



Review Paper

# TQM: Implementation, Scope and Myths - A Review

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## Abstract

Few decades back TQM (Total Quality Management) showed great promise in the improvement of organizations by emphasizing process quality improvement over product quality improvement. TQM got real challenge with the new quality management techniques and seems that it has been almost replaced by these techniques in the present scenario. This paper is an attempt to find significance of TQM in rapidly changing present industrial environment. The myths involved, scope of TQM with ERP (Enterprise Resource Planning) and Lean Manufacturing has also been explored in this study. TQM shows a great promise in today's scenario with top level management involvement, better working culture, training and employee empowerment as significant factors.

**Keywords:** Total quality management, lean manufacturing, enterprise resource planning, quality circle.

## Introduction

With ever increasing competition in the market all around the globe, improving the quality is turning out as an important aspect for organization's growth and therefore Total Quality management is most prominent issue related to the organizational management. For this active involvement of each and every individual/group in the production process is necessary and it is required to decide everybody's accountability towards overall quality improvement of the final product or service. As there are various parameters for measuring quality like Reliability, Durability, Usage etc. hence for achieving this a cumulative effort is required from everyone and anyone related to the organization in terms of adequate research, proper feedback and execution. Along with proper utilization of Human Resources it is duty of quality managers to integrate every function and process which affects quality like design and development quality management, improvement, control, maintenance, and assurance of quality.

## TQM-Definitions

Many management gurus as well as industry leaders have defined TQM in their own words. Following are the few: i. Total quality management is a management philosophy that managing organizations to improve its overall effectiveness and performance towards achieving world class status. ii. A set of techniques and procedures used to reduce or eliminate variation from a production process or service-delivery system in order to improve efficiency, reliability, and quality. iii. TQM is an integrative philosophy of management for the continuous improvement of product and process quality in order to achieve customer satisfaction. iv. Companies should not look at TQM as a Static set of recommendations that are going to be valid for ever; just as TQM is about Challenging the status quo, this also applies to the TQM dimensions.

## TQM-Basic Principle

Following are the key principles used in TQM:

**Table-1**  
**Principles of TQM**

Top management	Main driving force behind the TQM is top level management and therefore it is its responsibility to create an environment for TQM implementation.
Training needs	Before implementation, all the employees should be trained properly and after that there should be regular trainings as well as certification process.
Customer orientation	Proper surveys along with feedback forums for gathering customer satisfaction and feedback information should be conducted.
Involvement of employees	Such an environment should be created so that employees work actively and all those who are pro active in their work should be rewarded properly.
Techniques and tools	Suitable tools and techniques should be used.
Corporate culture	Culture should be according to the comfort of employee so that he achieves higher levels of quality.
Continues improvements	Improvements should be made continuously.

## TQM and Its Integration with another Similar Concepts

Along with changes in various industrial processes like advancement in Production Techniques, Design Methodologies, Inventory management etc. quality control methods also saw many changes. It is seen that instead of inspection of product for the defects more focus is on preventing the occurrence of these defects. For this purpose not only on manufacturing but stress is laid on other organisational activities also. Organizations are using concept of TQM with technologies/concepts like ERP, Lean Manufacturing (LM) and Quality Circles. ERP technology is better way of serving customers by giving social and technological readiness to the organisation. Also by using LM which prescribes some manufacturing techniques like less wastage, less manufacturing space, less human effort etc. which can help in increasing overall customer value. Thus for having an effective quality management in the organisation it is required to integrate TQM with other similar concepts.

