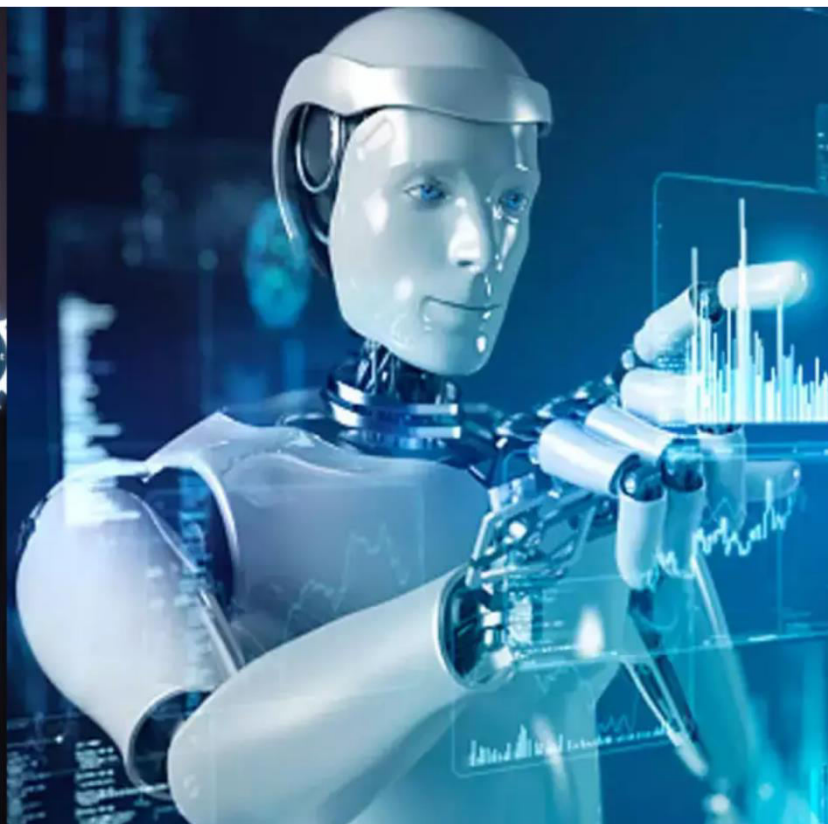




International Journal of Innovative Research in Science Engineering and Technology (IJIRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Impact Factor: 8.699

Volume 14, Issue 4, April 2025

Total Quality Management (TQM) and its Impact on Production Efficiency

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ABSTRACT: This study investigates the impact of Total Quality Management (TQM) practices on an organisation's performance and strategy, focusing on improving product and production processes. The research uses contingency theory and socio-technical system theory to examine the relationship between TQM practices and organisational performance. Data was collected from Ganaraya Foods using a self-administered questionnaire survey. Results show that more extensive TQM practices, including financial and non-financial measures, lead to higher performance. The relationship is more significant for companies using advanced TQM practices. Increased competition in the business and market has opened the door to better product and service production. The need for a quality management approach has provided organisations with a means to develop and upgrade their quality measures. The study investigates the impact of TQM practices on organisational excellence and performance in Wardha City, focusing on different dimensions of TQM, implementation, adoption factors, and their impact on performance. The findings show a positive relationship between TQM practices and organisational performance.

KEYWORDS: Total Quality Management (TQM), Production Efficiency, Continuous Improvement, Quality Control, Employee Engagement

I. INTRODUCTION

In today's business world, the focus on quality has increased and is being used as a competitive tool. In organisations, directors and pioneers secure vitality through fulfilling client needs and organisational survival, which is the fundamental logic of quality management. Quality management is an all-encompassing way to improve quality with firms to improve quality and development performance over the last two decades. Organisations that have used total quality management (TQM) create numerous advantages, such as higher quality items, progressively satisfied customers, reduced costs, improved related money, and quality and development performance, and improved performance. In addition, if TQM is effectively implemented, it also gives a competitive advantage. Several reviews have shown a positive relationship between organisational results and TQM. TQM is one of the quality-oriented methodologies suggested by many organisations. Given the development of dissemination and recognition in the business world, TQM has drawn on researchers. TQM consists of several exercises, such as management authority, quality division work, preparation, worker relations, quality information and disclosure, provider quality management, item service configuration, process management, key organisation, customer focus, data innovation and investigation, and individual management. Quality management is an act of managing the tasks, projects and firm business so that the company can compete with other companies in the system. Quality management has many dimensions and involves the supervision of all tasks, activities and lines of work performed by employees to gain influence and improvement in all fields related to the company.

