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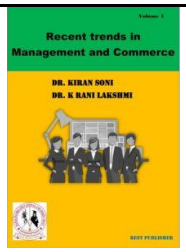

Evaluation of Total Quality Management using MCDM Method

Partole Sanjay Yashwant
SSt College of Arts and Commerce, Maharashtra, India.
Email: sanjaypartole@sstcollege.edu.in

Abstract

To "develop and create a sustainable climate in which employees consistently enhance their ability to offer products and services that fulfill their needs," total quality management (TQM) entails efforts on the part of the entire business. The literature claims that several components make up quality management, including crucial elements, tools, methodologies, and procedures. The objective is this thesis to define Total Quality Management (TQM) and make managers aware of its elements, facilitating the implementation of quality control. Total quality management (TQM) has recently taken up as a social movement in the US. This analysis revisits the movement's original texts to evaluate its coherence, uniqueness, and probable persistence, as well as its provocative management philosophy. We find various knowledge gaps regarding TQM processes and results and examine connections between TQM principles and behavioral science understanding of human motivation, learning, and societal change. Total Quality Management (TQM) is a method of management that focuses on long-term success through customer satisfaction. In a TQM initiative, every employee of an organization participates in improving their workplace processes, products, and services. Many businesses have concentrated on total quality management (TQM) over the past ten years as a way to increase earnings, market share, and competitiveness. An attempt is made to review the condition of the TQM literature in this essay. Literature is categorized based on the article's content and procedural difficulties. The literature uses conceptual, descriptive, empirical, cross-sectional, and longitudinal techniques as its methodologies. Weighted Total Product Assessment (WASPAS) analysis used the results to provide a must read decision makers with these Employee relations, training, quality data and reporting, Supplier quality management, Quality performance. Employee relations, training, quality data and reporting, Supplier quality management, Quality performance. Evaluation parameters of Area of manufacturing: Interrater reliability, Group 1 (internal consistency), Group 2 (internal consistency).Training has the highest rank whereas Quality performance has the lowest rank.

Keywords: Total Quality Management, Factors that affect quality, WASPAS.

Introduction

Companies can gain greater differentiation and reduced costs thanks to total quality management (TQM). Despite its benefits, issues with its application have also been found. To successfully execute, organizations must build numerous components in a coordinated manner. Contributions are quality leaders, systematic evaluation models, and empirical research has all been studied in various studies to pinpoint the components of effective quality management. Researchers have also discovered several quality improvement tools and methods that are essential for TQM effectiveness. Managers must be aware of the factors to take into account when implementing TQM in their organizations. The concept of total quality management (TQM) evolution, has received considerable attention and is now used in various industries. The work was created by individual artisans looking after themselves with the idea of quality management, which is now used in management. Continuous progress overall parts are functions of a system. These have been highlighted as the essential stages of TQM, quality control, and the evolutionary research strategy. A significant problem in the manufacturing of goods and services has always been quality. Companies are more concerned with achieving sustainable competitiveness as the environment in which they operate becomes more turbulent. Over the past forty years, TQM has been widely embraced by businesses, however, these businesses still report subpar outcomes. A review of a sample of the organizational performance of 225 electronic manufacturing companies, advanced TQM companies, and non-TQM companies was the same. Every organization in the sector is involved in the TQM initiative, which aims to boost performance. It affects every facet of quality and is a strategic goal of a business and transforms it. TQM is achieved by all employees working together in a coordinated effort to boost customer satisfaction through ongoing performance improvement. TQM fosters an environment and culture that requires innovation and technological development. TQM ideas and their effects on the construction sector will be covered in this essay. There will be references to published literature as well as American industrial research. Surprisingly, the present discussion regarding the best quality management strategies for achieving TQM success does not adequately address the essential connection between soft and hard procedures. In the management literature, the terms "soft" and "hard" have also been employed, though not exactly. He stated that TQM practices can be separated into two interdependent groups, highlighting the integrative and integrative character of TQM activities. It is anticipated that the first, or "important quality management techniques," will directly affect quality performance. The adoption of "important quality management practices" is intended to be supported and facilitated by "quality management infrastructure" practices, which are second on

