

A STUDY ON THE CONTRIBUTION OF ISO QUALITY MANAGEMENT SYSTEM STANDARD TO ORGANISATIONAL PERFORMANCE

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Abstract: ISO 9001 is a standard that sets out the requirements for a quality management system. It helps businesses and organizations to be more efficient and improve customer satisfaction. ISO 9001:2015 (the most recent version of the standard) is made up of a number of different clauses, each concentrating on the requirements involved in different aspects of QMS. The importance of the research was to Influence of ISO Management System Standards on Organizational Performance. Simple random sampling technique was adopted. The sample size of the research was 343. The analysis found that here is influence of Design Quality, Operational Efficiency and Supplier Quality on Product Quality. It is also found that there is influence of ISO Management System Standards on Organizational Performance. Hence, it is concluded that the organization should set a systematic and targeted approach to internal audit and identify the opportunities for improvement from results of audits. The management should support the internal audit team continuously and effectively involve employee for maintaining the quality management system.

Keywords: Design Quality, Operational Efficiency, Supplier Quality, Product Quality and Organizational Performance.

1. INTRODUCTION

This research focuses on the most important ISO Quality Management standard which is required for all the organizations. It is used when organization seek to establish a quality management system. The standard provides confidence in organization's ability to provide products that fulfill customer needs and expectations. It is being used as one of the most effective tools by organizations to control and improve quality, and hence increase business competitiveness. Therefore, the aim of this research is to find out the Influence of ISO Standards on Organizational Performance through improvement in various performance factors. ISO 9001 is a standard that sets out the requirements for a quality management system. It helps businesses and organizations to be more efficient and improve customer satisfaction. ISO 9001:2015 (the most recent version of the standard) is made up of a number of different clauses, each concentrating on the requirements involved in different aspects of QMS.

2. REVIEW OF LITERATURE

Sendil Mourougan and Sethuraman (2019) in "Critical Factors of Quality Management used in Research Questionnaires" analyzed that the emergence of critical factors of quality management in the development of quality management research questionnaires. A review of literature shows that 27 different critical factors or constructs were developed and used by established researchers in the field. Out of these, 8 most popular critical factors have been identified – top management support, quality information availability, quality information usage, employee training, employee involvement, product/process design, supplier quality and customer orientation. The authors suggested that the critical factors of quality management be standardized so that a sound comparison can be made between research findings of studies conducted in various countries of the world.

Vasileios Ismyrlis (2017) in “The contribution of quality tools and integration of quality management systems to the organization” examined the contribution from the use of quality tools and the implementation of Quality management systems (QMSs), to the management of an organization. The question is if these aspects have an impact on important elements of a QMS, like Critical Success Factors (CSFs), but moreover on the performance derived from its functioning.

BasakManders, et al. (2016) in “ISO 9001 and product innovation: A literature review and research framework” aimed to solve this controversy and to contribute to the theory by reviewing the literature about the impact of ISO 9001 on product innovation and by developing a framework which can guide future research. This paper also aimed to contribute to practice by helping managers to understand the relationship between ISO 9001 and product innovation better. The study proposed the relationship between ISO 9001 and radical and incremental product innovation performance is influenced by the extent to which the standard have been adopted, the extent of signaling, the motivation of the company to implement the ISO 9001 standard, the sector and the region in which the company operates and the size of the company.

Jose Alvarez, et al. (2016) in “Implementation of a Quality Management System in rural accommodations: Perceived benefits” analyzed the impact of the perceived benefits of implementation and subsequent certification of a Quality Management System on the implementation level of the critical quality factors and results obtained. The results obtained show that the benefits in this sector are grouped into two clusters; internal and external benefits, and it has been confirmed that the higher the benefit levels arising from the implementation and certification, the higher the implementation levels of the critical factors and results obtained.

Luis Miguel Fonseca (2015) in “ISO 9001 Quality Management Systems through the Lens of Organizational Culture” stated that both managers and scholars have convictions about the organizational approaches that best support organizational performance of the respective organizations and its Quality Management Systems. After a literature review of ISO 9001 Quality Management Systems (including the changes introduced by the 2015 edition), Organizational Culture theories are addressed and input from a CEO’s focus group was gathered. The importance of organizational culture for the success of Quality Management Systems and the achievement of the organizational desired results is highlighted. This study advanced a proposal to analyze ISO 9001 International Standard through the lens of organizational culture theories identifying a stronger open systems approach (influence of the environment, dynamic perspective, need for survival) of the 2015 ISO 9001 edition when compared with the 2008 one. This provides additional knowledge both to scholars and practitioners for a better understanding of the culture issues that can maximize ISO 9001 Quality Management Systems 2015 edition contributions to organizational enduring success.

Mile Terziovski, et al. (2014) in “ISO 9000 quality system certification and its impact on product and process innovation performance” examined the impact of ISO 9000 certification on product and process innovation performance of 220 Australian organizations. The results showed that ISO 9000 certification does not have a statistically significant relationship with product innovation performance measures such time-to-market (TTM) of new products. ISO 9000 certification tends to drive out variance increasing activities, which in turn affects the organization's ability to innovate.