### TQM- Present Scenario

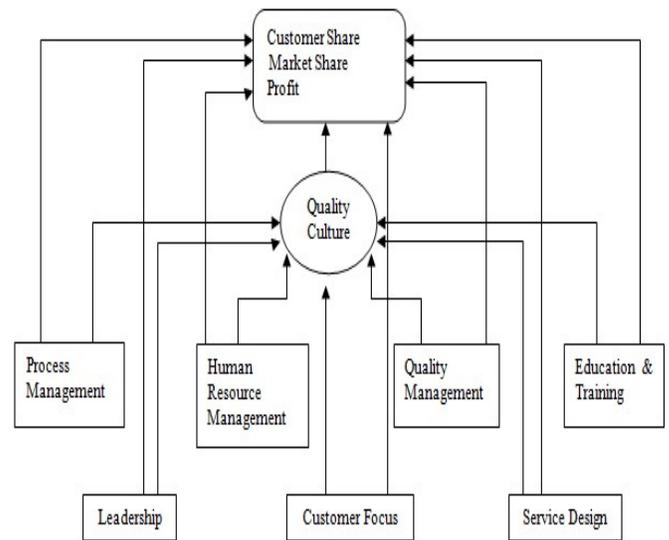
In the early stages of quality revolution (i.e. in 1980s) companies started taking quality issues seriously. Initially no one counter checked the ongoing quality programs and its results. But later as the awareness regarding effects and consequences of quality programs increased, it was realized that for surviving through the global competition this area is also needed to be taken seriously. These days formation of various quality circles within an organization is done which takes care of the quality management issues. Also everyone in the organization from top level management to the individual worker is made responsible as well as involved for quality improvement. As the main aim of TQM is achieving customer satisfaction therefore regular research work is done by collecting customer feedback and by doing market survey. Accordingly changes in the organizational processes are done.

### TQM: Implementation, Scope and Myths a Review

Rouhollah Mojtahedzadeh and Veeri Chettiar Arumugam through their model fulfil an aim of carrying out theoretical study on concept of TQM in automotive industries of Iran. Managers can take appropriate actions on TQM concepts, performance improvement and quality circle relationship with this model. Following seven factors of TQM were studied which gave a positive significant relationship between them<sup>1</sup>.

Irwan Ibrahim, Afizan Amer and Fatimah Omar worked on finding out the relation between TQM practices and Quality performance in an industry. If an organization practices TQM in order to have quality performance, it should include leadership, information analysis, supplier's relation, consumer's focus, process management, improvement of system and involvement of people. Correlation Analysis was done to find out the desired

relation. As per results, the above mentioned factors were partially correlated with quality performance<sup>2</sup>.



**Figure-1**  
**Relationship Between Various Factors of TQM**

Anisur Rahman and Muhammad T. Attar found that manufacturing industries of Saudi Arabia had grown significantly over last decades in every term but unfortunately quality of locally produced goods is still an issue. Many industries hold quality certificates but few have reached up to that mark. It shows that the main objective of any industry i.e. to achieve consumer's satisfaction, increasing profits etc. can only be achieved through involvement of modern quality philosophies and principles such as TQM. Many companies in western region of Kingdom of Saudi Arabia don't have awareness of TQM benefits because they stress only on ISO 9000 implementation and survey shows use of this criteria increases difficulties<sup>3</sup>.

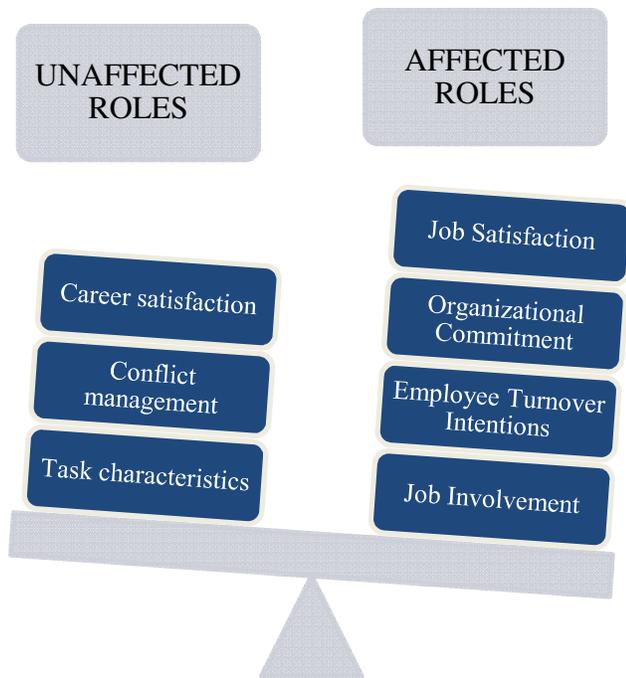
Rizwan U. Farooqui and Syed M. Ahmed focused in their paper on Deming's 14 points implementation with an aim of quality achievement in construction industry. A structure survey was conducted on major construction industries and it was clear that most of the industries have their own goals of quality not satisfying Deming's 14 points. It was clear that industries must frame their quality policies as close as possible with Deming's 14 points and the involvement of top management is necessary<sup>4</sup>.