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the list. An established and put-to-the-test theoretical model was based on these two categories of TQM procedures (core and support). It has been employed more and more for business-level management of a company since the late 1980s. The original strategy is to control the production process such that it reaches and maintains the desired quality consistently. The challenge of defining quality in a broader context and accounting for the difficulties of managing social systems arose as the scope of TQM grew. TQM is looked at in this article as a cultural phenomenon. The creation of a multi-level structure is based on Edgar Schein's organizational culture concept. It has four interconnected levels: This research concentrates on the fundamental assumptions, key concepts and principles, management areas, management practices, and simple presumptions. These are implied in the discipline but challenging to state and provide evidence for when a TQM program is implemented. They constitute the fundamental principles of a company that may effectively apply TQM. These include the views about human nature and relationships, nature truth and reality, nature time and space, as well as the beliefs reflected through an organization's mission and relationships with its external environment. Four case studies are used in the second section; the first section raised the problems to prove the study. The case-based qualitative methodology seemed to offer a more rational research strategy given the intricacy of the problems. Drawing broad inferences should therefore be done with caution. This doesn't lessen the importance of the research, though, as it creates a conceptual framework and confirms it using investigations of two small and two medium-sized manufacturing firms. This study also lays the groundwork for additional empirical investigation in this crucial area. Although our research makes us advocates of TQM, we are soon realising that it is a part of many regulatory technologies that improve performance. TQM does not add value to every organization, nor can it address every organizational flaw. Some TQM program components do seem novel when considered in isolation, but our interpretation and characterization of them as altering the organizational game rules are novel. For instance, organizations have long been restructured to make choices or gather teams of people from various functional areas to address challenging issues. TQM's potential to bring about long-lasting change and add value depends on how well it combines new and traditional management techniques. The quality of building work has a lot of room for improvement. According to a review of the literature and studies carried out in the USA, management commitment to quality and ongoing quality improvement is crucial; Construction industry experts understand the value of high-quality training; A crucial stage in guaranteeing a high-quality output is the establishment of collective agreements amongst parties involved in the construction process; A feedback loop might raise the initial industry-accepted quality standards; High process quality requires that the project's requirements, requirements, drawings, and specifications be clear.

Materials and Methods

Researchers studying quality management have argued over several definitions of TQM throughout the years. A significant portion of modern TQM literature is derived from quality management (QM) principles and philosophies. With their ideas, these authors have contributed significantly to the development of the TQM framework. It is suggested that a 14-step approach be used to increase quality by reducing faults. To cover the organizational needs for efficient QM, 14 criteria have been proposed. Feigenbaum promoted the use of statistical tools and methodologies in organizational processes to establish total quality control across the board. He proposed ten fundamental definitions as the basis for TQM and QTC implementation success. By addressing quality-related issues, it is thought that quality can be increased. Developed TQM framework that consists of the three phases of quality planning, development, and control. Quality pioneers suggested that QM concepts might be used wherever. This claim, however, has been contested by other qualitative researchers who contend that these principles may be context-specific and that some TQM procedures and instruments may be ineffective. Five contextual factors – three institutional and two contingent—have been presented as part of a model using institutional theory and contingency theory. Organizations build systems that seem genuine to significant stakeholders, claims institutional theory. Environmental agencies establish rules, processes, and structures as a result. According to the contingency hypothesis, successful organizations make structural decisions that are "appropriate" for their environment even in the face of uncertainty. Customer needs (demand change), product/process change, and competition are the three main drivers of QM-related environmental uncertainty, according to the literature. Because of the environment's ambiguity, businesses find it challenging to anticipate and respond to the future. The quality system may be impacted by changes in consumer demands, products and processes, and competition. It is generally agreed that present TQM literature has developed from earlier publications. "TQM is a quality management strategy that improves organization-wide quality through customer orientation and a strong focus on environmental and agility. In addition, this strategic orientation relies heavily on synchronized processes among all business partners to create knowledge through innovation to achieve global competitiveness". "TQM is an approach to managing organizations that emphasizes continuous improvement in quality and customer satisfaction, the use of systematic tools and approaches to manage organizational processes with these objectives in mind, and the establishment of structures such as quality improvement committees and councils to focus on implementing these objectives and organizational improvement processes."

Factors that affect quality: Starting at the outset of the project, quality requirements are established. Project expenses and schedule, owner requirements, desired functional qualities, construction materials, etc. must all be carefully balanced. To address those needs during the design phase, sufficient time and money are needed. Owners weigh their needs against practical issues and, occasionally, against the prospect of failure. Within the framework of the ultimately finished project, the design professional must safeguard public health and safety. It is the constructor's responsibility to follow construction methods, techniques, sequences, and procedures, as well as to make safety plans and preparations. Key elements that define quality in the construction process include project specifications. Three major phases may be identified in the construction process: (1) planning and design; (2) construction; and (3) maintenance and operation. The elements of TQM that are widely

accepted as well as the factors unique to the construction sector that have an impact on how well building projects are carried out are shown in Figure 1. Following a study of the literature, factors influencing quality at each stage of the construction process are identified and analyzed.

