Implementation of Total Quality Management (TQM) in Small & Medium Enterprises: An Overview

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Abstract

Quality control activities remain with us from thousands of years. Born out of management practice, the TQM (Total Quality Management) had a profound and unparallel impact on modern business history. In this ambitious business province, only the organizations that are quality conscious are considered to be qualified to sustain in the long run. Over the years both academicians and professionals are emphasizing on the point of quality improvement and control of both goods and services. This paper is attempted to get an overall insight and to understand the concepts of TQM & organizational setup of Indian small & medium enterprises aiding the implementation of TQM.

Key words*: Customer satisfaction, Dimensions of TQM, Implementation of TQM, Quality improvement*

Introduction

The increasing need for improvement of quality the world over led to the development of quality systems to take care of all relevant aspects related to and influencing quality starting from product design and culminating in service to the user. The increase in product complexity and size of operation, responsibility for product quality is gradually shifted from operator to the quality control department. Quality is defined as the totality of features and characteristics of a product or service that bears on its ability to satisfy stated or implied needs. It is the degree to which a specific product conforms to a design or specification. Total Quality Management (TQM) is defined as a quality-centered, customer-focused, fact-based, team-driven, senior-management-led process to achieve an organization's strategic imperative through continuous process improvement. The word "total" in TQM means that everyone in the organization must be involved in the continuous improvement effort, the word "quality" shows a concern for customer satisfaction, and the word "management" refers to the people and processes needed to achieve the quality. TQM is not a program, it is a systematic, integrated, and organizational way-of-life directed at the continuous improvement of an organization. It is not a management fad; it is a proven management style used successfully for decades in organizations around the world. TQM

is not an end in itself; it is means to an organizational end. The management is concerned with profitability, growth and resource generation. But only a few inspectors are responsible for checking product quality. Customers in recent years have come to expect much higher quality than ever before. Parameters responsible for product quality and quality concepts need to be clearly understood by management. If one looks at the concept of Quality and its progress over the years carefully, it is evident that Quality has always been an important element for the success of any organization. But the initial approach for Quality was concentrated on the final inspection and accordingly post production adjustment was made. Quality was not viewed as a responsibility of all employees. Quality function was separated from such areas as planning, design, production and sales.

Objectives of the Study

The major objectives of the study are to high light the various uses of Total Quality Management (TQM) as a tool for managerial decision making. Another object is to find out the inherent constraints in its application followed by an attempt to recommend for the betterment of the situation. Keeping in mind the above situation, the study would also examine the different dimensions of TQM and its implementation strategy. The partial objectives of this study are:

1. To get an overall insight and to identify the familiar concepts of TQM

2. To find out the organizational setup aiding the implementation of TQM

3. To know the perception of TQM in Indian Small & Medium Enterprises

4. To suggest possible ways of transforming corporate culture into TQM

Methodology of the Study

It is a theoretical approach based on desk study, review of related literature and existing stock of knowledge. This paper is based on secondary and primary information. Available literature including relevant books and articles on TQM were studied. Some portions of this paper is the author's own observations and logical arguments. A perception of Indian Small & Medium Enterprises is examined by collecting primary information where modern econometrics techniques like "Factor Analysis:" is used.

