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**THEME- TOTAL QUALITY MANAGEMENT**

**TITLE OF THE PAPER- A management system for a customer-focused organization that involves all employees in continual improvement**

**ABSTRACT**

Total quality management (TQM) has been a widely applied process for improving competitiveness around the world, but with mixed success. A review of the literature revealed gaps in research in this area of quality/operations management, particularly in the area of empirical testing of the effectiveness of TQM implementation. The aim of this study was to examine the total quality management practices and operational performance of a large number of manufacturing companies in order to determine the relationships between these practices, individually and collectively, and firm performance. We used a large data base of 1200 Australian and New Zealand manufacturing organisations. The reliability and validity (construct, content, criterion) of the practice and performance measures were evaluated. Our study showed that the relationship between TQM practice and organisational performance is significant in a cross-sectional sense, in that TQM practice intensity explains a significant proportion of variance in performance. Some but not all of the categories of TQM practice were particularly strong predictors of performance. The categories of leadership, management of people and customer focus were the strongest significant predictors of operational performance. This is consistent with literature findings that behavioural factors such as executive commitment, employee empowerment and an open culture can produce competitive advantage more strongly than TQM tools and techniques such as process improvement, benchmarking, and information and analysis.

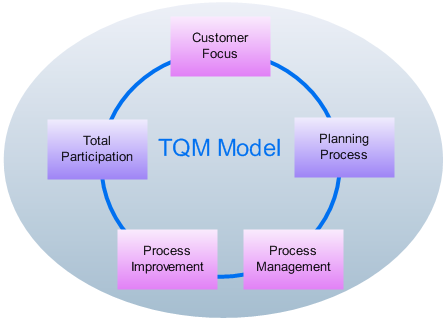
. In this respect, the usefulness of these different frameworks that are currently available for assuring quality is debated. In the specific case of military organizations, while some nations have successfully adapted TQM for use in this respect, nations with larger and more modern militaries have chosen in many cases, not to do so. The primary reasoning behind this is that the goals and aims of the military are at odds with some of the core philosophies of TQM. A secondary reason given for the lack of TQM in modern militaries is that military organizations (one such example being the United States Air Force) often have their own Quality Assurance (QA) programmers that have been in place for several decades.

**Keywords:** Six sigma, Quality Assurance, Production, Planning, Controlling, Method Study.

**FULL PAPER CONTENT**

**INTRODUCTION**

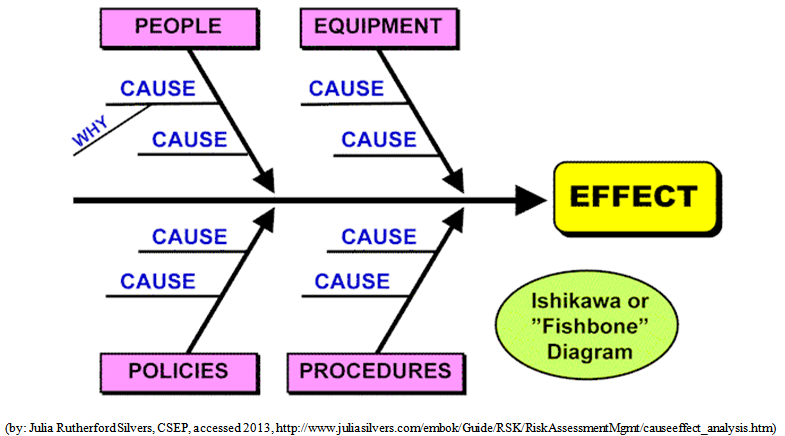
The concept of Service Quality is essentially very simple, relating to the provision of goods or services that meet the expectations of those receiving them. Quality in the delivery of goods or services is now accepted as a critical aspect of business management in all fields since it is realized that only by satisfying its customers can an organization hope to retain its customer base and indeed expand it for the future. It should be understood that it is not just in commercial contexts that the concept has meaning because in those institutions providing

[](http://pubs.sciepub.com/jbms/2/6/1/image/fig1.png)

services to the public, the issue of delivering quality is equally important. Consequently, in discussing the concept of Service Quality and the various approaches to assuring this, the idea that it applies to both the private and public sector is included, although in discussing the origins of the concept it is very much on business where the focus lies (Douglas and Judge 2001).

