

A REVIEW PAPER ON TOTAL QUALITY MANAGEMENT PRACTICES

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Abstract—The purpose of this paper is to present total quality management practices and enquire upon the utilization of total quality management system within the companies. The TQM practices were extracted and identify the problems in implementing TQM. The Management support and commitment, customer focus are the most common practices found in TQM and have the strongest impact in the organization for the product and its quality. This paper focuses only on the literature review of previously published. The result of this paper shows that six identified TQM practices will lead to successful implementation of TQM and finally improve the product quality, customer satisfaction and higher productivity. The goal of this paper is to understand TQM practices and to incorporate the organization in a continual effort to improve the quality and customer satisfaction as well as higher productivity.

Key words : Total quality management, customer satisfaction., quality, organization performance, etc.

1. INTRODUCTION

Total Quality Management is a management frame work based on the belief that an organization can build long term success by having all its members, focus on quality improvement and thus delivering customer satisfaction. TQM requires organizations to focus on continuous improvement, it focuses on process improvements over the long term rather than short term financial gain.

Basic idea behind TQM is that all employees in the organization are responsible for quality with senior management taking the lead. Furthermore TQM aims for zero defects/ non-conformities. Because elimination of all defects is almost impossible, it is more appropriate to say that TQM is a journey, not a destination.

2. DEFINITION

Total quality management is defined as a continuous effort by the management as well as employees of a particular organization to ensure long term customer loyalty and customer satisfaction.

Total quality management involves the application of quality management principles to all aspects of the organization , including customers and suppliers and their integration with the key business process.[1]

Juran (1998) defined TQM as a set of systems and processes to satisfy customers through motivated and empowered workers which leads to higher income and decreased costs.[2]

3. PRINCIPLES OF TQM

Total quality management can be summarized as a management system for a customer focused organization that involves all employees in continual improvement. It uses strategy, data, and effective communications to integrate the quality discipline into the culture and activities of the organization. Many of these concepts are present in modern quality management system. Among many principles a few principles are considered as success factors, therefore, discussion in this section focuses on some key success factors which have an impact on the industry of Bangladesh. Following factors are playing vital role as success factors for TQM principles::

- Management commitment: Top management should act as the main driver for TQM and create an environment that ensures its success.
- Employee involvement: Employees should be encouraged to be pro-active in identifying and addressing quality related problems. TQM provides incentives for employees to identify quality problems. [4]
- Customer focus : TQM firms focus on serving the external customers. They first should know the customers' expectations and requirements and then should offer the product / services accordingly.[7]
- Continuous improvement: TQM focuses on continuous improvement of organizational

processes resulting in high quality products/services.[7]

PDCA cycle is a framework for problem solving, continuous improvement and change. It is widely recognized as the basis of continually improving the quality of process, products, and services. PDCA cycle is particularly effective when intending to make minor changes to a process and when the solution to the problem is known. The phases of PDCA are Plan, Do, Check, and Act..

- Training and education: Without training and education employees and management will lack expertise and awareness of quality issues. Effective training in management and improvement in quality bring success for the firms. It will be difficult to implement changes in organizational behavior. Without this investment TQM benefits will be difficult to achieve. [6]
- Team work: The development of empowered cooperative teams is an essential pre-requisite of TQM. Under the system teams are encouraged to take the initiative and often given responsibilities which formerly would have been management rules. Without this involvement and empowerment TQM is almost impossible to implement as it requires.[3]
- Monitoring: A continuous monitoring system will be put into place so that the process of continuous improvement can be supported and developed. Problem identification and the implementation of solutions will be sought. [1]

4. IMPORTANCE OF TQM

- A strong commitment to quality and customer satisfaction programs are essential for both small and larger competitors,
- Quality management ensures superior quality products and services.
- Quality management is essential for customer satisfaction which eventually leads to customers loyalty.
- Quality management tools help an organization to design and create a product which the customer actually wants and desires.
- Quality management ensures increased revenues and higher productivity for the organization.
- Quality management helps organization to reduce waste and inventory.
- Total quality management philosophy incorporate the whole organization in a continual effort to improve quality and customer satisfaction.
- If quality does not meet the standards of companies customer it can have very negative impact on the company.

5. BENEFITS OF TQM

Technology and quality management have emerged to play a major role in the success or failure of

enterprises. To successfully manage operations, managers will need to view the quality management function on the basis of system requirements. The people aspects to managing quality that make TQM very essential. TQM fosters a new attitude toward quality.

TQM offers the following advantages :

- Higher productivity,
- Better employee relations,
- Cooperative co-ordination of efforts,
- Interaction with subsystem environments
- Uniformity and consistency of quality objectives,
- Increased probability frequency and consistency of making good products,[1]
- Systematic solution of quality problems in an organization.

6. MAJOR TQM PRACTICES

6.1. Employee involvement: People are essential element of a quality management system. An important component of introducing TQM in an organization is training, development and empowerment of personnel as well as ensuring quality. [9]

TQM has clear implication for participation and involvement in terms of employees taking greater responsibility for quality and being accountable for its achievement. [4]

6.2. Top management commitment: Leaders in a TQM system support employee development; establishes a multipoint communication among the employees, managers and customers; use information efficiently and effectively. In addition, leaders encourage employee participation in decision making and empower the employees. Top management commitment and participation in TQM in practices are the most important factors for the success of TQM practices.[5]

6.3. Training and education: TQM firms should give necessary training to all their employees to improve their proficiencies in their job. Effective training in management and improvement in quality bring success for the firms. Employees' effective knowledge and learning capability will provide sustainability of quality management in the firm. Training should be given to all employees based on the results of the training needs assessment.[7] [9]