Vidhu Shekhar Jha and Himanshu Joshi derived that in the last decade one of the most important innovations in the field of technologies is ERP solutions, even though difficult to implement. There are issues related to the culture and organization which are helpful in determining the success rate of implementation of ERP. The main aim of any industry behind the implementation of ERP system is to define the

operation for business improvement and to integrate the processes involved in business. Here attempts are made to integrate the ERP implementation concept and TQM is involved as a part of study in any organization<sup>5</sup>.

Anvari, Ismail and Hossein Hojjati differentiated between Lean Manufacturing and TQM by considering the Lean Thinking approach. It was found that both Lean Manufacturing and TQM have many similar aspects, but on the whole both concepts have emerged quite differently. The main difference which comes out from study is that Principles used in Lean manufacturing are not cyclical by nature and do not tell how to perform improvements as in the case of Total Quality Management<sup>6</sup>.

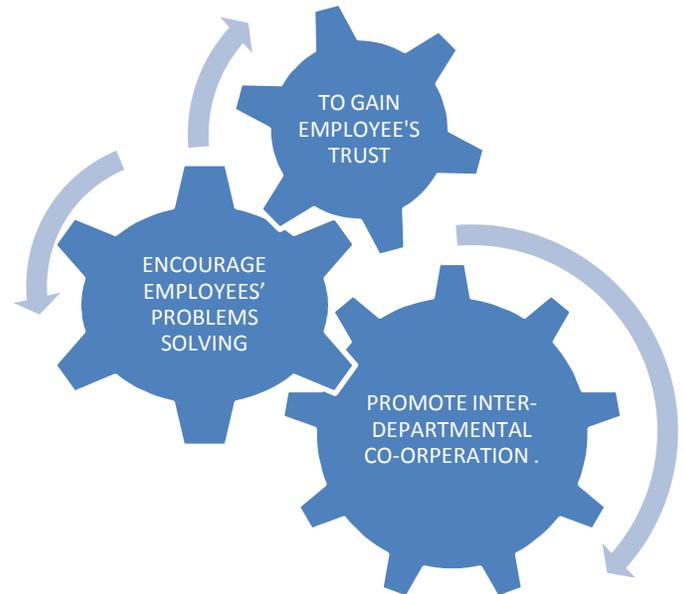
S. Thamizhmanii and S. Hasan in their work found out that by focusing on employee empowerment, huge benefits can be made in an organisation. For empowering any employee he/she should be provided with some decision making power which can be done by implementing Total Quality Management. Following two figures show impact and effects of implementing TQM<sup>7</sup>:



**Figure-2**  
**Roles affected by TQM**

Dinh Thai Hoang, Barbara Igel and Tritos Laosirihongthong in their work found various Total Quality Management constructs used by Vietnamese manufacturing as well as service companies on the basis of parameters like ownership, size, industry type, innovation performance. For the same MANOVA was used as the measurement model and the primary technique for TQM was checked using structural equation modelling. It was found that for these companies the

HIGHLY AFFECTED AREAS are customer focus and top management whereas the areas which were moderately affected are education, system analysis and information, employee empowerment, training and process management. Also by using the MANOVA results it was seen that size and type of company, and degree of innovation influenced the degree of TQM implementation<sup>8</sup>.