It may involve making different policies, developing different strategies for improvement, interacting with the market and eliminating errors to improve productivity. Quality management techniques are used for future policies on business and work objectives. Project teams are mostly seen to implement this act to get the upper hand. The long-term success of a company depends on quality management and the different factors that affect the company's performance. If the management of the company wants to improve the production line, business ventures, sales revenue and profit, then all entities must submit their information, and the management should apply quality management. In recent years, competition has sparked a war of progress in the world, and international companies are implementing this act to improve their productivity. The most important part of quality management is to work towards the elimination of those processes that, in any event, hinder the progress of the business. Product manufacturing may experience many defects

and problems, and these defects must be addressed to enable the rapid production line. The main objective is to ensure that the work done or the product is better and that there will be no flaws in the future assembly line. Many principles of quality management depend on the field and category in which quality management is implemented. Quality management leadership is a single entity that defines the whole process of quality management and its impact on the firm's performance. Furthermore, the quality objectives are very important to set, as they will provide the basic structure of what they want to achieve and how they will be achieved at the managerial level. In the same way, quality management leadership will provide a breakdown to gain more understanding of every process involved and improve the overall quality of the company.

II. REVIEW OF LITERATURE

Mudit M. Saxena (2021). In this study, the focus is principally on the implementation of TQM in the Indian industrial sector. The population studied covers 280 Indian manufacturing companies. In examining the relationship between TQM and Organisational Performance, primary and secondary data were used. We consider ISO 9000. As per the result, the correlations among the six investigated TQM elements were positive and significant. It is set up in this study whether the level of TQM implementation is influenced by contextual factors, including company size and ISO 9000 certification.

Krupa K. Alex (2016) Through the research, the researcher can understand the great relevance of TQM in the service sector, especially in Hospitals and is convinced of the fact that if systematically implemented, TQM results in the enhancement of business performance and helps the concerned healthcare entities to gain a competitive advantage in business. Therefore, it can be concluded that TQM is vital for healthcare entities to ensure continuous progress and enable them to the dizzy heights. And as such, the model developed in this research can be used to guide its effective implementation.

Lakshmi Jagannathan (2007) TQM is a holistic philosophy, not a piecemeal approach. Quality certification had a significant impact on all the TQM critical success factors and outcomes. It had the highest impact on how supplier quality was managed, with the supplier relationship having the highest mean difference value. In certified companies, employee satisfaction was highly influenced by top management commitment and leadership. Customer satisfaction was highly influenced by training, emphasising the fact that training has to be explicitly linked to TQM to build customer loyalty. Supplier relationship was most influenced by Strategic planning.

Haile Yeshanew Baye (2016). It is found in the survey that Ethiopian manufacturing firms have practised total quality management programs. Some manufacturing firms in Ethiopia are well on the journey of total quality management practices, especially those firms classified as ISO9000-certified firms. This means they are generally conscious of the importance of TQM. However, some of the firms did not practice the complete and comprehensive components of TQM as their original proponents (American and Japanese TQM gurus) had conceived them. Next, to investigate the levels of adoption of TQM philosophies mean for individual questions and the overall mean for each 6 dimensions were calculated.

Ramnani Gulab Arjundas (2022) The concept of quality has not evolved overnight, but has evolved as the need arises from organisational benefits to customer focus. Thus, QUALITY started getting attention, and business organisations have started realising the importance of quality, which leads to further customer SATISFACTION. Moreover, satisfied customers have the maximum potential to become loyal customers, and loyal customers are the real customers of the organisation who keep on making the company's top line and bottom line stronger. Hence customer is the focal point of every TQM implementation program in an organisation. Thus, the present study tried to find out the most prominent critical success factors that led to total quality management implementation in Bharuch region manufacturing companies.

