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Affecting and Success factors to implement Total Quality Management in Industries

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Abstract - Total quality management (TQM) is an integrated management philosophy aimed at continuously improving the quality of products and processes to achieve better customer satisfaction. It has been accepted by managers and quality practitioners as a change management quality approach and plays a vital role in the development of management practices. TQM is an approach to improve effectiveness, flexibility, and competitiveness of a business to meet customers' requirements, as a source of sustainable competitive advantage, as a source of attaining excellence, creating a right first-time attitude, acquiring efficient business solutions, and delighting customers and suppliers [2]..

Key Words: TQM, Dimensions, implementation, tools and techniques

1.Introduction

In recent decades, the level of awareness towards TQM has increased drastically and has gone to its peak to become a well-established field of research due to intense global competition, increasing consumer consciousness of quality, rapid technology transfer, and towards achieving world-class status. Total quality management (TQM) is described as a collective, interlinked system of quality practices that is associated with organizational. The generic term "total quality management" is used to mean the vast collection of philosophies, concepts, methods, and tools now being used throughout the world to manage quality. Quality management (QM) is defined as an approach to achieving and sustaining high quality output (Flynn et al., 1994). It is made up of a set of mutually reinforcing principles, each of which is supported by a set of practices and techniques. At the empirical level, the assessment of whether such a thing as QM exists and what constitutes QM should be made at the level of practices: practices are the observable facet of QM, and it is through them that managers work to realize organizational improvements. Principles are too general for empirical research and techniques are too detailed to obtain reliable results[3]. TQM as a method for reforming corporate culture, enhancing employee involvement in each business sector, and continuously improving quality to attain specific organizational goals through teamwork. TQM is a management approach that focuses on quality and aims at improving organizational effectiveness and flexibility. TQM generates high-quality products, reduces costs, increases customer and employee satisfaction, and improves financial performance. TQM is a management approach for improving organizational performance that encompasses a variety of both technical and behavioral topics. TQM also focuses on the level of support of top management and emphasizes complete employee involvement in the related continuing improvement initiatives [4].

Total Quality Management is an approach to improving the effectiveness and flexibility of organizations as a whole. It is essentially a way of organizing and involving the whole organization; every department, every activity, every single person at every level. For an organization to be truly effective, each part of it must work properly together, recognizing that every person and every activity affects, and in turn is affected by, others. An ongoing process whereby top management takes whatever steps necessary to enable everyone in the organization in the course of performing all duties to establish and achieve standards which meet or exceed the needs and expectations of their customers, both external and internal[5]. Dimensions of TQM are Management support, Information for quality, Process management, Product design, Human resource management, Relationship with customers and suppliers[6].

The management of quality is being emphasized in all aspects of every human endeavour. Quality assurance methods are being developed and statistical quality control tools are being applied in considerable detail from design to delivery of products and services..

2. Factors affecting TQM implementation:

Total Quality Management (TQM) has evolved as a strategic approach in most manufacturing and service organizations to respond to the challenges posed by the competitive business world. Fig. 1 is the schematic representation of the factors affecting TQM implementation.

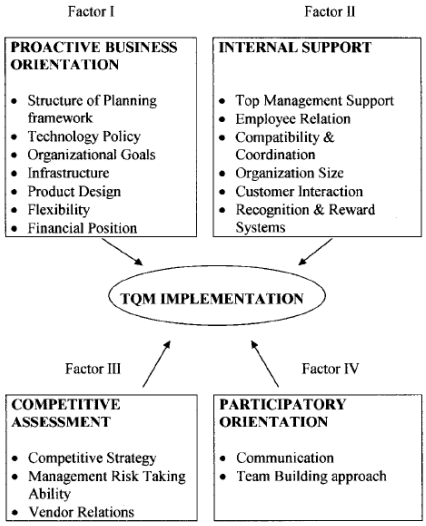

Figure 1. Factors affecting TQM implementation

i. `Proactive Business Orientation' which develops a structure of quality planning framework for initiating strategy-focused management actions, having a strong quality

improvement infrastructure, an aggressive technology policy, creativity and innovations in product design and sound financial status, all relate to such an orientation.

ii. The second factor, named `Internal Support', which gives Sustained and active top management support, healthy employee and customer relations, and the proper system of appreciation and recognition for good work are collectively the key determinants for successful TQM implementation.

iii. Competitive Assessment depicts an organization's policy with regard to gathering and analysing information on customers and competitors. Competitive strategy, management risk taking ability and vendor relations are the items included in this factor.

iv. The final factor, represents the `participatory nature of organization', Loaded on this factor are items, such as: communication and team building approach. Establishing appropriate channels of communications with multiple stake holders will help in successful implementation of TQM programmes[7].

