A Study on Implementation of Total Quality Management in Businesses

Patange Vidyut Chandra

Assistant Professor, Department of Mechanical Engineering,Sreenidhi Institute of Science and Technology,Ghatkesar,Hyderabad –AP –India

Abstract— This paper focuses on the crucial aspects of TQM right from introducing concepts in an organization, especially for those who have not traditionally tuned themselves too much with understanding customer needs and business processes. Major focus is on empowerments, as it is understood to play very crucial role during identify the management culture before attempting to install TQM, TQM for success or failure assured due to this planning. In recent years the literature on change management and leadership has grown steadily, and applications based on research findings will be more likely to succeed. Visionary leadership may offer an overriding perspective for someone instituting TQM. Use of tested principles will also enable the change agent to avoid reinventing the proverbial wheel. Institutionalizing TQM principles as an organization's culture process for managing the transition from the existing system to the new system with synergies.

Index Terms—Empowerment, Principles of TQM, Managerial role, TQM tools, TQM implementation, TQM success, Trainings.

I. INTRODUCTION

TQM is not an easy concept to introduce into the businesses - particularly in companies who are not traditionally concerned about themselves too much with understanding customer needs and business processes. One of the main challenges of introducing the TQM concept is to make a significant impact on business, as TQM focuses on the activities that are closest to the customer satisfaction through meeting his requirement. It also provides opportunity for management to focus on organizational culture during continuous improvement by empowering employees and involving them judiciously.

II.APPROACH

TQM is an approach to improving the competitiveness, effectiveness and flexibility of an organization for the benefit of all stakeholders, If combined with effective leadership, results in an organization doing the right things right, first time. It is a way of planning, organizing and understanding each activity, and removing all the wasted effort and energy that is routinely spent in organizations. It ensures the leaders adopt a strategic overview of quality and focus on prevention not detection of problems All businesses have many types of customer. A customer can be someone "internal" to the business (e.g. A production employee working at the end of the production line is the "customer" of the employees involved earlier in the production process). The customer can also be "external to the business. This is the kind of customer you will be familiar with. When you fly with an airline you are their customer. When Tesco's buys products from food manufacturers, it is a customer.

Fig 1: TQM Approach

The core of TQM is the customer-supplier interfaces (Fig 1), both externally and internally, and at each interface lie a number of processes. This code must be surrounded by commitment to quality, communication of the quality

message, and recognition of the need to change the culture of the organization to create total quality. These are the foundations of TQM, and they are supported by the key management functions of people, processes and systems in the organization. (Fig 2)
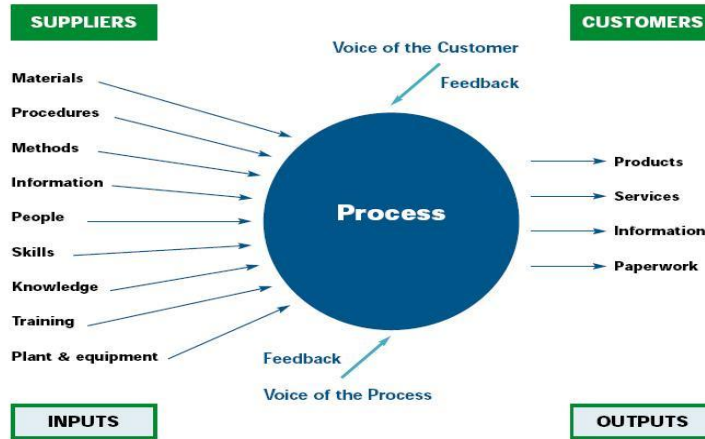

Fig 2 : TQM Process Management

TQM recognizes that all businesses require "processes" that enable customer requirements to be met. TQM focuses on the ways in which these processes can be managed - with two key objectives:
1 100% customer satisfaction
2 Zero defects

A. PRINCIPLES OF TQM ADOPTED
a. Customer focused:
Whatever we did for quality improvement, focusing ONLY on customers to improve the level of quality, fostering quality improvement, training employees, integrating quality into process management, as we know that ONLY customers can determine whether our efforts were worthwhile

Fig: 3 TQM Training Management

b- Assured All Employee Involvement:
Through using Deming 8th principal of remove fear from work place, by empowering employee by providing a supportive environment. (See Fig 4)
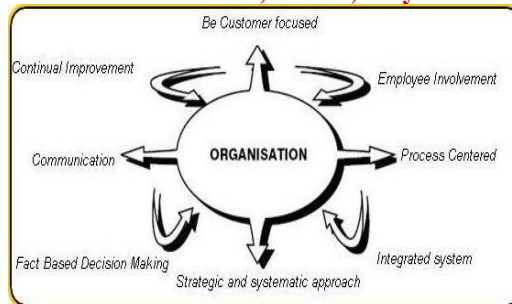
Fig 4 : TQM Working Environment

c- **Process Centered**
A fundamental part of TQM is to focus on process thinking.

