How do Albanian Companies Utilize Total Quality Management?

Jonida Teta

Associate Professor in the Department of Production and Management
Faculty of Mechanical Engineering
Polytechnic University of Tirana
Tirana, Albania
jteta@fim.edu.al

Dea Sinoimeri

Researcher in the Department of Production and Management
Faculty of Mechanical Engineering
Polytechnic University of Tirana
Tirana, Albania
dsinoimeri@fim.edu.al

Abstract

For over three decades, Total Quality Management (TQM) has been widely acknowledged as a crucial strategy for organizations. The present article aims to delineate how Albanian Companies utilize Quality Management Practices. To this end, a survey comprising 800 respondents was conducted to investigate the current status of Quality Management Practices utilization in Albania The analysis of QM practices unveiled that companies tend to favor the usage and accord greater importance to soft practices such as teamwork and customer focus. Contrarily, companies tend to attach less significance to and abstain from using hard practices such as Analysis of Variance and Six Sigma. According to the respondents, Albanian companies are positioned at a mid-level stage of QM maturity level, with more than 50% attesting that their companies are at the "inspection" age and less than 30% stating that their companies have accomplished strategic quality management. This unsatisfactory level of QM maturity may imply that Albanian companies prioritize quality management with more focus on inspection and control rather than quality assurance and strategic management. As such, "improvement" in this context may signify bringing the operation back to the standard rather than improving the standard. Ultimately, future research endeavors stemming from these findings could explore how QM practices could be effectively employed to help companies achieve higher QM maturity levels and strategic quality management.

Keywords

Total quality management, quality management practices, survey,

Introduction

In today's contemporary world, the variables that impact the actions of corporations on a global scale are changing at an increasingly rapid pace. This trend is exemplified by the current scenario, where business acquisitions, mergers, and dissolutions are commonplace. The driving force behind these actions is the desire of each organization to exceed customer expectations in terms of quality, cost, delivery, and service, ultimately rendering their existing products obsolete through the introduction of new ones. Consequently, we frequently observe organizations that fail to meet these requirements and consequently struggle to market their products and services, ultimately leading to the divestiture of their businesses.

In contemporary times, developing countries are progressively becoming a state without borders. It is evident that products are designed in one country, manufactured in another, and sold in yet another. Hence, the main predicament

Proceedings of the 6th European Conference on Industrial Engineering and Operations Management Lisbon, Portugal, July 18-20, 2023

for organizations is how to survive in this constantly evolving scenario. Organizations must shift from prioritizing product quality to process quality and subsequently progress to the next level of innovative quality.

Ultimately, the objective is to establish an innovative organization. This entails the pursuit of zero defects, complemented by exceptional process control and creative product and manufacturing scenarios. In the present decade, numerous institutions/industries in Albania have already commenced fostering a Total Quality Management (TQM) culture within their organizations to maintain a competitive edge.

In developed nations, it is evident that quantitative methodologies hold substantial significance in facilitating organizations to shift from mere data recording to proficient data analysis and algorithmic techniques for scientific decision-making. This, in turn, leads to a reduction in cycle time, encompassing planning and execution expenses, while statistics play a pivotal role. At the end of the 20 century, different industries in Albania firmed up the details of many aspects of the Quality Management (QM) discipline. Besides the historical explanation of quality evolution, "What does 'product quality' really mean in developing countries?

Literature Review

Garvin (1984) outlined five primary approaches to quality, including the transcendent approach, which posits that quality is innate, absolute, and universally recognized excellence. Another approach, product-based, focuses on precise and measurable variables reflected in the quantity of some attribute possessed by the product. The user-based approach considers the premise that quality "lies in the eyes of the beholder" and is contingent upon individual consumer wants or needs. Manufacturing-based quality is concerned with conformance to requirements, while value-based quality provides performance at an acceptable price or conformance at an acceptable cost, that is, quality is discussed and perceived in relation to price.

In 1987, Garvin presented an additional paper in the Harvard Business Review, which introduced eight dimensions of quality, augmenting the five approaches that were previously introduced. These dimensions encompass the following: performance, which pertains to the primary operational characteristics of a product; features, which refer to supplementary attributes that complement the product's basic functioning; reliability, which gauges the likelihood of a product malfunctioning or failing within a specified time frame; conformance, which evaluates the extent to which a product's design and operating characteristics meet established standards; durability, which measures the lifespan of a product before its deterioration; serviceability, which pertains to the speed, courtesy, competence, and ease of repair; aesthetics, which encapsulates a personal and subjective judgment of a product's look, feel, sound, taste, or smell, reflecting individual preferences; and perceived quality, which may sometimes rely on indirect measures and serve as a basis for consumers to compare brands, and is also a subjective dimension (Garvin 1987).

