

A Study on Total Quality Management with Reference to Muthu Metals, Madurai

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Abstract

This study examines the implementation and impact of Total Quality Management (TQM) practices in Muthu Metals, a leading manufacturing company in Madurai. The research focuses on employee involvement, quality awareness, ISO certification, quality circles, and continuous improvement initiatives. Primary data were collected through questionnaires from 60 employees and analyzed using percentage methods. The results reveal that TQM significantly enhances employee participation, customer satisfaction, and product quality. However, areas such as safety materials, employee rewards, and food quality require improvement.

Keywords: Total Quality Management, Employee Involvement, Quality Circle, ISO Certification, Continuous Improvement, Muthu Metals.

1. Introduction

Total Quality Management (TQM) ensures continuous improvement in quality and productivity at all levels of an organization. It emphasizes customer focus, employee empowerment, and systematic management. This study evaluates how effectively TQM practices are implemented at Muthu Metals, particularly in areas of quality circles, employee involvement, and operational excellence.

Importance of Total quality management

- Quality management improves the employee participation.
- By issuing quality goods customer satisfaction level will increase.
- Employer can find more techniques and tools for new inventions.
- Organization can go for continuous improvement to meet competition.
- Quality brings co-ordination among the employees to develop customer relations.
- Communication will takes place without any barriers.

Role of Total quality management

Quality management is very essential in understanding customer needs and expectations. Both customers and stakeholder's needs should be communicated throughout the company to ensure that all employees fully comprehend these expectations and requirements. This ensures that from the most junior to the most senior employees.

Thus, Total Quality Management approaches to long-term success of the organization. Total quality management is based on all members of an organization. TQM may also improve the productivity and increases the interest of the employees which helps in overall development of the organization.

2. Objectives of the Study

- To identify how effectively quality management reduces wastage.
- To analyze the process of implementing continuous improvement.
- To assess the role of quality in organizational success.
- To evaluate supplier and employee quality involvement.
- To examine the role of TQM in environmental and failure analysis.
- To recommend strategies for strengthening quality culture.

3. Research Methodology

Research methodology is the process used to collect information and data for the purpose of making business decisions. The methodology may include publication research, interviews, surveys and other research techniques and could include present and historical information.

Meaning of Research

Research may be defined as a scientific and systematic search for pertinent information on a specific topic. According to Clifford woody, "Research comprises defined and redefining problems, formulating hypothesis, suggested solutions, collecting, organizing and evaluating data, making deductions and reaching conclusions, and at last carefully taking the conclusions to determine whether they fit for formulating hypothesis"

Research design:

"A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to compiled to the research purpose with economy in procedure". The research design is the conceptual structure within which research is conducted, is constitutes the blueprint for the collection, measurement and analysis of data.

Data used for analysis:

The task of data collection is beginning after a research problem is being defined and research design. The researcher could have to decide which is sort of data, he would be using for his study and accordingly he will have one or the other method of data collection in a definite order on a form. The questionnaire is scheduled to the respondents who are expected to read and understand the questionnaire and write down the reply in the space meant for the purpose in the questionnaire itself. The respondents have to answer the questions according to their knowledge.

Questionnaire design

Structured questionnaires are used to collect data. Structured questions are those questionnaires in which are definite, concrete and pre-determined questions. The questions presented with exactly same working and in the same problem to the all respondents

Sources of data

The data used in the study are as follows

- **Primary data**
- **Secondary data**

Primary data

- The primary data is thee data collected a fresh and for the first time by the researcher. The primary data was collected through questionnaire from the members of the society.

Secondary data

- The secondary data are those which are already been collected by someone. The secondary data has been collected through the journals and websites.

Sampling

- Sampling may be defined as “The selection of some part of an aggregate and totality on the basis of which a judgment on inference about the aggregate of totality is made”.

Sampling method

- The sampling method is used for the study is convenience sampling. The sampling unit is chosen according to the convenience of the research is called convenience sampling.
- The No. of items selected for the present study from the universe to constitute a sample. The sampling size taken for this study is 60.

Tools used for data collection

- Questionnaires were used to collect data from the respondents. Questionnaire consist a no. of questions typed.

Tools for analysis

- The following are the tools used for analysis in the present study.