Jyoti Prakash Majumdar (2017) The implementation of the Total Quality Management (TQM) concept has become an essential business culture and a key survival tool, both for the manufacturing and the service industries, from the large-scale sector to the small-scale sector, for achieving commendable business competitiveness and also cost reduction. TQM has been adopted by most of the large-scale industries, however, very few of the Small and Medium

Enterprises (SMES) in India have implemented TQM. The SMES are the backbone of the economic growth of the country.

III. RESEARCH METHODOLOGY

OBJECTIVES OF THE STUDY

1. To study TQM practices for organisational performance in Ganaraya Foods, Hinganghat.
2. To study the contribution of TQM implementation to the overall company's performance
3. To study the critical success factors of Total Quality Management in Ganaraya Foods, Hinganghat.
4. To study strategies for the successful implementation of Total Quality Management for enhancing overall employee engagement.

RESEARCH DESIGN

Descriptive Research Design

Descriptive research is a study designed to depict the participants accurately. More simply put, descriptive research is all about describing people who take part in the study.

SAMPLING TECHNIQUE

Convenience sampling method

A convenience sample is one of the main types of non-probability sampling methods. A convenience sample is made up of people who are easy to reach.

SCOPE & SIGNIFICANCE OF THE STUDY

1. The scope of this study is confined to the VIP equipment manufacturing company
2. The focus is only on the VIP equipment manufacturing firms, which are comprised mainly of medium and large-sized manufacturing companies
3. To suggest a framework for assessing the performance level of select service organisations and formulate a TQM implementation model

SOURCES OF DATA

Data collection is the term used to describe the process of preparing and collecting data.

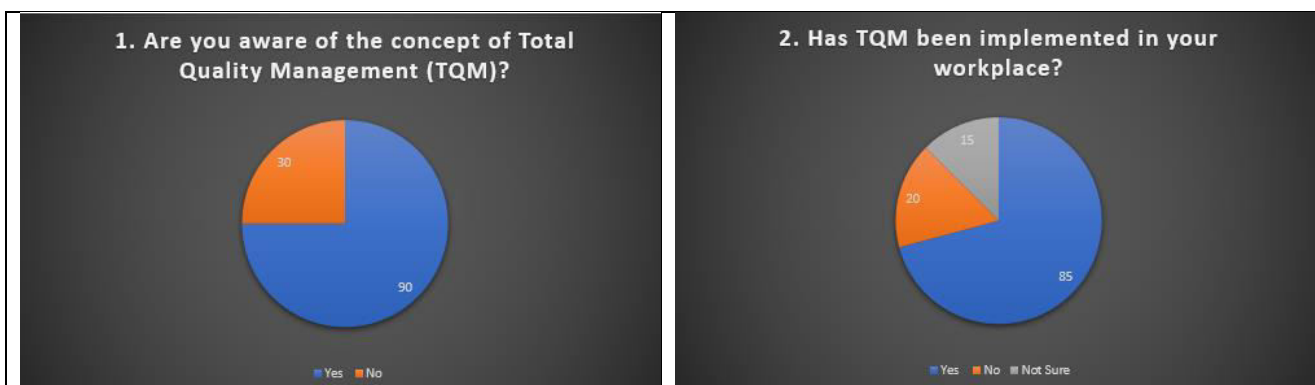
Primary Data – Questionnaire given to 100 respondents