Total [Quality Management](https://www.isixsigma.com/dictionary/quality-management/) is a [management](https://www.isixsigma.com/dictionary/management/) approach that originated in the 1950s and has steadily become more popular since the early 1980s. Total [Quality](https://www.isixsigma.com/dictionary/quality/) is a description of the culture, attitude and organization of a company that strives to provide customers with products and services that satisfy their needs. The culture requires [quality](https://www.isixsigma.com/dictionary/quality/) in all aspects of the company’s operations, with processes being done right the first time and defects and [waste](https://www.isixsigma.com/dictionary/waste/) eradicated from operations.

Total Quality [Management](https://www.isixsigma.com/dictionary/management/), TQM, is a method by which management and employees can become involved in the [continuous](https://www.isixsigma.com/dictionary/continuous/) improvement of the production of goods and services. It is a combination of quality and management tools aimed at increasing business and reducing losses due to wasteful practices.

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Total quality management is a mana­gement’s approach towards the quality; it can be in regard to products, customer satisfac­tion and employee’s satisfaction. The concept of TQM was developed by an American W. Edwards Deming and i.e., why it is called as Deming’s concept of TQM .He introduced this concept for improving the quality of various products and services. Earlier it was just related with the quality of products which an organization is producing but now other concepts like marketing, finance design, cus­tomer service has also joined the area. TQM works on one belief that mistakes can be avoided and defects can be prevented.

Total Quality Management, as its name implies, is related to the monitoring of quality throughout the organization by everyone in that organization. This means that if problems are spotted during the production process, it is the responsibility of that person to solve the problem before it goes any further through the process. This way, problems should be identified before they ever get near the consumer but if they do, every effort is made to sort the problem out.

TQM talks about the satisfaction of customer, supplier, employees etc. and it requires continuous improvement. If the workers of an organization are efficiently working then their morale will go up. TQM works effectively if the organization works in a family manner.

Here management is like a father, employees are the children and manager is like mother; and as father and mother takes care for their home collectively the same way , management and managers are supposed to take care for their organization with the help of tool called TQM. In a TQM effort, all members of an organization participate in improving processes, products, services and the culture in which they work.

**LITERATURE REVIEW**

Several efforts have been done to prove the elements of TQM in the past decade (Saraph et al., 1989; Flynn et al., 1994; Ahire et al., 1996). According to prior TQM research, the constructs of TQM has been categorized in a few ways, even though they complement each other (Prajogo and Sohal, 2003). There is no clear agreement of TQM research concerning its key elements that show the capabilities of what TQM portrays when referred (Shenawy et al., 2007; Escrig-Tena and Bou-Llusar, 2005). Hence, there arises a difficulty of reaching an agreement on the elements of TQM due to the inconsistency in the previous research (Hoang et al., 2006). A complete assessment of TQM literature have shown that TQM practices could be secured in seven areas, being leadership, strategic planning, customer focus, information and analysis, human resource management (HRM), process management and supplier management (Sila, 2007). A huge amount of previous literatures that confirms the practices of TQM theoretically and practically is mainly based on the criteria of Malcolm Baldrige National Quality Award (Steinway et al., 2007; Wilson and Collier, 2000). The constructs embedded in the TQM practices are leadership, strategy and planning, customer focus, information and analysis, people management and process management (Prajogo and Sohal, 2003). It was argued by Samson and Terziovski (1999) that their model includes the Malcolm Baldrige National Quality Award (MBNQA) criteria that have been acknowledged as representing TQM practices by several scholars such as Ahire et al., (1995), Dean and Bowen (1994) and Juran (1995). These practices are also consistent with the standard of the Malcolm Baldrige National Quality Award (MBNQA) as implied by Sila (2007) and Sila and Ebrahimpour (2003), who examined the TQM practices taken out by 76 empirical TQM analysis and categorized them under 2002 MBNQA model (Sila, 2007). Hendricks and Singhal (1997); Wrolstad and Krueger (2001) further mentioned that by putting into effective practice the MBNQA criteria, it will enhance economic performance. Through the comprehensive examination of past research, which includes the criteria of the most esteemed quality award such as MBNQA (1999), six dimensions of TQM practices were formed to signify the main TQM practices in this research study as shown in Table 1, for three most important reasons (Hoang et al., 2006): (a) integrate the most well-recognized quality award criteria of leadership, customer and market focus, information and analysis, strategic planning, human resource and people management – extensively acknowledged by TQM researchers and practitioners; (b) comprise the constructs that signify the soft and hard facets of TQM conferred in the literature and (c) have been regarded as key practices of TQM implementation in both manufacturing and service industries by past researchers and scholars (Powell, 1995; Prajogo and Sohal, 2003; Samson and Terziovski, 1999; Hoang et al., 2006).