d- Integrated system:
All employees must know the business mission and vision. An integrated business system may be modeled by MBNQA or ISO 9000

e- Strategic and systematic Approach:
Strategic plan had integrated quality as a core component.
TQM should evolve from the organization's strategic plan and be based on stakeholder expectations

f- Continual Improvement:
By constantly adopting usage of an analytical, quality tools, and creative thinking to identify critical areas for improvements.
Constantly benchmarking performance against latest legal, regulatory and statutory requirements, and taking appropriate actions for getting efficient and effective upgraded results.

g- Fact Based Decision Making:
Decision making ONLY based on data, not personal or situational thinking based on intuition at critical stages that affect the organization's mission, vision, and measurable goals.

8- Communication:
Communication strategy adopted within the working system, its method and real time basis take decisions correctly, to maintain transparency in working, and also to aid in building confidence among all staff members.

B TOOLS USED DURING APPROACH TO TQM
Tools for Generating Ideas consists of
• Check sheets,
• Scatter diagrams, and
• Cause and effect diagrams.
• Tools to Organize the Data consists of Pareto charts and Flowcharts.
• Tools for Identifying Problems consist of Histogram and Statistical process control chart.
• Check Sheet is an organized method of recording data.
• Scatter Diagram is a graph of the value of one variable vs. another variable.
• Cause and Effect Diagram is a tool that identifies process elements (causes) that might affect an outcome.
• Pareto Charts are a group to identify and plot problems or defects in descending order of frequency.
• Flow Charts (Process Diagrams) are a chart that describes the steps in a process.

III.MAJOR BOTTLE NECK FACED DURING IMPLEMENTATION

Understanding organization culture, and utilizing that information to plan the steps for successful quality journey. The culture in any organization is formed by the beliefs, behaviors, norms, dominant values, rules and the "climate A cultural Bottleneck need addressed at every step of implementation, Any failure to address the culture by management will provide limited success or failing altogether. A culture change, e.g., from one of acceptance of a certain level of errors or defects to one of right first time, every time, needs two key elements:
• Commitment from the leaders
• Involvement of all of the organization's people

IV. MANAGERIAL CONCERNS DURING TQM JOURNEY

Research has shown that even though middle managers want to participate in the early stages of TQM, top management has no trust in them (Vouzas, 1997). Wilkinson et a1. (1993) argue that lack of commitment from middle management has been the case in nine out of ten organizations they studied. The study also suggested that the effect of TQM on middle managers was substantial; made their jobs more demanding; and emphasized teamwork, people management skills, and technical knowledge. Another study by Marchington et al. (1993) suggests that middle managers are concerned with a loss of authority or increased workload associated with TQM. Collard (1989), on the other hand, found that in order for middle managers to be role models in a TQM environment they need to upgrade their communication and presentation skills, skills for working with groups, and group leadership skills. Furthermore, middle managers' beliefs and attitudes regarding the quality approach to organizational change seemed to be more related to organizational context rather than the type of organization or the role of the middle manager (Collard, 1989; Hill, 1991, 1995; Ishikawa, 1985)

The majority of the latter studies was based on the assessment of managers' awareness towards a specific principle or practice of TQM like ISO 9000, teamwork, training, etc... However, this often resulted in missing the whole picture of TQM. Moreover, different individual perspectives make the measurement of the awareness of the two sides even more difficult. The variations of perspectives are derived from many factors such as age, educational background, and the level of managerial experience. The above factors are related to the human side of the organizations. On the other hand, there are factors closely related to the organization itself that alter the perspective of TQM, such as the size, years of existence, and the specific domain that they operate.

V. IMPLEMENTATION PRACTICE POINTS BASED OF GREAT GURU'S

The task of implementing TQM can be daunting. The following is a list of points that leaders should consider; they are a distillation of the various beliefs of some of the quality gurus:

- The organization needs a long-term commitment to continuous improvement.
- Adopt the philosophy of zero errors/defects to change the culture to right first time
- Train people to understand the customer/supplier relationships
- Do not buy products or services on price alone – look at the total cost
- Recognize that improvement of the systems must be managed
- Adopt modern methods of supervising and training – eliminate fear
- Eliminate barriers between departments by managing the process – improve communications and teamwork
- Eliminate goals without methods, standards based only on numbers, barriers to pride of workmanship and fiction – get the facts by studying processes
- Constantly educate and retrain – development experts in the organization
- Develop a systematic approach to manage the implementation of TQM