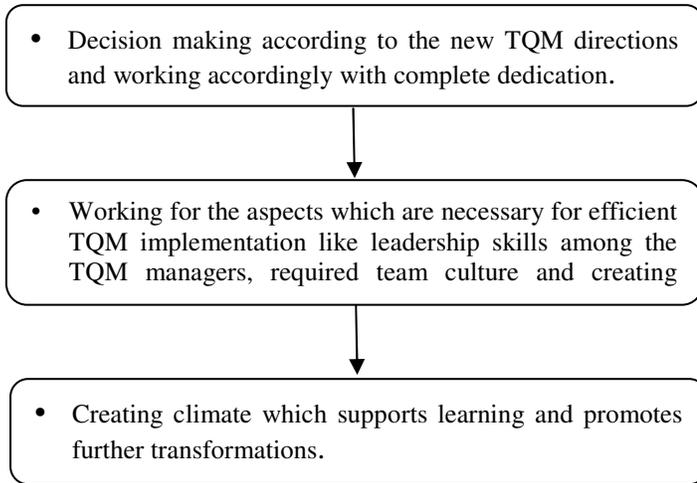


**Figure-3**  
**Impacts of TQM Implementation**

Dr. Sukhwinder Singh Jolly through his work found a common misconception which Indian entrepreneurs running small scale industry have, that TQM and ISO certification are requirements of only large scale units and for small scale units getting these techniques implemented is an unnecessary expenditure. On the contrary, with increasing liberalization and globalization, implementation of TQM in small scale industry is very much necessary so as to compete with large scale units and multinational companies. Also in contrast with Large and Medium scale Industries, implementation of techniques like Quality Circles, Small group activity and Kaizen are much simpler in case of a Small Scale Industry<sup>9</sup>.

Michael Beer through his research found out that generally TQM programs fail to give any long lasting and sustained change in the organisation. The main cause for the failure is existence of gap among the thought/intentions of top level management and exact ground level application at different lower levels. Also it was observed that the extent of implementation at different levels of organisation varied according to the quality of management<sup>10</sup>.

A three step solution for resolving the above mentioned problem was proposed, which are:



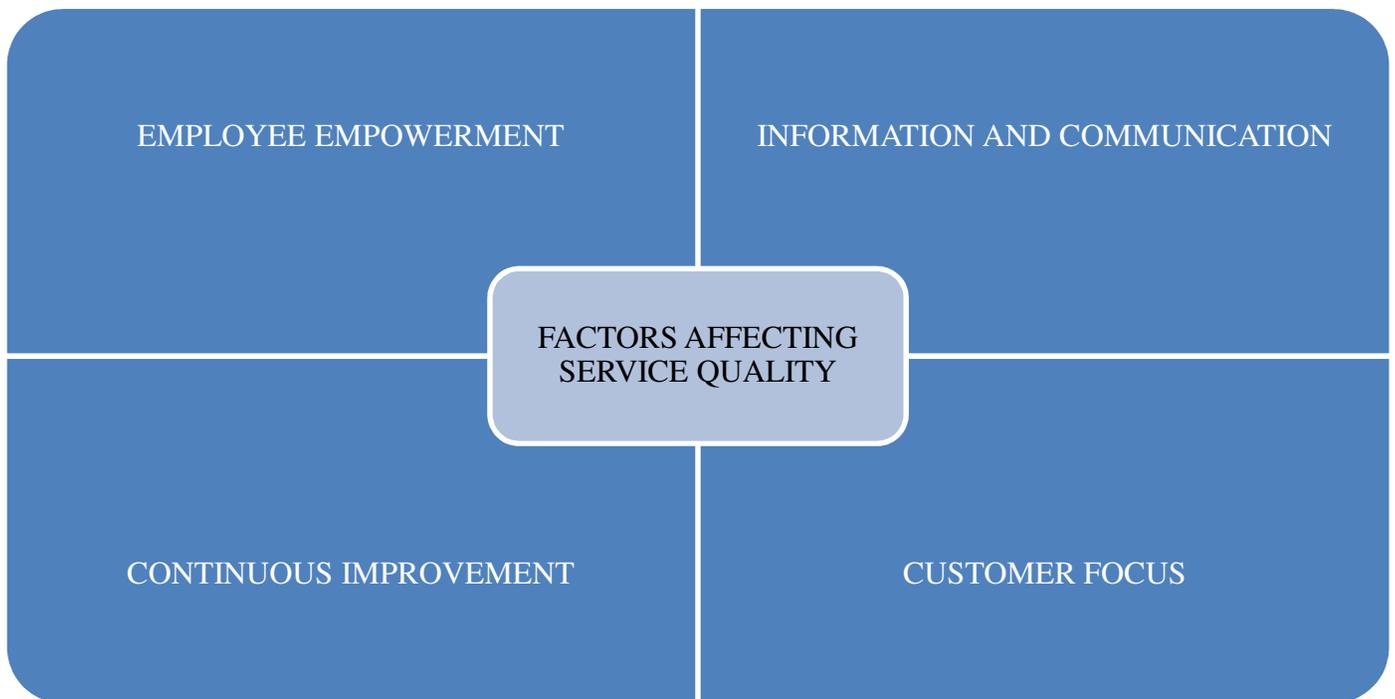
many organisations have succeeded in achieving high levels of quality implementation programs<sup>11</sup>.