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## OBJECTIVES OF THE STUDY

Total means 100%, so TQM is about managing all aspects of quality and ultimate goal should be the ‘Total Customer Satisfaction’. Every functional area should stick to the quality plan of the organization and strive to attain the planned quality target. Each offering from the organization should be of optimum quality. Because, “one rotten apple can spoil the whole basket.”

TQM is about addressing all aspects of dimensions of quality. If there is a good product in bad packaging it is not going to give the desired returns to the organization. A good car with a bad bumper will tarnish the image of the company. An ill tempered receptionist can turn away potential customers from a nice 5-star hotel. So people and process should match the quality of the product being offered by the organization. A satisfied employee will always bring a satisfied customer, so internal customers are also important. All hygiene factors and motivation factors should be maintained to satisfy the needs of the internal customer. Retaining internal customer is important for better knowledge management and continuity of the process. Retaining external customer is important to get repeat sales. It is always easier to get repeat sales from existing customers than to get sales from a new customer. Everybody, right from the shop-floor employee to the top management, should have total commitment to the predetermined quality goals.

1. Total customer satisfaction
2. Totality of functions
3. Total range of products and services
4. Addressing all aspects of dimensions of quality
5. Addressing the quality aspect in everything – products, services, processes, people, resources and interactions.
6. Satisfying all customers – internal as well as external
7. Addressing the total organizational issue of retaining customers and
8. Improving profits, as well as generating new business for the future.
9. Involving everyone in the organization in the attainment of the said objective.
10. Demanding total commitment from all in the organization towards the achievement of the objective.

**RESEARCH METHODOLOGY**

It is used only for explorative research . This type of research is done when problem is not clearly specified for understanding , it helps in checking the best research design, data-collection procedure for better understanding of the problem. This type of research is based on reassessing of available data and records , discussions with customers employee, managers and competitors. Through following reassessment and discussions one can come across solutions in clarifying problems that are not defined.

* Research population and unit of analysis
* Quality research approach
* Key information techniques

**HYPOTHESIS TESTING—**

1)Hypothesis testing is a mathematical tool for confirming a Disruptions in brand management.

2)Hypothesis testing is useful for investors trying to decide what to invest in and whether the instrument is likely to provide a satisfactory return.

3) Despite the existence of different methodologies of hypothesis testing , the same four steps are used: define the hypothesis, set the criteria, calculate the statistic and reach a conclusion.

4) This mathematical model ,like –most statistical tools and is prove to certain errors necessitating investors also considering other models in conjunction with this one.

Hypothesis or significance testing is a mathematical model for testing a claim idea or hypothesis about a parameter of interest in a given population set using data measured in a sample test. Calculations are performed on selected samples to gather more decisive information about the characteristics of the entire population, which enables a systematic way to test claims or ideas about the entire data set.