A. REAL TIME OBSERVATION DURING IMPLEMENTATION OF TQM

TQM is, in fact, a large scale systems change, and guiding principles, when adopted on large scale their was resistance For example: The manager blames unresponsive employees, line workers blame executives interested only in looking good, and all complain about the resistant middle managers. Unfortunately, the program itself is usually seen as worthless: "we tried team building (or organization development or quality circles or what have you) and it didn't work; neither will TQM". Planned change processes often works. So we know that TQM is at first glance seen primarily as a change in an organization's technology its way of doing work. TQM as a technological change will not be successful unless cultural and political dimensions are attended to as well (Tichey, 1983). For example, human resource systems, including job design, selection processes, compensation and rewards, performance appraisal, and training and development must align with and support the new TQM culture TQM as a culture change will enhance decision making capability based on data and fact by employee. For example: We found that Historical worker antipathy to the use of statistics and data in the human services may carry over into the views of TQM, which encourages the gathering and analysis of data on service quality. Coming back to traditional managers, this transition will require teaching/training, self reflection, and time as well as assurances from upper management that they are not in danger of being displaced.

VI. MEASURING TQM SUCCESS FROM MANAGEMENT PROSPECTIVE

The biggest problem with businesses is on how to measure the success of TQM Implementation as there are no special certifications, as ISO 9001 but still organization can assess their position globally and get assessed through benchmarking against world class criteria …

A. MALCOLM BALRIDGE NATIONAL QUALITY AWARD CRITERIA

One of the ways to evaluate the TQM success is to adopt a holistic approach of assessing your organization is by assessing organization against Malcolm Baldrige National Quality Award criteria (Fig. 5)
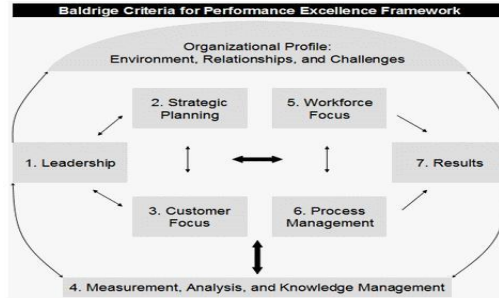

Fig 5: MBQM Model

Each category is scored based on the approach used to address the category, how well it is deployed throughout the organization, the cycles of learning generated, and its level of integration within the organization. An excellent way to improve your TQM maturity is to use the criteria as a self-assessment and then compare your organization's methods and processes with winners of the Baldrige award. An integral part of the Baldrige process is for winners share nonproprietary information from their applications so you have a ready-made benchmark for your organization's TQM maturity. An organization can undertake self assessment guided by the Baldrige Self Assessment criteria to ascertain the level of performance if satisfied with results on implementation; they can go to a full scale assessment through 3rd party Baldrige Assessors.

VII. BENEFITS OF TQM IMPLEMENTATION

An organization can see a major change in their routine working time management, initially most time was lost fire fight , after implementation of TQM visually see the fruits of TQM implementation. (Fig 6)
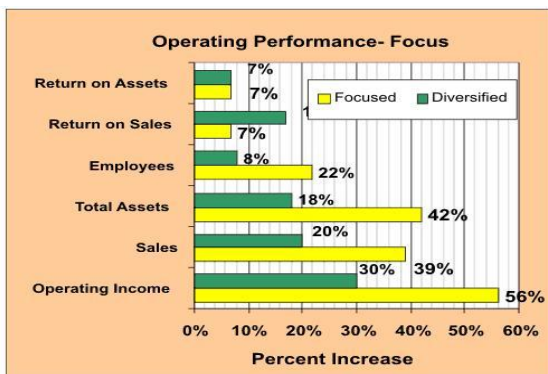Culture is changed from fire fighting to fire prevention (Fig 7)(With good prior planning and working systematically)
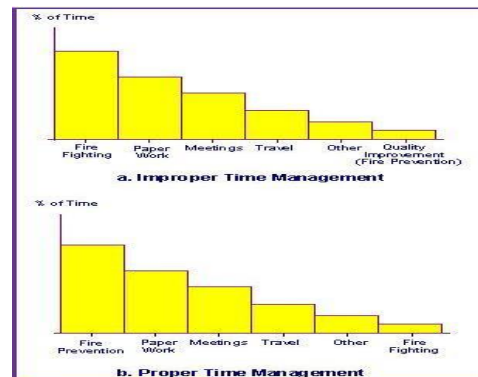