Review of Research Studies

Total quality Control Management was developed in the mid 1940s by Dr. W. Edward Deming who at the time was an advisor in sampling at the Bureau of Census and later became a professor of statistics at the New York University Graduate School of Business Administration. He had little success convincing American business to adopt TQM but his management methods did gain success in Japan. In the 1970s and 1980s, many American companies, including Ford, IBM, and Xerox, began adopting Dr. Deming's principles of TQM. This gradually led to their remaining some of the markets previously lost to the Japanese. Although TQM gained its performance in the private sector, in recent years it has been adopted by some public organizations. Tools and techniques of TQM are applicable to a wide range of organizations of all sizes and types such as manufacturing, service, government, military, contraction, education, small business, healthcare and nonprofit organizations. Mohammad Moqbul Hossain Bhuiyan and Md. Kamal Uddin had an article on "What Does Total Quality Management Stand for? Literature Review and Implications for India". They said that Quality control activities remain with us from thousands of years. Born out of management practice, the TQM (Total Quality Management] has had a profound and unparalleled impact on modern business history. However, as a body of practical knowledge, TQM has been largely theoretical. As a consequence, this important management philosophy has reminded amorphous and shrouded in considerable conceptual haziness and ambiguity in developing countries like India. Recent theorizing, primarily emphasizing the application of organizational behavior theories of TQM, has begun to provide greater clarity, but much work remains to be done. This paper attempts to contribute to this nascent theory-building literature by employing theory from market process economics, namely, Indian and evolutionary economics, which explains how processes of dynamic change, adaptation and learning are driven by entrepreneurial creativity. We have examined the perception of TQM of Indian management with the framework of modern econometrics techniques "Factor analysis". Drawing on the resource approach and other theoretical perspectives, this paper has suggested TQM as a potential source of sustainable competitive advantage. Quality is to be managed, it must first be understood. Managers must move aggressively to improve their understanding of quality practices and performance. The findings suggest that most features generally associated with TQM - such as training, process

improvement, and benchmarking - do not generally produce advantage, but that certain tacit, behavioral, imperfectly imitable features - such as awareness, management commitment, open culture, employee empowerment, and executive commitment, leadership - can produce advantage. The authors conclude that these tacit resources, and not TQM tools and techniques, drive TQM success, and those organizations that acquire them can outperform competitors with or without the accompanying TQM ideology. Muhammad Ziaulhaq Mamun and Sharmina Afrin in their study on "Total Quality Management (TQM) Practices of the India and Thai Companies: A Comparative Analysis" mentions that the comparative analysis of TQM practices between India and Thai companies clearly shows planning, implementation and operational difference, Indian companies portray TQM vision consciousness but in many cases they fall victim of treating TQM as a fad rather than an essential component. The management principles are narrowly viewed, communicated and understood in Indiai companies even with well-documented procedures and instructions. All the Indian companies concerned are well equipped and successful to some extent in achieving customer satisfaction with regard to product and service quality excellence, but they lack close working relationships, interest groups and the promoting aspect of working environment. Indian firms make a visible effort in empowerment of quality control circles but apparently follow a comparatively rigid hierarchical structure, but nonetheless are able to assure quality. In terms of organization and distribution, all of the concerned companies are suitably equipped and positioned, but suppliers are not benchmarked with respect to specific criteria and special quality ratings in terms of product attributes and therefore information regarding supplier reliability is not available in any objective form. Indian firms have much to achieve in the areas of creativity and R&D, and therefore, investment in those areas is imperative.

Theoretical Frame Works

TQM is a management philosophy that seeks to integrate all organizational functions (marketing, finance, design, engineering, and production, customer service, etc.) to focus on meeting customer needs and organizational objectives.TQM views an organization as a collection of processes. It maintains that organizations must strive to continuously improve these processes by incorporating the knowledge and experiences of workers. The simple objective of TQM is "Do the right things, right the first time, every time". TQM is infinitely variable and adaptable.

Although originally applied to manufacturing operations, and for a number of years only used in that area, TQM is now becoming recognized as a generic management tool, just as applicable in service and public sector organizations. There are a number of evolutionary strands, with different sectors creating their own versions from the common ancestor. TQM is the foundation for activities, which include: Commitment by senior management and all employees Meeting customer requirements Reducing development cycle times Just In Time/Demand Flow Manufacturing Improvement teams Reducing product and service costs Systems to facilitate improvement Line Management ownership Employee involvement and empowerment Recognition and celebration Challenging quantified goals and benchmarking Focus on processes / improvement plans Specific incorporation in strategic planning This shows that TQM must be practiced in all activities, by all personnel, in Manufacturing, Marketing, Engineering, R&D, Sales, Purchasing, HR, etc. Key Elements to be successful implementing TQM, an organization must concentrate on the eight key elements: Ethics Integrity Trust Training Teamwork Leadership Recognition Communication Principles of TQM The key principles of TQM are as following : Management Commitment Plan (drive, direct) Do (deploy, support, participate) Check (review) Act (recognize, communicate, revise) Employee Empowerment Training Suggestion scheme Measurement and recognition Excellence teams Fact Based Decision Making SPC (statistical process control) DOE, FMEA The 7 statistical tools TOPS (FORD 8D - Team Oriented Problem Solving) Continuous Improvement Systematic measurement and focus on CONQ Excellence teams Cross-functional process management Attain, maintain, improve standards, Customer Focus, Supplier partnership, Service relationship with internal customers, Never compromise quality, Customer driven standards & Continuous Improvement by TQM. TQM is mainly concerned with continuous improvement in all work, from high level strategic planning and decision-making, to detailed execution of work elements on the shop floor. It stems from the belief that mistakes can be avoided and defects can be prevented. It leads to continuously improving results, in all aspects of work, as a result of continuously improving capabilities, people, processes, and technology and machine capabilities. Continuous improvement must deal not only with improving results, but more importantly with improving capabilities to produce better results in the future. The five major areas of focus for capability improvement are demand generation, supply generation, technology, operations and people