To implement and achieve total quality successfully, a company should give sufficient attention to these soft elements. Leadership and Commitment, Customer Focus, Continuous Improvement, Get Things Right First Time, Just-in-Time (JIT), Competitive Benchmarking, Cost of Quality, Employee Involvement, Teamwork, Training, Communication, Recognition and Reward[9].

3. Factors likely to contribute to success of TQM

Lu and Sohal (1993) discuss the factors, which contribute to success in a TQM program, and identify improvement opportunities in the approaches adopted by Australian organization. The authors also give some common myths and their clarifications concerning TQM and its implementation in Australia. According to the authors, factors likely to contribute to success are:

i. Identification of the strategic direction of the business (mission, vision, and policies)

ii. Determination of customer expectations and measurement of percept ions (market research, surveys, and focus groups)

iii. Formulation of strategy for implementation of the program (time frame, resources to provide leadership, and training).

iv. Existence of formal structure to control monitors and maintains improvement initiatives (through steering committee, improvement teams etc.)

v. Implementation of train-the-trainer concepts (participants to train their own staff eventually).

vi. Installation of quality assurance system (ISO 9000, other standards).

vii. Use of external consultants [8].

4. Tools and techniques of TQM

It is difficult to provide a definitive list of the very large number of tools and techniques that have been utilized in implementing TQM programs.

One of the earliest lists of TQM tools and techniques is the so-called 'seven old quality-control (QC) tools'(Ishikawa 1985; McConnell 1989): (i) flow charts; (ii) cause-and-effect diagrams; (iii) Pareto charts; (iv) histograms;(v) run charts and graphs; (vi) X bar and R control charts; and (vii) scatter diagrams. The seven new management tools': (i) affinity diagram; (ii) arrow diagram; (iii) matrix diagram; (iv) matrix data analysis; (v) process decision programmer chart; (vi) relations diagram; and (vii) systematic diagram. Various other tools and techniques: benchmarking, control plan, design of experiments (DOE), fault-tree analysis (FTA), force-field analysis, problem-solving methodology, questionnaires, sampling, statistical process control (SPC), brainstorming, departmental purpose analysis, FMEA, flow charts, pokayoke, quality costing, quality function deployment (QFD), six sigma and quality-improvement teams.

5.Quality Improvement Cycle

A quality improvement system (QIS), on the other hand, consists of the core concepts, the cycle of quality improvement, and the managing elements which are used in concert to change the way organizations view and manage a strategy of quality improvement.

Industries are now a days are using six core concepts and Eight Managing Elements to improve the overall quality

Six Core Concepts

I . Definition of quality: meeting the requirements

2. Customer impact: cost of ownership

3. Operating impact: the cost of quality

4. Improvement process: defect prevention

5. Responsibility: each employee

6. Performance standard: zero defects

Eight Managing Elements

I. Commitment Element: Establishes quality improvement as a most important task for the organization.

2. Awareness Element: Covers on-going education/training and communication to people about the progress of quality improvement efforts.

3. Results Element: Establishes the quality improvement goals for the organization.

4. Organization Element: Provides the structures which facilitate quality improvement activities and progress.

5. Planning Element: Requires the implementation of quality improvement efforts to be mapped out and diffused through the organization level by level.

6. Accountability Element: Describes the state wherein performance of individuals and teams in improving quality is measured, tracked, and reviewed.

7. Recognition Element: Management's task is to create ways to recognize effort and achievement of subordinates, both formally and informally.

8. Renewal Element: Providing for celebration of quality achievement and evaluation of what worked and what did not work so the process can be improved[11].

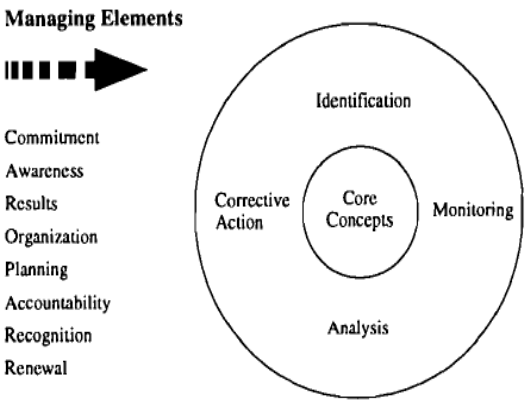

Figure.No.2: Cycle of Quality Improvement.

3. CONCLUSIONS

To obtain maximum value from the use of the many tools and techniques that are available for quality improvement, businesses should establish a planned approach to their choice of appropriate tools and the. application of limited resources to these tools and techniques. A good implementation of TQM is through executing all aspects of TQM and establishing a new quality culture in the organization. To be successful, it must be top-management driven and focus on maximizing efficiency and effectiveness, through improving systems and processes, as well as aligning business objectives and customer requirements. The key to implementing TQM is combining a series of philosophies and techniques with practices in the organization and making sure the total quality management principles are planted into everybody's mind and are run in every department's day-to-day work

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