Fig 6 : TQM Improvement Results

Fig 7: TQM Time Management Results

VIII. CONCLUSION

TQM should be purpose -oriented: it should be used because an organization's leader feels a need to make the organization more effective, but stakeholders (staff and worker) have not been provided proper trainings and motivation on usage of TQM. This may likely to lead to a cosmetic or superficial application, resulting in failure

and disappointment. Total Quality Management is still considered as a long term continuous improvement initiative; still many organizations took courage to   jump into the bandwagon with a serious leadership commitment as well as total Employee involvement to drive their business into sustainable profitability, continuous improvement in culture. The present corporate social responsibility provides tremendous scope for business to think of a new angle of society that is common people and its environment to survive the competition. Any business benefit on improvement should reach end user at best price supported with best serviceability, maintainability and reliability in product/services. Presently total quality management as model may not be acceptable to many organizations, due to the global recession, but can be clubbed with latest six sigma quality techniques, lean systems to take the business to a new level of improvement to maintain a growth story.

REFERENCES
[1] Collins David (1994) 'The Disempowering Logic of Empowerment' Empowerment in Organizations 2 (2): 14-21.

[2] Dawson Patrick (1994) 'Total Quality Management' in J Storey (ed) New Wave Manufacturing Strategies, London, Paul Chapman Publishing.

[3] Dawson Patrick (1995) Managing Quality in the Multi-Cultured Workplace in Wilkinson Adrian and Willmott Hugh (eds), Making Quality Critical, London, Routledge: 173-193.

[4] Deming W. Edwards (1986) Out of the Crisis Cambridge, MA, MIT Press Hill Stephen and Wilkinson Adrian (1995) 'In Search of TQM' Employee Relations 17 (3): 9- 26.

[5] Ishikawa Kaoru (1985) What is Total Quality Control: The Japanese Way Englewood's-Cliff, NJ, Prentice Hall.

[6] Juran Joseph (1988) Juran's Quality Control Handbook New York, McGraw Hill Kochan Thomas, Gittell Jody and Lautsch Brenda (1995) 'Total Quality Management and Human Resource Systems: An International Comparison' International Journal of Human Resource Management .

[7] McArdle Louise, Rowlinson Michael, Procter Stephen, Hassard John and Forrester Paul (1995) 'Total Quality Management and Participation: Employee Empowerment, or the Enhancement of Exploitation' in Wilkinson A. & Willmott H.(eds) Making Quality Critical London, Routledge: 156-172.

[8] Garrahan Phillip and Stewart Paul (1992) The Nissan Enigma, London, Cassell Rees Chris (1996) Employee Involvement in Quality Management Strategies, Unpublished, PhD University of Warwick.

[9] Robertson Ivan, Smith Mike, Cooper Dominic (1992) Motivation: Strategies, theory and practice London, IPM .

[10] Tuckman Alan (1995) 'Ideology, Quality and TQM' in Wilkinson A. and Willmott H. (eds) Making Quality Critical London, Routledge: 54-81.

[11] Wilkinson Adrian (1992) The other side of quality: soft issues and the human resource dimension, Total Quality Management, 3(3): 323-329.

[12] Wilkinson Adrian, Redman Tom and Snape Ed (1993) Quality and the Manager, an Institute of Management Report, Corby .

[13] http://tutor2u.net/business/production/quality_tqm.htm.

[14] http://www.businessballs.com/dtiresources/total_quality_managementTQM.pdf .

[15] www.dti.gov.uk/quality/tqm .

[16] http://tqmcasestudies.com/ .

[17] http://www.nova.edu/ssss/QR/QR12-1/psychogios.pdf.

[18] http://www.tqe.com/baldrige.html.

[19] http://quality-management-tools.com/baldrige_criteria.png.

[20] http://arifinfo.com/2011/08/18/seven-tools-for-tqm/ .

[21] http://www.bexcellence.org/Total-quality-management.html.

[22] http://www.evancarmichael.com/Human-Resources/840/TQM-Implementation-Process.html

AUTHOR BIOGRAPHY

Mr. Patange Vidyut Chandra holds a Bachelors degree in Mechanical Engineering and Masters of Technology in Industrial engineering and management, Post Graduation Diploma in Operations Management; He is Ex Manager –TQM from Davangere cotton mills. He worked as consultant for quality management for over 12 years of which 6 years visiting Saudi Arabia and Oman and accumulated rich expertise in quality management system in manufacturing as well as the education sector,. Professionally he is a qualified lead auditor for ISO 9001, Green Belt for Six Sigma Quality and Certified Quality Manager from Qimpro College –Mumbai. Presently working as Assistant Professor in Sreenidhi Institute of science and technology in Department of Mechanical Engineering, His research and teaching areas are Operations Research, Production Planning and Control and Total Quality Management.