Non-TQM industries' employees.

6. DISCUSSION

TQM brings satisfaction to employees through the devolvement of authority, and the holistic approach to management, which involves everybody in the organization being responsible for the management of quality. This is achieved with a culture which allows for uninterrupted progress through invariable training and retraining of employees.

7. CONCLUSION

The findings of this research attest to the benefits that accrue from the implementation of TQM. It has shown that it is a strategic tool for an organization to employ in the quest to remain competitive. If adequately deployed, the principle brings about added value to an organization in terms of efficiency in operation, employee satisfaction. In addition to this, the findings of this research as well as the one reported in literature supports the idea that the management of the organization has a major role to play in terms of ensuring a culture which permits every member of the organization to be involved and contribute to quality improvement, as the



involvement of employees in detecting and monitoring the quality performance requires a decentralized organizational structure. This structure permits for innovation as it permits everybody in an organization to seek solution to a particular quality problem. In order to do that employee satisfaction is

indispensable constituent. Most vital thing from this paper is clear that TQM industries ensure more worker satisfaction that non TQM.

APPENDIX

Questionnaire

Age: _____

Sex: _____

Section: _____

Have you any familiarity of Total Quality Management: Yes [] No []

(1- Strongly Disagree, 2 – Disagree, 3 - Neutral, 4 – Agree, 5 - Strongly Agree)

	1	2	3	4	5
Level of your Satisfaction					
1. Employees are Satisfied about Administration.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Authority promotes and recognizes team-work effort.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Management appreciates your proposal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Entity endeavor is recognized in providing excellence service.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Your position is relaxed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Monthly remuneration is a great source of inspiration in your organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Your view about your Organization					
7. Your current training system is sufficient for staff development.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Workforces are engaged in decision making.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Due to workers empowerment, Quality service is offered.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Regular Training for workers is put in place	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Inaccuracy are rarely made while reacting to customer’s appeal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Uninterrupted enhancement in your association	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



REFERENCES

- [1] Crosby, P. B., (1979), 'Quality is Free: The Art of Making Quality Certain, New American Library, New York, NY: Penguin.
- [2] Vorley, G., and Tickle, F., (2001) 'Quality Management, Principles and Techniques', 4 ed. Guildford, Quality Management and Training Publication Ltd.
- [3] www.asq.org last accessed on the 30/10/14.
- [4] Peters, V. J., (1999), 'Total Service Quality Management', *Managing Service Quality*, 9(1), pp6-12.
- [5] Oluwatoyin, A. & Oluseun, A., 2008. Total Quality Management: A Test of the Effect of TQM on the Performance and Stakeholder Satisfaction. MBA Thesis, Blekinge Institute of Technology.
- [6] Forrest B. Green (2006): Six – Sigma and the Revival of TQM, *Total Quality Management & Business Excellence*, 17:10, 1281- 1286.
- [7] Gul A, Jafery SAS, Rafiq J, Naeem DH; Improving Employees Performance through Total Quality Management. *International Journal of Economics and Management Sciences*; 2012; 1(8): 19-24.
- [8] Tiona VanDevender (retrieved on 10/30/2014 Thursday). Total Quality Human Resources Management(TQHRM) at <http://www.freequality.org/documents/knowledge/Total%20Quality%20Human%20Resource%20Management.pdf>.
- [9] Dale, B. G., Boaden, R. J., and Lascelles D. M., (1994), 'Total Quality Management - An Overview', *Managing Quality* (edited by Dale, B. G.), New York, Prentice Hall.
- [10] Dale, B. G., Boaden, R. J., and Lascelles, D. M., (1994), 'Levels of Total Quality Management Adoption' *Managing Quality* edited by Dale, B.G.), New York, Prentice Hall.
- [11] Omachonu, V., and Ross, J., (1994), 'Principles of Total Quality', St Lucie Press, Delray Beach, Fla
Pallant, J. (2005) 'SPSS Survival Manual', 2ed, Maidenhead: Open University Press McGraw Hill Education.
- [12] <http://www.johnstark.com/fwtqm>, last assessed 20/11/08.
- [13] Seibert, S., Silver, S. and Randolph, W. (2004) 'Taking Empowerment to the Next Level: A Multiple level Model of Empowerment Performance and Satisfaction', *Academy of management Journal*, 47(3), pp332-350.
- [14] Bangladesh Garment Manufacturers and Exporters Association (BGMEA). 2010. Main Functions of BGMEA (2010). Available from: <http://www.bgmea.com.bd/home/pages/aboutus>. Accessed October 31, 2014.
- [15] Bangladesh Knitwear Manufactures and Exporters Association (BKMEA). 2010. Social Compliance: Ongoing Initiatives of BKMEA (2010). Available from: http://www.bkmea.com/social_compliance.php. Accessed October 31, 2014.

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