capability. A central principle of TQM is that mistakes may be made by people, but most of them are caused, or at least permitted, by faulty systems and processes. This means that the root cause of such mistakes can be identified and eliminated, and repetition can be prevented by changing the process.1There are three major mechanisms of prevention: Preventing mistakes (defects) from occurring (Mistake - proofing or Poka-Yoke). Where mistakes can't be absolutely prevented, detecting them early to prevent them being passed down the value added chain (Inspection at source or by the next operation). Where mistakes recur, stopping production until the process can be corrected, to prevent the production of more defects. (Stop in time). Implementation Principles and Processes A preliminary step in TQM implementation is to assess the organization's current reality. Relevant preconditions have to do with the organization's history, its current needs, precipitating events leading to TQM, and the existing employee quality of working life. If the current reality does not include important preconditions, TQM implementation should be delayed until the organization is in a state in which TQM is likely to succeed. If an organization has a track record of effective responsiveness to the environment, and if it has been able to successfully change the way it operates when needed, TQM will be easier to implement. If an organization has been historically reactive and has no skill at improving its operating systems, there will be both employee skepticism and a lack of skilled change agents. If this condition prevails, a comprehensive program of management and leadership development may be instituted. A management audit is a good assessment tool to identify current levels of organizational functioning and areas in need of change. An organization should be basically healthy before beginning TQM. If it has significant problems such as a very unstable funding base, weak administrative systems, lack of managerial skill, or poor employee morale, TQM would not be appropriate. However, a certain level of stress is probably desirable to initiate TQM. People need to feel a need for a change. Kanter (1983) addresses this phenomenon be describing building blocks which are present in effective organizational change. These forces include departures from tradition, a crisis or galvanizing event, strategic decisions, individual "prime movers," and action vehicles. Departures from tradition are activities, usually at lower levels of the organization, which occur when entrepreneurs move outside the normal ways of operating to solve a problem. A crisis, if it is not too disabling, can also help create a sense of urgency which can mobilize people to act. In the case of TQM, this may be a funding cut or

threat, or demands from consumers or other stakeholders for improved quality of service. After a crisis, a leader may intervene strategically by articulating a new vision of the future to help the organization deal with it. A plan to implement TQM may be such a strategic decision. Such a leader may then become a prime mover, who takes charge in championing the new idea and showing others how it will help them get where they want to go. Finally, action vehicles are needed and mechanisms or structures to enable the change to occur and become institutionalized. Steps in Managing the Transition Beckhard and Pritchard (1992) have outlined the basic steps in managing a transition to a new system such as TQM: identifying tasks to be done, creating necessary management structures, developing strategies for building commitment, designing mechanisms to communicate the change, and assigning resources. Task identification would include a study of present conditions (assessing current reality, as described above); assessing readiness, such as through a force field analysis; creating a model of the desired state, in this case, implementation of TQM; announcing the change goals to the organization; and assigning responsibilities and resources. This final step would include securing outside consultation and training and assigning someone within the organization to oversee the effort. This should be a responsibility of top management. In fact, the next step, designing transition management structures, is also a responsibility of top management. In fact, Cohen and Brand (1993) and Hyde (1992) assert that management must be heavily involved as leaders rather than relying on a separate staff person or function to shepherd the effort. An organization wide steering committee to oversee the effort may be appropriate. Developing commitment strategies was discussed above in the sections on resistance and on visionary leadership.6To communicate the change, mechanisms beyond existing processes will need to be developed. Special all-staff meetings attended by executives, sometimes designed as input or dialog sessions, may be used to kick off the process, and TQM newsletters may be an effective ongoing communication tool to keep employees aware of activities and accomplishments. Management of resources for the change effort is important with TQM because outside consultants will almost always be required. Choose consultants based on their prior relevant experience and their commitment to adapting the process to fit unique organizational needs.