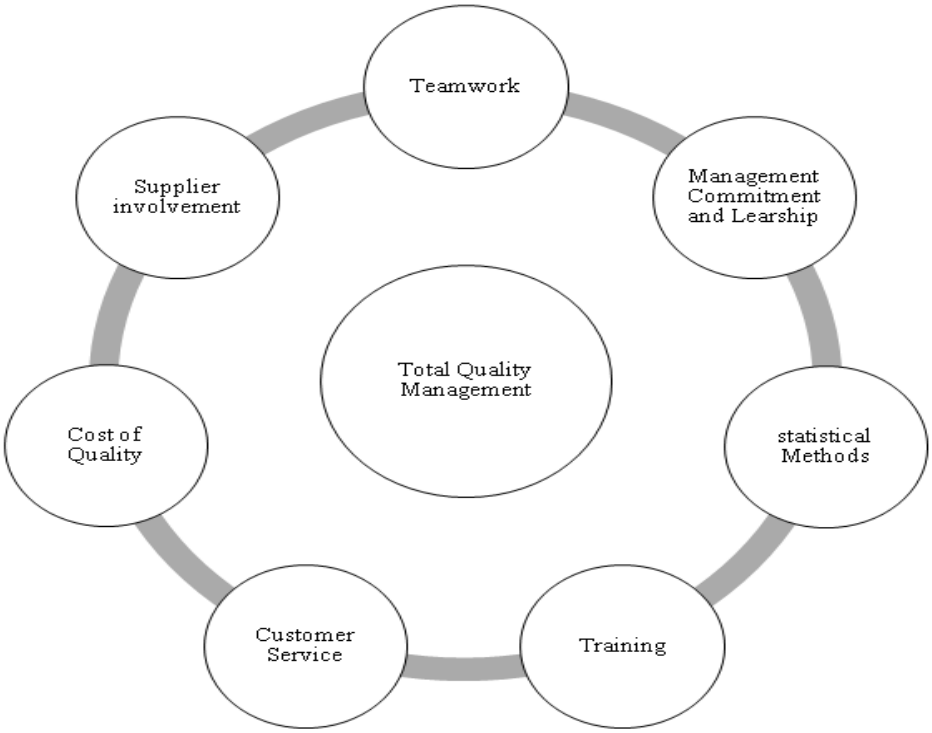

Figure 1 Elements of total quality management in the construction process

Management commitment and leadership: According to the Business Roundtable study's findings, poor management techniques are among the main factors contributing directly or indirectly to decreased construction productivity. Since productivity is a component of quality, management's first move is to acknowledge that there is a problem. A TQM program's success is largely reliant on management techniques. TQM is a management system that ought to be ingrained across an organization's culture and philosophy. It can only flourish in the presence of senior management that prioritizes TQM. This commitment must be accompanied by a deep knowledge of TQM. Senior management can only lead the organization to attain high standards in its organizations if it is backed by this dedication and understanding.

Statistical methods: The TQM process has access to problem-solving resources provided by statistical approaches. Persico claims that they give teams the resources they need to find the root causes of quality issues, communicate in clear terms that everyone on the team can understand, validate, replicate, and information based on reproductive metrics, and assess prior performance. Examples include histograms, cause-and-effect diagrams, checklists, Pareto charts, graphs, control charts, and scatter plots statistical techniques frequently used in the TQM process.

Training: Each quality specialist understands its significance. Quality is everyone's duty under TQM, and training ought to be the organization's top priority at all levels. If TQM principles are extensively used in the construction business, workers who switch companies should need less TQM training since everyone will already have a basic understanding of quality from their prior employment.

Customer service: Internal or external customers may exist. Delivering a high-quality product to the final external client requires meeting the needs of these customers. The supplier, processor, and client are the "three parties" in a process.

Cost of Quality: Both Crosby and Juron believe that the cost of quality is the most important metric for measuring quality. They use it to pick quality improvement projects, evaluate the TQM process' effectiveness, and convince critics of the need for the project's cost. The necessity for quality improvement can be persuaded by management and others by adding up these easily accumulable costs of review, inspection, testing, scrap, and rework. In recent years, quality has become more expensive. The mission of TQM will be accomplished by raising awareness of quality and educating management about its advantages, in monetary terms.

Supplier involvement: The interaction between when the provider, the processor, and the client process determines whether or not a high-quality product can be produced. The calibre of earlier stages determines the calibre of subsequent stages in a process. The quality of the plans and specifications created by the designer, the equipment and materials supplied by the vendors, and the calibre of the work carried out by the subcontractors are all directly tied to the quality of the project that they wants to attain the best economy and quality, they need to develop close, long-lasting connections with these suppliers.