N Samat, Ramayah and N. M. Saad in their work related to practices of TQM with market orientation and service quality. It was found

This diagram shows different factors which influence service quality and other factors which affect Market Orientation are Employee Empowerment and Customer Focus. Also it was found that generally TQM practices cannot be implemented easily as it requires full commitment at every level of organisation and some other structural changes which consume a lot of time. It is seen that every individual in the organisation needs to cooperate with others so as to have effective business processes and meet customer needs<sup>12</sup>.

Hilma Raimona Zadry and Sha'ri Mohd Yusof through their work have developed a system methodology called Theory of Constraints (TOC) which if integrated with TQM can help various entrepreneurs as well as big organisations in searching their problems and finding an effective solution for the same. Using this theory a questionnaire was prepared and forwarded to large number of automotive suppliers in Malaysia and later a statistical analysis was done on the collected data using Statistical Package for the Social Sciences (SPSS) software. It was found that even though both TQM and TOC are in their early stage of implementation in Malaysian industry but still

N Azlina M Salleh, S Kasolang and A Jaffar did research work to find out readiness of different industries to implement, TQM techniques integrated with Lean Manufacturing for which Malaysian Automotive industry was targeted and a survey questionnaire was distributed. From the analysis of collected data it was derived that by working only at financial indicators would be insufficient in present scenario. Therefore assessment of both financial and non-financial performances is required. For resolving this issue strong leadership and efficient techniques are required which can be achieved by integrating TQM practices with LM practices<sup>13</sup>.



**Figure-4**  
**Factors Affecting Service Quality**

## Conclusion

Though the concept of TQM originated few decades back but even at present it is not implemented in every industry. Most of the small scale industries especially in developing countries consider investments required in TQM implementation as a burden and thus try to avoid it. They instead go for ISO certifications which generally look effective on paper but unfortunately are difficult to apply. Similarly many large scale industries are also getting over TQM and looking for some new concept. But the work done shows that until and unless organisations don't focus on basic principles given by concept of TQM like involvement of top level management, creation of suitable working culture, proper training and empowerment of employee etc. no new concept/technique can do wonders for quality improvement. Therefore it is required that every organisation irrespective of its size and scale, so as to survive the market competition should work for improving their process quality by effective implementation of TQM by integrating it with new techniques like lean manufacturing, quality circles, enterprise resource planning etc.

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