Here we take a simple example the annual return of a particular mutual fund is 8 percent . Assume that mutual fund has been in existence for 20 years. We take a Random sample of annual returns of the mutual fund for , say , five years (sample) and calculate its mean. We then compare the(calculated) sample mean to the (claimed) population mean to verify the hypothesis.

**STEP OF HYPOTHESIS TESTING—**

STEP 1) Define the Hypothesis

STEP 2) Set the criteria

STEP 3) Calculate the statistic

STEP 4) Reach a conclusion

**TYPES OF ERRORS—**

The “correct “ cases are the ones where the decisions taken on the samples are truly applicable to the entire population. The cases of errors arise when one decides to retain (or reject) the null hypothesis based on the sample calculations but that decision does not really apply for the entire population. These cases constitute Type 1 (alpha) and Type (beta) errors.

According to the applicable decision making bench marks and definitions –

“ This (alpha) criterion is usually set at 0.05(a=0.05)and we compare the alpha level to the p- value , when the probability of a type 1 error is less than 5 percent (p<0.05) we decide to reject the null hypothesis , otherwise , we retain the null hypothesis.

* The technical term used for this probability is the p- value. It is defined as the “the probability of obtaining a sample outcome , given that the value stated in the null hypothesis is true. The p- value for obtaining a sample outcome is compared to the level of significance.
* A type 2 error or beta error is defined as the probability of incorrectly retaining the null hypothesis, when in fact it is not applicable to the entire population.

**SWOT ANALYSIS—**

A SWOT analysis is one of the methods that is used to evaluate strength (S), weakness (W), opportunities (O) and threats (T) involved in innovative ideas and strategies. It can be applied to products, services and strategies. SWOT Analysis. SWOT means Strengths, Weaknesses, Opportunities, and Threats. It's a method for finding, analyzing, and documenting your company's internal strengths and weaknesses within your control and external opportunities and threats that can affect the realization of your marketing objective. In Disruptions in brand management, a SWOT analysis can help you create hiring and other strategies to achieve short-term Disruptions in brand management goals – like building a more engaged, efficient, and productive workforce. It can also help with your long-term goals – like building a top-tier workforce or becoming an employer of choice.

**SAMPLE SIZE—300**

**SAMPLING TECHNIQUE—RANDOM SAMPLING METHOD**

**DATA ANALYSIS—**

So, how can data analysis help? By identifying employees who are at risk of leaving your organization, revealing the sources of voluntary turnover in your workplace, and uncovering how you can improve your candidate experience in order to improve your offer acceptance rate. The average Disruptions in brand management team is sitting on a data gold mine, which is the theme of my new book ‘[Disruptions in brand management’](https://www.bernardmarr.com/default.asp?contentID=1297)**.**There’s recruitment data, career progression data, training data, absenteeism figures, productivity data, personal development reviews, competency profiles and staff satisfaction data, just for starters. Plus, in addition to traditional Disruptions in brand management data sets, companies can now collect so much more data – scanning social media data, for instance, or analyzing the content of emails to gauge employee sentiment. Using Disruptions in brand management data can be legally and ethically challenging, but incredibly valuable – probably the greatest asset the Disruptions in brand management team has. Why? Because when Disruptions in brand management data is used to improve decisions, make employees happier, and optimize processes, it adds value to the company. In the past, a lot of Disruptions in brand management data went unused or, if it was used, it was put into charts and tables for something like a corporate performance pack. Now, in the era of big data and analytics, companies are turning their data into insights, such as predicting when employees will leave, where to recruit the most suitable candidates from, how to identify and attract those suitable candidates, and how to keep them happy once they become employees.