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Teamwork: The organized environment required for the successful introduction and ongoing usage of the TQM process in businesses is provided by quality teams. Through the use of a well-organized team structure and a continuous improvement process, quality training is delivered. In Kunaid's study on construction projects for us at TQM, "the degree of teamwork of involved parties in the design phase" was discovered to be the most crucial element in determining quality. Construction managers and designers gave this factor the highest importance rating in the same study. This outcome demonstrates the need for collaboration amongst stakeholders, including structural, electrical, environmental, civil engineers, architects, and owners, to accomplish quality goals for the layout. The most significant factor during the construction phase was determined to be the "Teamwork of parties participating in large-scale construction".

WASPAS method

WASPAS (Weighted Aggregate Product Assessment) technique. In this way, two essential contributions are made, specifically a new technique for evaluating the work of experts and a brand new LNN WASPAS version, which enriches the field of multi-criteria choice-making. Consultants are rated using seven experts primarily based on 9 standards. After appearing sensitivity evaluation on the consequences, validation of the version is carried out. The results obtained by using the LNN WASPAS model are demonstrated by the assessment of the outcomes received by using LNN extensions. WASPAS method and criteria and a new system calculating the weights of selection-making experts. In the process of calculating weights, new tactics are proposed to calculate expert Weights and Scale Weights Language-valued intuition is ambiguous Facts are metrics (entropy, divergence, etc.) similarity measures) are extra sensitive to obtaining the weights. Innovative primary information activities of high-speed operation are created by IVIFS. WASPAS can also be used Weights and Measures Good to use and evaluate Select providers. Current Literature Mathematical Modelling or Testifies to use incorporated tactics based on Ratio analysis and ash related Analytical or gray principle and qualitative characteristic Deployment. Most of these tactics are complex and now determine the first-class provider when implicit in the expert's not using information, some Practices are now overlooked on sustainability, and some methods. WASPAS has its own family of MCTM strategies Joined; it is of two separate fashions A unique combination of results viz basically done the calculated blended premier criterion value. From the results of those fashions. Scale weights may be assigned by experts or by using a specific technique. WASPAS uses an advocated approach to optimize the weighted combination characteristic to obtain the best accuracy of estimation. with foresight while deciding on the excellent approach for construction or modernizing homes or deciding on a suitable shopping mall location by using growing evaluation and feasible outsourcing techniques for TUMS healthcare ancillary healthcare services. Standard strategic planning uses the team (QSPM) Recommended and the multi-criteria decision-making device WASPAS.

Result and Discussion

TABLE 1 Data Set

Variable	Interrater reliability	Group 1 (internal consistency)	Group 2 (internal consistency)
Employee relations	0.510	0.860	0.890
Training	0.680	0.920	0.920
Quality data and reporting	0.630	0.780	0.880
Supplier quality management	0.650	0.890	0.880
Quality performance	0.540	0.890	0.790

Table 1 shows the data set Analysis using the WASPAS Method. Employee relations, Training, Quality data, and reporting, Supplier quality management, and Quality performance is the Alternative and Evaluation Parameters in Interrater reliability, Group 1 (internal consistency), and Group 2 (internal consistency).

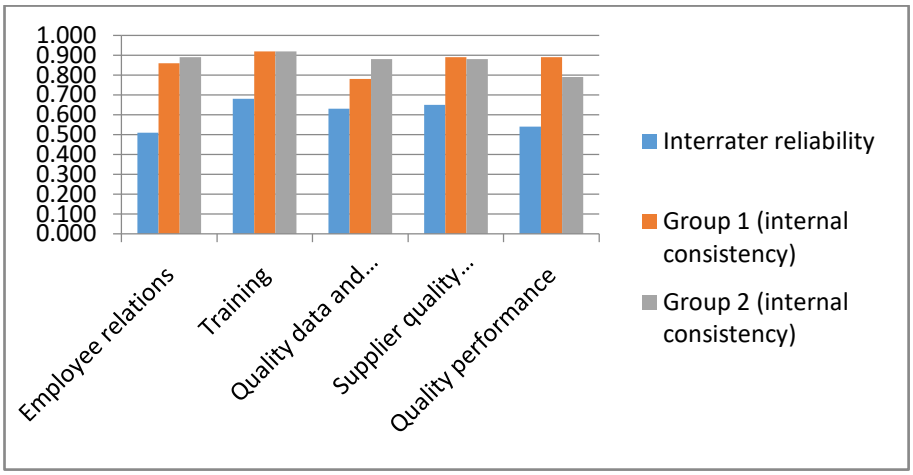

Figure 1 Data Set

Figure 2, shows the data set using the Analysis method in WASPAS. Employee relations, Training, Quality data and reporting, Supplier quality management, Quality performance in this position Interrater reliability, Group 1 (internal consistency), Group 2 (internal consistency) it is seen that Technology resources is showing the Highest value for Training and Quality performance is showing the lowest value. Training is showing the Highest value and Quality performance is showing the lowest value. A quality performance is showing the Highest value for Training Employee relations is showing the lowest value.