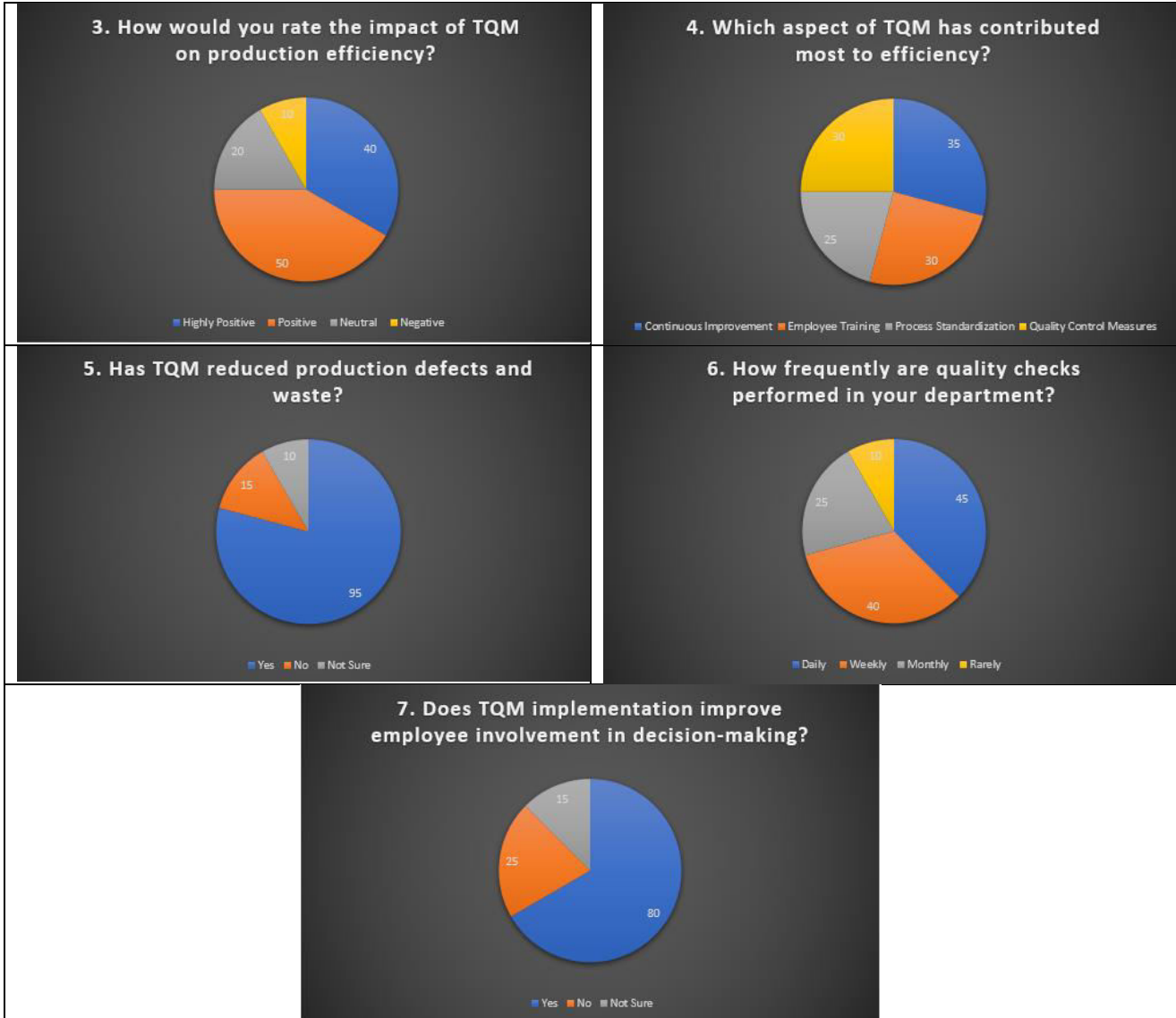
Secondary Data - Websites and online journals, Published reports & Review of literature from published articles

SAMPLE SIZE

A Survey is collected as a questionnaire as size of containing 100 samples, through Google Forms.

DATA ANALYSIS AND INTERPRETATIONS





IV. FINDINGS

1. A majority of employees are aware of TQM and acknowledge its implementation in the workplace. However, a small percentage of employees are either unaware of TQM or unsure about its presence, indicating the need for better communication and training.
2. TQM has a positive impact on production efficiency, with most respondents acknowledging improvements in productivity, process standardisation, and waste reduction. A small proportion of employees feel that TQM has not significantly impacted efficiency, possibly due to gaps in execution or resistance to change.
3. Continuous improvement, employee training, process standardisation, and quality control are the most significant contributors to production efficiency under TQM. Regular quality checks and adherence to standardized processes help in maintaining product quality and reducing defects.
4. A majority of employees believe that TQM has effectively reduced production defects and waste, leading to cost savings and better resource utilization. Some employees are uncertain about its impact, suggesting that more transparency and reporting on quality improvements are needed.
5. Regular quality checks (daily or weekly) contribute to maintaining high standards in production. Inconsistent quality checks in some areas indicate the need for a more structured quality monitoring system.