Despite the importance of a strategic approach for QM as previously discussed, quality improvement occurs at the operational level, and companies need practical ways to implement a Total Quality Management (TQM) program. The Quality Management Maturity Grid Stages from Philip B. Crosby (adapted from Crosby, 1979) Maturity Grid Stage Overall description.

- I) uncertainty "problems are fought as they occur"; "the cost of quality is unknown"; "there are no organized quality improvement initiatives"; statement: "we don't know why we have problems with quality".
- II) awakening "the organization is not willing to commit resources, although quality management may be valuable"; "emphasis on appraisal and moving the product"; "there are no long-range solutions"; "the cost of quality is reported as 3% (actually it is 18%, hugely underestimated)"; statement: "why do we always have problems with quality?"
- III) enlightenment "Quality is elevated to a functional level"; "problems are resolved openly and in an orderly way"; "the cost of quality is reported as 8% (actually it is 12%, still underestimated)"; statement: "we are identifying and resolving our problems".
- IV) wisdom "top management participation"; "problems are identified in earlier development"; "cost of quality is reported as 6.5% (actually it is 8%)"; "quality improvement program is continual"; statement: "defect prevention is a routine part of our operation".

Proceedings of the 6th European Conference on Industrial Engineering and Operations Management Lisbon, Portugal, July 18-20, 2023

V) certainty "Quality is essential"; "problems are prevented"; "the cost of quality is reported as 2.5% (what it really is)"; "quality improvement is continual and normal"; statement: "we know why we do not have problems with quality".

The International Organization for Standardization has presented a set of eight principles that pertain to quality management. These principles can be classified as being a part of the soft side of management. These principles include customer focus, leadership, involvement of people, process approach, system approach to management, continual improvement, factual approach to decision-making, and win-win relationships with suppliers (or partners in general) (ISO, 2009). In their study regarding quality management tools and techniques, Tarí and Sabater (2004) analyzed approximately 30 commonly used tools and techniques. The tools and techniques they examined include but are not limited to, the seven basic quality control tools, the seven management tools, benchmarking, brainstorming, design of experiments (DOE), failure mode and effect analysis (FMEA), flow charts, poka yoke, quality function deployment (QFD), quality improvement teams, and statistical process control (SPC).

Various studies have demonstrated that the performance of an organization can be directly impacted by both hard and soft elements. Additionally, soft elements can also indirectly affect performance by creating a conducive environment for the implementation of hard elements, as suggested by Rahman and Bullock (2005). According to Tarí and Sabater (2004), the utilization of quality tools and techniques is crucial for improving quality and is a crucial aspect of TQM maturity, which is instrumental in advancing TQM levels and outcomes (Tarí and Sabater 2004). These authors posit that techniques and tools serve as a reliable gauge of superior TQM levels and consequently, superior performance of a company in terms of quality, cost, and other pertinent factors.

Successful implementation cases of QM programs have been conducted in several organizations in Albania. Despite the acknowledgment of QM, there exist numerous instances of unsuccessful implementation. In his 2013 review of QM programs, the Albanian chair of Commerce examined several studies and determined that between 60% to 70% of companies fail in their pursuit of implementing TQM practices or enhancing the quality of their products and services, thereby failing to improve their competitiveness.

This paper aims to present an analysis of QM practices utilized in Albanian firms, building on the previous discussion. According to The World Bank's 2020 report, Albania holds the position of one wealthiest economies in the Balkans with a Gross Domestic Product (GDP) of US\$ 13.5 billion in 2020.

It also has a strong domestic market. Therefore, analyzing the quality management status in organizations embedded in such an emerging economy makes sense to understand the following question: how have Albanian enterprises applied Quality Management (QM) principles and techniques to enhance their productivity and quality? There are no previous studies to identify the main aspects of QM programs in Albanian companies.

3. Methods

To attain the proposed objective and respond to the research questions, a survey was conducted during the months of June and July in 2022. In order to launch a web-based questionnaire developed in an internet instrument (SurveyMonkey®), databases containing companies' contacts and LinkedIn© discussion groups were utilized. As various databases and professional networks were utilized, approximately 1000 professionals from Albanian companies were provided with the opportunity to respond to our survey. After two, 800 professionals responded to the questionnaire.

The majority of the respondents (80%) are professionals who hold management positions in their organizations, while 70% are affiliated with the cycle of production or quality functional areas. All of the companies surveyed are privately owned, and the majority of them (80%) are manufacturers. All of the respondents work in large companies (with 100 to 600 employees).