TABLE 2 Performance Value

Performance value			
Employee relations	0.75000	1.26471	1.30882
Training	1.00000	1.35294	1.35294
Quality data and reporting	0.92647	1.14706	1.29412
Supplier quality management	0.95588	1.30882	1.29412
Quality performance	0.79412	1.30882	1.16176

Table 2 shows the performance value of the data set using the WASPAS method. It is calculated by the value in the dataset divided by the maximum of the given value of the data set

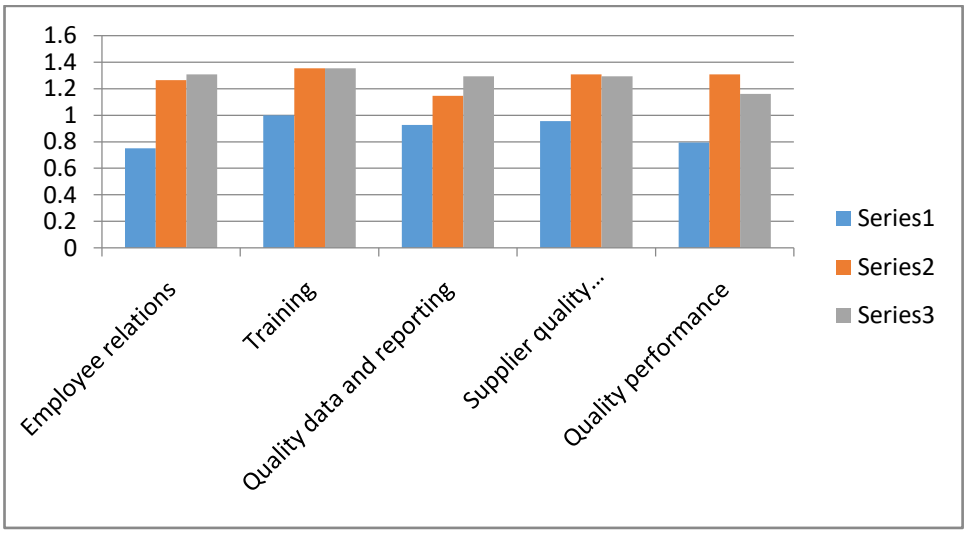

Figure 2 Performance value

Figure 3. Shows the performance Value Data Set in Employee relations, Training, Quality data, and reporting, Supplier quality management, Quality performance, and Interrater reliability, Group 1 (internal consistency), Group 2 (internal consistency).

TABLE 3 Weight ages

Weightages		
0.25	0.25	0.25
0.25	0.25	0.25
0.25	0.25	0.25
0.25	0.25	0.25
0.25	0.25	0.25

Table 3 shows Weightages used for the analysis. We took some weights for all the parameters for the analysis.

TABLE 4 weighted normalized decision matrix

Weighted normalized decision matrix		
0.18750	0.31618	0.32721
0.25000	0.33824	0.33824
0.23162	0.28676	0.32353
0.23897	0.32721	0.32353
0.19853	0.32721	0.29044

Table 4 shows the weighted normalization decision matrix it is calculated by multiplying the weight and performance value in table 2 and table 3 Employee relations, Training, Quality data and reporting, Supplier quality management, Quality performance experience in this Interrater reliability, Group 1 (internal consistency), Group 2 (internal consistency).

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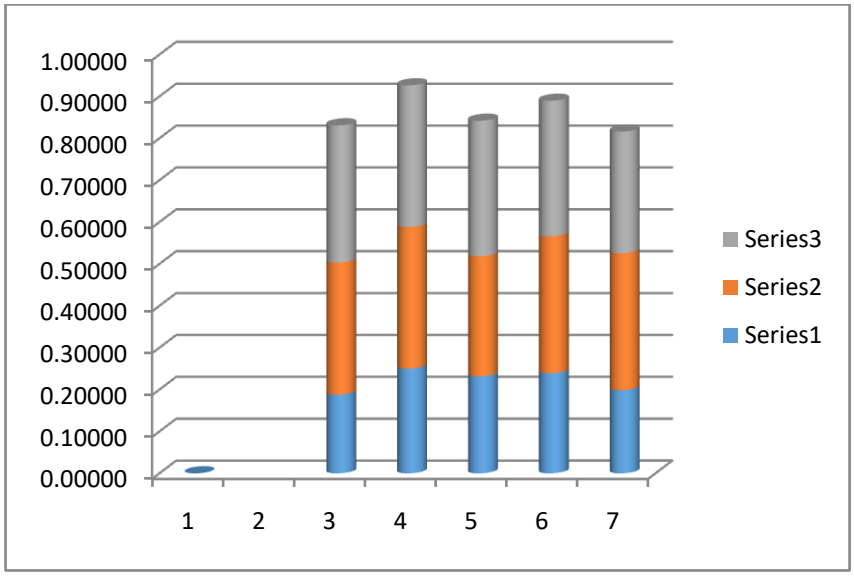