Percentage analysis

- Percentage is used to making comparison between two or more series of data.

$$\text{Percentage(\%)} = \frac{\text{No. of respondents}}{\text{Total no. of respondents}} \times 100$$

A convenience sampling method was adopted, and data were analyzed using percentage analysis.

4. Data Analysis and Interpretation

Table 1: Age Group of Respondents

Age Group	No. of Respondents	Percentage
18–20	10	16.7%
21–25	20	33.3%
30–40	21	35%
41–45	6	10%
45–55	3	5%

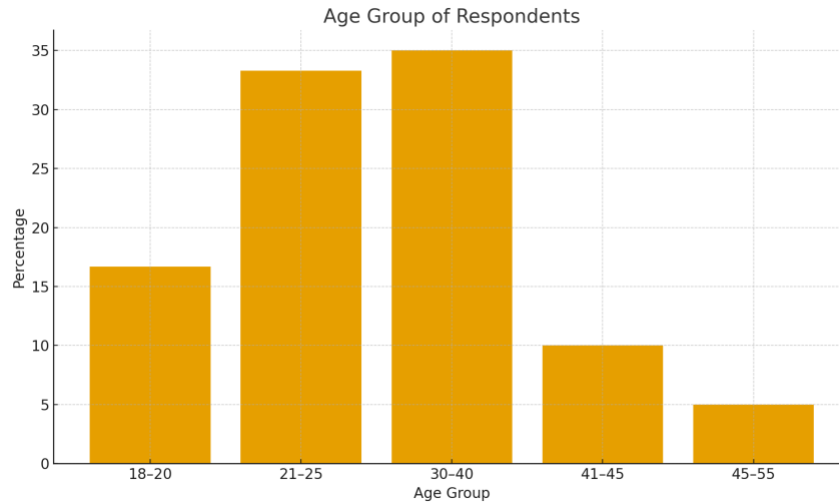


Fig. 1: Age group of Respondents

Inference: Majority (35%) of respondents belong to the age group of 30–40 years.

TABLE - 2

Table showing the time interval of quality circle meeting

S. No	Particulars	No. of respondents	Percentage
1.	Weekly once	12	20%
2.	Monthly once	40	66.7%
3.	Once in 15 days	8	13.3%
4.	Six month once	0	0
5.	Yearly once	0	0
	Total	60	100%

Inference

The above table shows quality circle meeting is conducted frequently once in a month, neutrally once in a week, rarely once in every 15 days and not conducted in a time interval of yearly once or once in six months.