Manufacturing strategies that are more frequently identified relate to a make-to-stock production system (50%), with quality (30%) and low cost being the primary competitive strategies. Although the research sample is relatively good, we discovered evidence that the sample presents a strong bias, since the stratification of the respondents has a similar distribution when compared to GDP or ISO 9001 certificates per state. Although large companies are less representative in quantity, they are responsible for approximately 80% of Albanian GDP.

Proceedings of the 6th European Conference on Industrial Engineering and Operations Management Lisbon, Portugal, July 18-20, 2023

We have discovered that companies with a strong tradition in quality programs are the ones most likely to implement the Six Sigma Program. Moreover, it has been observed that companies that invest more in quality tend to perform better both in terms of quality and financial indicators. The primary reasons for the failure of Quality Management (QM) programs have been attributed to weak support from top management and a lack of financial resources.

This qualitative study in Albanian companies found also that soft elements such as bureaucracy, communication, and leadership were the main barriers to the successful implementation of QM practices. This article provides further insights by addressing several questions, such as the quality concept adopted by Albanian companies, the most commonly used principles, practices, techniques, and tools, the primary obstacles to implementation, the level of maturity and evolution of QM in Albanian companies, and the practical implications of this research for the Albanian industry.

5. Results and Discussion

The concept of quality is a crucial aspect for companies to consider. The research conducted found that a significant percentage of respondents strongly agree or agree that Albanian companies understand quality as a manufacturing-based and value-based approach. However, there is a lack of agreement when it comes to transcendental and product-based approaches. Furthermore, there is a minimal percentage of respondents who agree that their companies have a user-based approach. The respondents also gave points for each quality dimension, and according to them, performance is the most important dimension of quality for Albanian companies, followed by conformance, reliability, and perceived quality. On the other hand, durability, serviceability, features, and aesthetics are under average.

The utilization of quality management (QM) principles, practices, techniques, and tools is also an essential aspect to consider. The respondents were asked to classify 20 quality practices in terms of utilization and importance on a grading scale. The results showed that all practices were classified as being important, with some practices being more utilized than others. The most cited barriers faced by the respondents in order to implement QM programs and quality practices are resistance to change and lack of perception about shared responsibility among all organization's areas. It is important to note that many of the barriers are related to soft aspects such as human factors and management.

When it comes to the degree of evolution and maturity level of Albanian companies, most of the respondents believe that their companies are in the initial and intermediate stages of maturity level. However, it is crucial to understand the trends and if the companies are rising up through the maturity level. Other questions were asked in order to diagnose the situation of companies in relation to the quality management eras. While some respondents believe that their companies are still in the inspection era, the majority believe that their companies should be in the strategic management era of quality evolution.

6. Conclusion

According to the findings of this research, Albanian companies exhibit an intermediate level of quality maturity. Such a level implies that companies are more inclined towards quality management through inspection and control activities. Thus, addressing improvement in this area could mean bringing operations back to a standard rather than enhancing the standard. Although the study reveals that many quality principles and techniques are employed by these companies, advanced improvement techniques such as QFD, and Six Sigma are still underutilized and deemed of less significance. Despite Quality Management being a well-established and widespread concept that has undergone constant development in recent decades, many organizations are yet to realize its strategic benefits. Consequently, Albanian companies have a substantial opportunity to enhance their quality and productivity levels. Further research could explore how QM practices can be effectively implemented to help companies achieve higher Quality Management maturity levels and strategic quality management.

References

Dale, B.G., Starting on the road to success, *The TQM Magazine*, 3(2), pp. 125–128, 1991.

Ford Motor Company (1990) Worldwide Quality System Standard Q-101, Corporate Quality Office, Plymouth Michigan.

Motsepe, Y. A., Makhanya, B. and Pretorius, J.H.C., Exploring the impact project definition readiness index on capital projects for coal-fired power station projects, *Proceedings of the First African International Conference on*

- Industrial Engineering and Operations Management, pp. 638-649, Pretoria, South Africa, October 29 November 1, 2018.
- Newall, D. and Dale, B.G., The introduction and development of a Quality Improvement process: a study, *International Journal of Production Research*, 29,(9), pp. 1747–1760, 1991.
- O'Neill, E., Introduction to Improving Adaptive Snow-Sports through Engineering Design, Ergonomic Form and Function, *Proceedings of the 4th North American International Conference on Industrial Engineering and Operations Management*, pp. 1486-1487, Toronto, Canada, October 23-25, 2019.
- Rahman, M. A., Sarker, B. R. and Escobar, L. A., Peak demand forecasting for a seasonal product using Bayesian approach, *Journal of the Operational Research Society*, vol. 62, pp. 1019-1028, 2011.
- Reimer, D., and Ali, A., Engineering education and the entrepreneurial mindset at Lawrence Tech, *Proceedings of the International Conference on Industrial Engineering and Operations Management*, Istanbul, Turkey, July 3 6, 2012.