Figure 3 weighted normalization decision matrix

Figure 4 shows the weighted normalization decision matrix it is calculated by multiplying the weight and performance value in table 2 and table 3 Employee relations, Training, Quality data and reporting, Supplier quality management, Quality performance experience in this Interrater reliability, Group 1 (internal consistency), Group 2 (internal consistency).

TABLE 5 Weighted Normalized Decision Matrix

Weighted normalized decision matrix		
0.93060	1.06047	1.06960
1.00000	1.07850	1.07850
0.98109	1.03490	1.06658
0.98878	1.06960	1.06658
0.94400	1.06960	1.03820

Table 5 shows the weighted normalization decision matrix it is calculated by multiplying the weight and performance value in table 2 and table 3 Employee relations, Training, Quality data and reporting, Supplier quality management, Quality performance experience in this Interrater reliability, Group 1 (internal consistency), Group 2 (internal consistency).

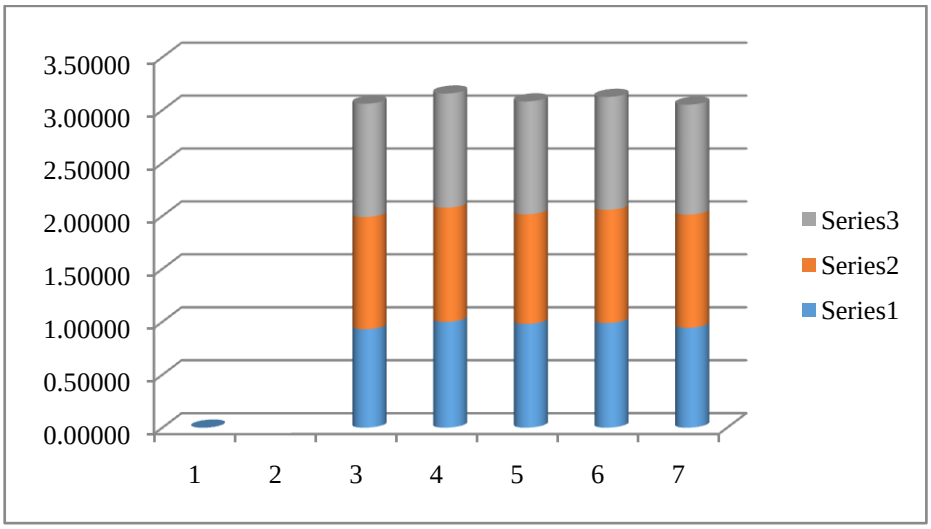

Figure 4 weighted normalization decision matrix

Figure 5 shows the weighted normalization decision matrix it is calculated by multiplying the weight and performance value in table 2 and table 3 Employee relations, Training, Quality data and reporting, Supplier quality management, Quality performance experience in this Interrater reliability, Group 1 (internal consistency), Group 2 (internal consistency).

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TABLE 6 Preference Score (WSM) and (WPM)

WSM Weighted Sum Model	WPM Weighted Product Model	lambda	WASPAS Coefficient
Preference Score	**Preference Score**	0.5	
0.830882	1.05556		0.94322
0.926471	1.16316		1.04482
0.841912	1.082923		0.96242
0.889706	1.128015		1.00886
0.816176	1.048265		0.93222

Table 6 shows the preference score of the WSM Weighted Sum Model; it is calculated by the sum of the values on the row of the weighted normalized decision matrix. The preference score of the WPM Weighted Product Model is calculated by the product of the value on the row on a weighted normalized decision matrix.