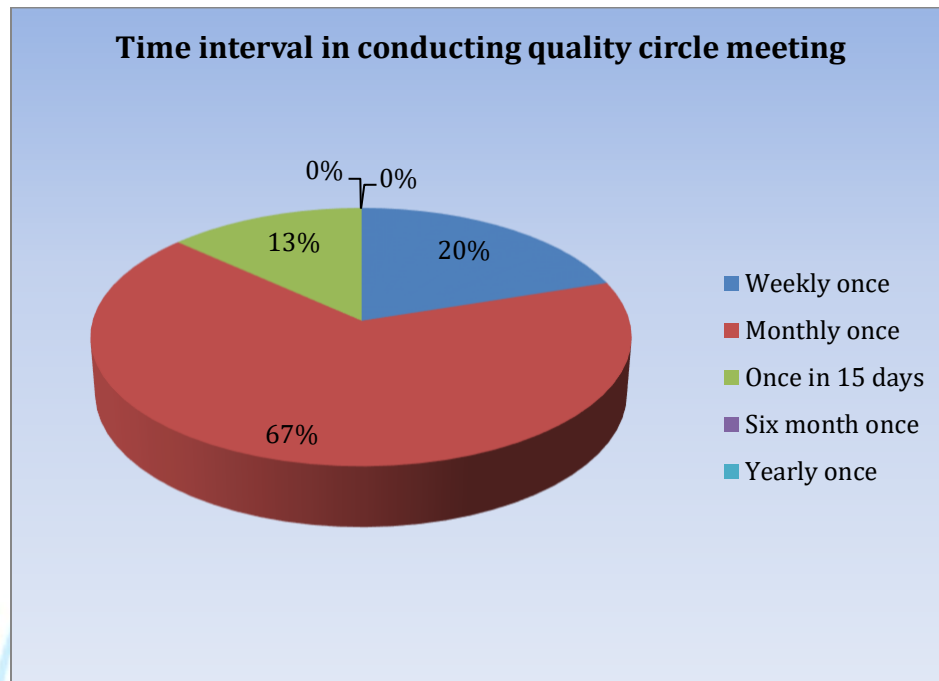


Fig. 2: Chart showing that how frequently quality circle meeting is conducting

5. Conclusion

The study concludes that Total Quality Management has positively influenced organizational performance at Muthu Metals. Employees show strong awareness and involvement in quality initiatives. However, areas such as reward systems, safety materials, and food quality require improvement. If properly implemented and continuously monitored, TQM can enhance productivity, employee satisfaction, and competitiveness in the manufacturing sector.

6. References

1. Dale, H. Besterfield et al., Total Quality Management, Pearson Education Asia, 3rd Ed., 2006.
2. Suganthi, L., & Anand Samuel, Total Quality Management, Prentice Hall of India, 2006.
3. Janakiraman, B., & Gopal, R.K., Total Quality Management – Text and Cases, Prentice Hall of India, 2006.
4. Ramakrishnan, H., & Vijayan, Total Quality Management, S. Chand Publishing, 2014.
5. Susmita, A. (2021). A systematic literature review of Total Quality Management (TQM) implementation in organizations. *Indonesian Journal of Industrial Engineering & Management*, 2(1), 68-80. <https://doi.org/10.22441/ijiem.v2i1.10591> ResearchGate

6. Anindita, R., & Seda, A. E. (2018). Total quality management (TQM) for sustainable growth performance in the private healthcare sector. *Problems and Perspectives in Management*, 16(1), 276-283. [https://doi.org/10.21511/ppm.16\(1\).2018](https://doi.org/10.21511/ppm.16(1).2018).
7. Jayamana, D. J. P., Long, C. S., Zulkarnaini, N. A., & Manokaran, K. R. (2023). Conceptual review of Total Quality Management on organizational performance. *International Journal of Academic Research in Business and Social Sciences*, 13(11), Article 19653. <https://doi.org/10.6007/IJARBSS/v13-i11/19653>
8. Reddy, T. L. N., & Manjula, G. (2013). A study of Hyderabad industrial group: Obstacles of TQM success factors. *i-manager's Journal on Management*, 7(4), 53-63. <https://doi.org/10.26634/jmgt.7.4.2262>
9. Talib, F., Rahman, Z., & Qureshi, M. R. (2011). A study of total quality management and supply chain management practices. *International Journal of Productivity and Performance Management*, 60(3), 268-288. <https://doi.org/10.1108/17410401111111998>
10. Anil, A. P., & P, S. K. (2013). Empirical research on TQM practices of organizations — Development and validation of critical factors & comparison of manufacturing and service organizations. *International Journal of Engineering Research and Development*, 8(3), 07-13.
11. Dihardjo, D., & Ellitan, L. (2021). Total Quality Management: A review of recent trends. *[Unpublished review paper]*. <https://doi.org/10.???> (You will need to confirm the DOI)
12. Permana, A., Purba, H. H., & Rizkiyah, N. D. (2021). A systematic literature review of Total Quality Management (TQM) implementation in the organization. *International Journal of Production Management and Engineering*, 9(1), 113-124. <https://doi.org/10.4995/ijpme.2021.13765>
13. Alawag, A. M., Alaloul, W. S., Liew, M. S., Baarimah, A. O., Musarat, M. A., & Al-Mekhlafi, A.-B. A. (2023). The role of the total-quality-management (TQM) drivers in overcoming the challenges of implementing TQM in industrialized-building-system (IBS) projects in Malaysia: Experts' perspectives. *Sustainability*, 15(8), 6607. <https://doi.org/10.3390/su15086607>
14. □ Kumar, H. (2022). A study on total quality management in higher education institutions. *International Journal of Commerce and Management Research*, 8(2), 33-47.
15. Hananta, S. A., & Susyanti, J. (2024). Implementation of Total Quality Management (TQM) in organizations and business. *International Journal of Engineering, Management and Research (IJEMR)*, 3(2), Article 227. <https://doi.org/10.55606/ijemr.v3i2.227>