While consultants will be invaluable with initial training of staff and TQM system design, employees (management and others) should be actively involved in TQM implementation, perhaps after receiving training in change management which they can then pass on to other employees. A collaborative relationship with consultants and clear role definitions and specification of activities must be established.

Findings of the Study

Total Quality Management is a system implemented to reduce defects in finished products with the goal of achieving zero products these systems requires timely data on defective products, rework costs, and the cost of honoring warranty contracts. This information is used to help to redesign the product in a way that makes it less proves to defect. It may be used to reengineer the production process to reduce set up time and decrease the potential for error. TQM systems provide information on non-financial measures such as customer satisfaction, number of since calls and time to generate reports. Attention to these measures which employees can control leads to increased profitability. Just in time inventory systems demand for an increased emphasis on product quality. If products are produced only as they are needed. It is very costly for the company to have to stop production became of defects or machine breakdown. TQM and just in time production often aid in effective application of the learn business model. The main purpose of lean business model is to eliminate waste and strive for continuous improvement which requires that every manager and employee continuously look to improve operations. Larson opines that TQM calls for all managers and employees at all stages of operations to strive towards higher standards and a reduced number of defects. In today's competitive and international market place, quality is synonymous with not just product quality but also cost, delivery and service. In a global market where product life cycle has become short where customer expectations have increased, the traditional product testing/certification approaches are not adequate. To compete in international markets, companies in developing countries need a sound quality management system. With liberalization and international competitiveness, there is a need to improve the quality of goods manufactured by the industries. Standardization is one of the important tools for achieving quality up gradation and building a strong quality culture within the organization.

Limitations of the Study

The study may suffer from some limitations. The most serious limitation encountering the study is that author has a little practical exposure to the industries and organizations, where the practice of TQM is in existence. So, in analyzing the data, the author relied mainly on personal inference and logical conclusions. As the topic is a broad bases and global issues, hence there may be some gaps in the pieces of information. TQM as a discipline is still evolving. So, this study may be one of the earlier studies in this area. Consequently, it may suffer from some additional limitations generally associated with an earlier study. The author pays his gratitude to anyone endeavoring to make further analysis, improvement or suggestions on the issue.

Conclusions

TQM attempts to have maximum customer satisfaction through providing quality products and services but uncongenial business environment, high cost of production, increasing prices of products unfair competition in market are the major constraints in using TQM. Once the business is profitable, they can develop quality products and services. Absence of breakeven point decline in demand for products, lack of trained manpower are other limiting factors for such use. We should try to have market research to satisfy our customers as well as managerial efficiency and effectiveness side by side. We should also develop strategic management techniques to stand in open market economy. Once the strategies are appropriate business can see well and further enhance the wide are of TQM devices towards the customer's goals achievement. Academic research on the holistic approach to TQM is in its primitive stage. So, there is a clear need for more precise measures of quality. Endeavour has been paid throughout this paper to find out a comprehensive approach to TQM. The technical tools of quality improvement may be well developed, but its theory and practice lag far behind. The concept of quality is only dimly understood by the practicing managers. Links to market share, cost, and profitability are unclear. Measurement is also complex. Empirical researches on these issues like costs, market share, prices, profitability, employee turnover, and the like, as dependent variable may be conducted in the future. Because of the recent trade globalization, developing countries are in crying needs to increase productivity and elevate the quality of products. More empirical research can be conducted in future to make quality a vital issues in every sector of the economy. Over the past

few decades, Information Technology (IT) helps TQM organization achieve its goals. Study may be conducted to reveal the effectiveness of IT application toward quality assurance.

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