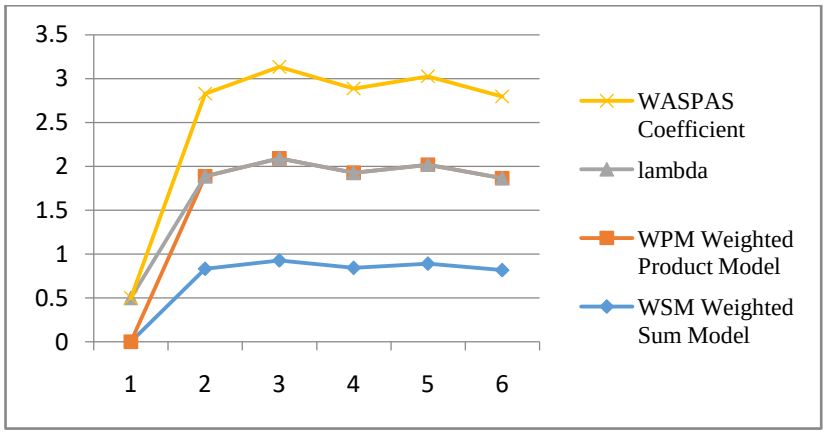

Figure 5 Preference score (WSM) AND (WPM)

Figure 6 shows the preference score of the WSM Weighted Sum Model; it is calculated by the sum of the values on the row of the weighted normalized decision matrix. The preference score of the WPM Weighted Product Model is calculated by the product of the value on the row on a weighted normalized decision matrix.

TABLE 7. Final Result of Rank

	RANK
Employee relations	4
Training	1
Quality data and reporting	3
Supplier quality management	2
Quality performance	5

Table 7 shows the Final Result of the data set using the analysis Method in WASPAS. Training got the first rank whereas Quality performance has the Lowest rank.

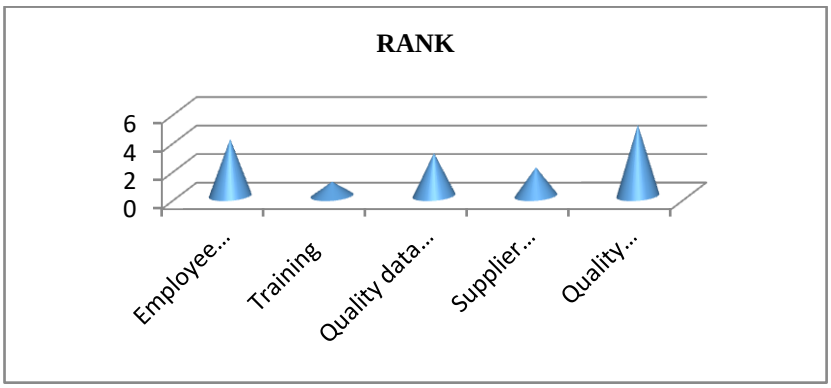

Figure 6 rank

Figure 7 shows the Final Result of the data set using the analysis Method in WASPAS. Training gets the first rank whereas Quality performance has the Lowest rank.

Conclusion

The study offers a methodical way to review the TQM literature. It aids in a better understanding of the directions for TQM research. A goal-oriented framework to quantify QM elements, the influence of the business environment and cross-national comparisons of TQM are thought to require more research. The majority of the literature is thought to be based on cross-sectional study methods. At every level of the building process, management's commitment to quality and ongoing quality improvement is crucial. The use of statistical approaches in problem-solving and quality control in manufacturing is crucial. taking steps to earn high-quality spending money. Instead of being viewed as an expense, this expenditure needs to be viewed as an investment. agreed upon by the owner. These clients include both internal (workers, organizational units, and departments) and external clients (owners, designers, contractors, etc.). At the start of the project, the owner's needs must be specified in detail and accepted by the design company. To get the help each person needs to achieve both individually and as a team, teamwork is crucial. Since projects are the focus of the whole construction business, better quality performance should be linked to the project and engage the entire project team. According to the results of the hierarchical multiple regression, core practices can operate as potent mediators. They serve as an example of how both supporting and fundamental TQM practices must be adopted. Overall, this study adds to the body of evidence that TQM practices are interdependent and consistent with what we would have predicted based on the macro ergonomics literature. It implies that the successful application of fundamental procedures can lead to higher caliber performance. The adoption of subsidiary practices is necessary for the successful implementation of core practices. All management disciplines now fall under the purview of TQM, and any management strategy that achieves success in the real world qualifies. It maintained order but diminished its significance. The true ethics of morality can only be grasped by uncovering its deeply hidden assumptions and concentrating on those assumptions. TQM managers must comprehend the current organizational culture to determine whether the quality culture is compatible with it for practical applications. Our research found that while quality is valued to some extent in all forms of franchises, new franchise types, joint ventures, and sole proprietorships exhibit the concept of quality. Our findings are consistent with the notion that quality in SOEs is regarded as an "add-on" as opposed to permeating the entire firm. The absence of leadership, as well as the failure to acknowledge excellent work, provide evidence supporting this viewpoint. This study looked at how TQM in general and each TQM practice in particular affected the firm's performance in terms of innovation. The firm's TQM practices and innovation performance were compared using the structural equation modeling technique. This study's contribution can be evaluated in three areas.