6.4. Continuous improvement: TQM focuses on continuous improvement of organizational processes resulting in high quality products and services. The top management provide leadership and support for quality initiatives. [7][19]

The top management provide leadership and support for quality initiatives. Customer's impression of quality begins from the initial contact with the company and continues throughout the life of the product. [8][9]

6.5. Supplier management: Supplier management in TQM developing strategic alliances with suppliers, working with suppliers to ensure that expectations are met. Inputs from suppliers constitute the first phase of producing the products in a firm. High quality inputs

provide high quality products and / or services. Therefore, the suppliers should adopt TQM and be involved in this process. Effective supply management practices enable the suppliers to adopt quality management and deliver reliable and high-quality products and/or services timely. [11][12]

6.6. Customer focus: TQM firms first should know the customers' expectations and requirements and then should offer the products/ services accordingly. By the help of successful customer efforts, production can be arranged with respect to the customers' needs, expectations, and complaints. This encourages firms to produce high quality and reliable products / services on time with increased efficiency and productivity.[8] [9]

There are so many opinion among the researcher regarding TQM practices, opinions varies researcher to researcher, due to this the author discussed major TQM practices. However, among other TQM practices a few practices are discussed below :

6.7 Benchmarking : Benchmark is an ingredient in an organizations TQM program. Benchmarking involves selecting a demonstrated standard of performance that represent the very best performance for process or activities. The idea is to develop a target at which to shoot and then to develop a standard or benchmark against which to compare the performance. [15]

6.8 Process Management: Process management is a systematic approach in which all the resources of an organization are used in most efficient and effective manner to achieve desired performance. By implementing process management in TQM practice, increases the productivity of every employee, improving the quality of the organization and stress the value adding to a process.[10]

6.9 Product and service Design: Product and service design examines an organization's quality and service delivery performance in terms of timeliness, cost of quality, responsiveness and customer satisfaction.

6.10 Quality systems: Quality system such as ISO 9000 standards, Statistical Process Control(SPC) and other supportive qualitative tools and techniques create an environment for quality improvement and implementing TQM in an organization. There is a significant relationship between use of statistical quality techniques and organizational performance.

6.11 Teamwork : Teamwork is a work arrangement that arguably has the capacity to enable cooperation and effective individual involvement and it represents a way of working. Teamwork includes identifying the needs of all groups and organizations involved in decision making, trying to find solutions that will benefit everyone involved and sharing responsibility and credit.[11]

7. BARRIERS TO IMPLEMENTING TQM

- Lack of management commitment
- Inability to change organizational culture
- Lack of continuous improvement culture
- High turnover at management level
- Lack of coordination between department
- Attitude of employees towards quality [14]
- Improper planning
- Human resource barrier
- Lack of proper training and education[14]
- Incompatible organizational structure and isolated individuals and departments
- Ineffective measurement techniques and lack of access to data and results
- Paying inadequate attention to internal and external customers[12]
- Inadequate use of empowerment and teamwork
- Lack of effective communication.

TOOLS OF TQM

Following are the quality management tools and techniques [3] that aid the TQM effort are : **i.** quality function development, **ii.** Taguchi technique, **iii.** Pareto charts, **iv.** Process charts, **v.** cause and effect diagram, **vi.** Statistical process control. Among these important two are described here.

Pareto Chart: Mr Pareto an Italian Economist, Wilfredo Pareto. Pareto chart helps employees to identify the problems and also determine their frequency in the system. Pareto chart often represented by both bars and a line graph identifies the most common causes of problems and the most frequently occurring defects. [3] [27]

Pareto chart records the reasons which lead to maximum customer complaints and eventually enables employees to formulate relevant strategies to rectify the most common defects.

Cause and effect diagram: Also referred to as "fishbone chart". It records causes of a Particular and specific problem. It plays a crucial role in identifying the root causes of a particular problem and also potential factors which give rise to a common problem at the workplace.[3][27]

DEMINGS IDEA ON ACHIEVING QUALITY

Deming's 14 points on Quality Management, a core concept on implementing total quality management (TQM), is a set of management practices to help companies to increase their quality and productivity. Fourteen principles given by Deming are given below: [17][1]

1. Create consistency of purpose towards product quality

2. Adopt new philosophy for new economic age by top management..
3. Recognize the reason of inspection for enhancement of process and decline the cost.
4. End the practice of awarding business on price alone instead minimize total cost by working with a single supplier.
5. Improve constantly & forever every process for planning, production and service.
6. Institute modern method of training.
7. Institute vigorous education and training program and self improvement throughout the organization.
8. Expel fear, create trust, create a climate for advancement
9. Eliminate barriers between departments and promote cooperation and a team approach for working together,
10. Eliminate slogan & numerical targets that urge workers to achieve higher performance level.[1]
11. Eliminate numerical quotas for the workforce and numerical goals for management.
12. Develop programs for continuous improvement of quality, productivity and service.[1]
13. Enhance workers pride and self-esteem by improving supervision and the production process so that worker can perform to their capabilities.
14. Support education and self development for every person in the company to work accomplishing the transformation..

CONCLUSION

The effort is more systematic in explaining the fundamentals and components of TQM, The study covered theory, concept of TQM, its practices and barriers in implementing TQM.

It is concluded that organizations that want to implement TQM effectively must have patience because TQM takes a long time to get implemented and to have fruitful results. It requires major changes in cultural aspects as well as employee mindset in an organization. Further, the outcome of this study suggests that TQM is widely applied in industrial/ service sector and responsible for improved economy, its implementation is associated with greater customer satisfaction and more rigorously it is being implemented, the better the business performance. The present study can help in better understanding of TQM and quality concept and their implementation in their organizations by considering the top management commitment and customer focus. It also helps them to motivate and create a vision for the change.

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