**RESULTS AND DISCUSSION**

In depth review to about 50 papers was completely done. An evaluation is considering the research object as well as the result of each paper. The complete list of the paper had been reviewed are shown in the Table 3. There are 4 groups of papers were classified; Application of TQM, the impact of TQM, review of TQM and relationship of TQM. The application of TQM in the organization was appear in some papers with multiple organization sector are using TQM successfully. Kumar & Shanmuganathan, (2019) developed a standard reliable instrument that can be used to measure the TQM implementation in an automotive component manufacturing company. The result shown that TQM has significantly influences the organizational commitment as well as the overall performance. In Thailand, Visalia & Rojniruttikul (2018) did a measurement the greatest factor affecting to the TQM in rail way company, the results determined that organizational culture give the biggest impact. Bunglowala & Asthana (2016) found that TQM is can be implemented well in education sector, they concluded that the teaching and learning procedure are more effective and its improved the overall quality. Arifin (2016) did a research in financial sector (banking) where He concluded that TQM is significantly improved the overall performance of the company. Talib & Rahman (2015) did an observation in service industry to study the TQM application, beside the benefit of TQM, they also observed that lack of communication and lack of management commitment were the top barrier in TQM implementation. The impact of TQM are showed by many researchers such as Santos et al., (2019) did a research in Brazilian electricity distribution company where he observed that implementation of TQM is helped the company in improving the order scheduling by 12% and reduce unproductive visit by 22%. Sari & Firdaus (2018) made another research of TQM implementation in SME (Small Medium Enterprise) sector in Indonesia, where they concluded that TQM implementation can improve the competitive advantage of the SME. Similarly, Nugroho & Nurcahyo (2018) also did a research in SME in Indonesia where they concluded that TQM implementation can improve the financial performance of SME. Sabet et al., (2014) did a study in UK manufacture company an they concluded that TQM is successfully improve the overall performance and it can be combined with Six Sigma to improve product quality. It also the same with the result of observation in Nigeria where TQM is improve the customer satisfaction Mercy & Taiye, (2015). In hotel industry, TQM also significantly improve the organization competitive advantage as it confirmed by research study by Yeng et al., (2018) in Malaysian’s hotel.

Indonesia to determine the impact of TQM where he found that TQM is significantly improved the customer satisfaction and He also realize that there are some key factors in implemented TQM which are focus to customer, quality obsession, team work and employee involvement. Houston, (2007) Did some research in New Zealand higher education and concluded TQM is not fully matched with the substance of higher education due to its complexity. However, it more fruitful to explore the development of locally appropriate systemic approaches to improving quality in and of higher education. Some researcher did a comprehensive review and evaluation on the TQM implementation in the organization where most of them were observed that TQM is successfully improved the organization performance and its competitive advantages. Sweis et al. (2019) did an observation in some organization with different sector in Jordan, they observed that The result shown where TQM implementation is improve customer satisfaction that leads to increasing in customer order/demand, it means that will increase sales and profit. Kumar et al. (2016) did a same study, they focus on one of the pharmaceutical organization in India, they found that TQM is a holistic methodology towards the general change of an organization, the theory of TQM has tended to be fruitful in all fields provided that the management has enough potential to actualize it. Similarly in Indonesia, Sutrisno (2019) did study in one of SME and concluded that TQM are significantly improved operational performance of the company, increase customer satisfaction as well as substantially increased product quality. These improvement will increase an organization competitive advantage and business sustainability. The last grouping was study the relationship of TQM with organization vision in some industries. Kantardjieva (2015) did a research in some industries sector in Greece where she found the relationship between the TQM and the strategic management, in this process, she found that the quality is a key success factor, so the business is must focused on the implementation of a quality programs such as TQM.

**CONCLUSION**

Total Quality Management (TQM) is still widely used in many industries sector as well as used in so many countries around the world. One of the most reason why TQM is still suitable on this today’s situation is the fact that TQM is focus to increase customer satisfaction on improving the quality of product, quality of service and overall quality of the organization to deliver the best product or service solution to the customer. Another reason is because TQM is implemented with total commitment from the management as well as total involvement from employess where it become a solid concept that are simple to understand and easy to implement. Furthermore, its required the standard measurement method to determine the level or score of the TQM implementation in the organization since it must be quantifiable to do continuous improvement as it need to compete in today’s business situation. In addition, its strongly recommended to continue the further study on the several industries sector especially for the new start up industries such as e-commerce or digital start up to ensuring that TQM is still suitable on those new industries sector.

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