6. TQM encourages employee participation in decision-making, leading to increased engagement and accountability. However, not all employees feel involved, indicating scope for improvement in team collaboration and feedback mechanisms.
7. TQM training programs exist, but not all employees receive regular training. A structured and mandatory training program would help in better implementation and knowledge sharing.
8. Employees have a positive perception of TQM and its impact on workplace efficiency. Some employees remain neutral or dissatisfied, suggesting that their concerns should be addressed through feedback-driven improvements.
9. TQM has contributed to faster production times by streamlining processes and reducing inefficiencies. Further analysis is needed to identify specific bottlenecks and areas where efficiency can be further optimised.
10. Resistance to change, lack of awareness among some employees, and inconsistent training are key challenges in fully realising the benefits of TQM. Addressing these issues through better communication, regular training, and employee engagement can enhance TQM's effectiveness.

V. CONCLUSION

The study on Total Quality Management (TQM) emphasises its significant impact on production efficiency. It found that most employees are aware of TQM implementation, leading to improved efficiency, standardisation of processes, and better-quality control. TQM also positively impacts production efficiency, with employees reporting improved workflow, reduced waste, and enhanced output. Key contributors include regular quality checks, systematic process improvements, and employee training. However, the study also identified challenges in TQM implementation, such as employees being unaware of TQM or unsure about its effectiveness. A small percentage expressed concerns about implementation difficulties, resistance to change, and insufficient training programs. The findings suggest that organisations should focus on strengthening training and development programs to ensure employees are well-versed in quality management principles. Employee involvement in decision-making is also crucial, with many feelings engaged in the process. Encouraging employee participation, gathering regular feedback, and implementing suggestions could enhance the effectiveness of TQM. Additionally, a more structured approach to quality assessments is needed. The study concludes that TQM is an essential strategy for improving production efficiency, but its success depends on effective implementation, employee engagement, and continuous improvement. Organisations should focus on mandatory training programs, increased employee participation, and more frequent quality monitoring.

REFERENCES

1. Sanjay L. Ahire and Paul Dreyfus, The impact of design management and process management on quality: an empirical investigation, *Journal of Operations Management*, 2000, 18(5):549-575
2. Crosby, P. B., *Quality is Free: The Art of Making Quality Certain*, McGraw-Hill, New York, 1979 [4] Galloway, L. et al., *Operations Management in Context*, Oxford: Butterworth
3. Heinemann, 2000 [5] Porter, L. & Rayner, P., BS5750/ISO9000 – the experience of small and medium-sized businesses, *International Journal of Quality and Reliability*, 1991, 18(6):16–29.
4. Smith, S., Trends in TQM, *The TQM Magazine*, 1988: 5–6 [7] Swift, J. A. et al., *Principles of Total Quality*, St. Lucie Press, Boca Raton, FL, 1998. [8] SMEDA, (<http://www.smeda.org>)
5. Sohal, A. M. S., A study of the relationship between quality management practices and performance in small businesses, *International Journal of Quality and Reliability Management*, 1999, 16(9): 859-877
6. Vincent K. Chong, Michael J. Rudus, Total quality management, market competition and organisational performance, *The British Accounting Review*, 2004, 3(6): 155-172
7. Chong Y. Lee, G. A. K., TQM in small manufacturers: An exploratory study in China, *International Journal of Quality and Reliability Management*, 2003, 21(2): 715-197
8. Sohail, S.A. H., TQM practices and organisational performances of SMES in Malaysia's Benchmarking, *An International Journal*, 2003, 10(1): 37-53
9. Sousa, S.D., Aspinwall, Elaine, Sampaio, Paulo A. and Rodrigues, A. Guimaraes, Performance measures and quality tools in Portuguese small and medium enterprises: survey results, *Total Quality Management and Business Excellence*, 2005, 16(2): 277-307



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