Reference

1. Tarí, Juan José. "Components of successful total quality management." *The TQM magazine* (2005).
2. Hackman, J. Richard, and Ruth Wageman. "Total quality management: Empirical, conceptual, and practical issues." *Administrative science quarterly* (1995): 309-342.
3. Ahire, Sanjay L., Robert Landeros, and Damodar Y. Golhar. "Total quality management: a literature review and an agenda for future research." *Production and Operations Management* 4, no. 3 (1995): 277-306.
4. Arditi, David, and H. Murat Gunaydin. "Total quality management in the construction process." *International journal of project management* 15, no. 4 (1997): 235-243.
5. Spencer, Barbara A. "Models of organization and total quality management: a comparison and critical evaluation." *Academy of management review* 19, no. 3 (1994): 446-471.
6. Ho, D. C. K., V. G. Duffy, and H. M. Shih. "Total quality management: an empirical test for mediation effect." *International Journal of Production Research* 39, no. 3 (2001): 529-548.
7. Zbaracki, Mark J. "The rhetoric and reality of total quality management." *Administrative science quarterly* (1998): 602-636.
8. Kujala, Jaakko, and Paul Ullrank. "Total quality management as a cultural phenomenon." *Quality management journal* 11, no. 4 (2004): 43-55.
9. Ghobadian, Abby, and David N. Gallear. "Total quality management in SMEs." *Omega* 24, no. 1 (1996): 83-106.
10. Martínez-Lorente, Angel R., Frank Dewhurst, and Barrie G. Dale. "Total quality management: origins and evolution of the term." *The TQM magazine* (1998).
11. Wruck, Karen Hopper, and Michael C. Jensen. "Science, specific knowledge, and total quality management." *Journal of Accounting and economics* 18, no. 3 (1994): 247-287.
12. Reed, Richard, David J. Lemak, and Neal P. Mero. "Total quality management and sustainable competitive advantage." *Journal of quality management* 5, no. 1 (2000): 5-26.
13. Waldman, David A. "The contributions of total quality management to a theory of work performance." *Academy of Management review* 19, no. 3 (1994): 510-536.
14. Morgan, Colin, and Stephen Murgatroyd. *Total quality management in the public sector: An international perspective*. McGraw-Hill Education (UK), 1994.
15. Øvretveit, John. "Total quality management in European healthcare." *International journal of health care quality assurance* (2000).
16. Sahney, Sangeeta, Devinder Kumar Banwet, and Sabita Karunes. "Conceptualizing total quality management in higher education." *The TQM magazine* (2004).

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17. Hoang, Dinh Thai, Barbara Igel, and Tritos Laosirihongthong. "The impact of total quality management on innovation: Findings from a developing country." *International journal of quality & reliability management* (2006).
18. Li, Jin-Hai, Alistair R. Anderson, and Richard T. Harrison. "Total quality management principles and practices in China." *International Journal of Quality & Reliability Management* (2003).
19. Motwani, Jaideep, and Ashok Kumar. "The need for implementing total quality management in education." *International Journal of Educational Management* (1997).
20. Porter, Leslie J., and Paul Rayner. "Quality costing for total quality management." *International journal of production economics* 27, no. 1 (1992): 69-81.
21. Pambreni, Yuni, Ali Khatibi, S. Azam, and J. J. M. S. L. Tham. "The influence of total quality management toward organization performance." *Management Science Letters* 9, no. 9 (2019): 1397-1406.
22. Gimenez-Espin, Juan Antonio, Daniel Jiménez-Jiménez, and Micaela Martínez-Costa. "Organizational culture for total quality management." *Total Quality Management & Business Excellence* 24, no. 5-6 (2013): 678-692.
23. Easton, George S., and Sherry L. Jarrell. "The effects of total quality management on corporate performance: an empirical investigation." *The journal of Business* 71, no. 2 (1998): 253-307.
24. Talib, Faisal, Zillur Rahman, and M. N. Qureshi. "The relationship between total quality management and quality performance in the service industry: a theoretical model." *Talib, F., Rahman, Z. and Qureshi, MN (2010),"The relationship between total quality management and quality performance in the service industry: a theoretical model", International Journal of Business, Management and Social Sciences (IJBMSS), MultiCraft* 1, no. 1 (2010): 113-128.
25. Asif, Muhammad, Muhammad Usman Awan, Muhammad Khalid Khan, and Niaz Ahmad. "A model for total quality management in higher education." *Quality & Quantity* 47, no. 4 (2013): 1883-1904.

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