Ali Bakhit Jaafreh (2013) in “The Effect of Quality Management Practices on Organizational Performance in Jordan: An Empirical Study” developed Quality management practices (QMPs) framework according to a comprehensive literature review and represented a relationship between QMPs and Organizational performance through examining the effects of the six QMPs constructs on Organizational performance.

Inaki Heras-Saizarbitoria, et al. (2012) in “ISO 9001 and ISO 14001: Towards a Research Agenda on Management System Standards” analyzed the academic research on meta-standards through an integrative review intended to shed light on the main conclusions and substantial advances made in this area. This integrative review focused more specifically on the two main meta-standards which have been adopted by more than 1.3 million organizations worldwide: ISO 14001 and ISO 9001. The paper contributed insights into the main streams of the literature and current knowledge gaps to be addressed in future research on the various issues related to meta-standards: global governance, diffusion processes, motivations, benefits of adoption and impacts on performance, internalization, integration, consultancy and auditing.

Mile Terziovski, et al. (2012) in “The business value of quality management systems certification. Evidence from Australia and New Zealand” tested the strength of the relationship between ISO 9000 certification and organizational performance in the presence and absence of a total quality management (TQM) environment. The analysis is primarily of a large random sample of manufacturing companies in Australia and New Zealand. The central finding is that ISO 9000 certification is not shown to have a significantly positive effect on organizational performance in the presence or absence of a TQM environment. This supports the view that on average ISO 9000 certification has little or no explanatory power of organizational performance.

Siti Arni Basir, et al. (2011) in “The elements of organizational culture which influence the maintenance of ISO 9001: A theoretical framework” elaborated the framework of the elements of organizational culture which influences the maintenance of ISO 9001. The model not merely elaborated the need for technical requirements, but also the need of cultural requirements in ISO 9001 maintenance. The model could be employed as a guideline for managers in certified ISO 9001 organizations in their endeavour to maintain ISO 9001 certification effectively.

3. MATERIALS AND METHOD

3.1 Descriptive Research Design

Descriptive research design was adopted. Survey method using questionnaire was used for this research. A descriptive study establishes only relationship between variables. In this research the relationship between the critical QMS performance factors namely Design Quality, Operating Performance, Supplier Quality, Product Quality, and organizational performance were studied.

3.2 Framework

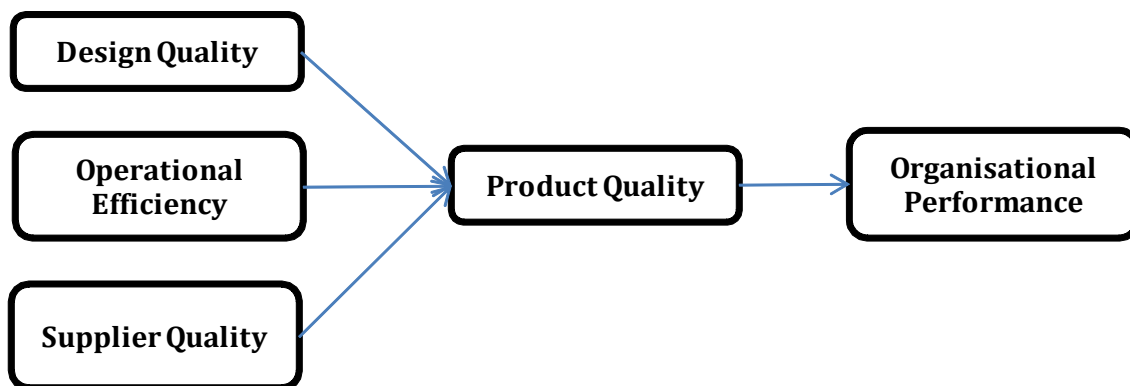


Figure 1: Conceptual framework of the study

Altogether this study includes five different variables. Design Quality, operating efficiency and supplier quality were the independent variables; product quality was dependent variable; organizational was the outcome variable.

3.3 Statement of the Research Problem

The guidelines on procedures, controls, and documentation for a QMS are provided by the ISO standard, in order to help a company to identify its problems, control its operations, and maintain consistent quality level. Due to ineffective implementation in some organizations, the desired results are not obtained. This ineffective implementation is due to the lack of identification and exploration of critical performance factors that are required for achieving the desired results. This research was performed to study the influence of ISO Quality Management System on Organizational Performance based on critical performance factors.

3.4 Objectives of the Study

- To study the influence of Design Quality, Operational Efficiency and Supplier Quality on product quality.
- To know the influence of ISO Management System Standards on Organizational Performance.

3.5 Hypotheses of the Study

- There is no influence of Design Quality, Operational Efficiency and Supplier Quality on product quality.
- There is no influence of ISO Management System Standards on Organizational Performance.

3.6 Tool for data collection

A well-designed questionnaire was used to gather the data for this research. The questionnaire contains three sections are presented. The section-I was constructed to obtain the demographic outline of the 3 manufacturing and 4 service industries which are certified for ISO 9001:2015 Quality Management System. The section – II scale was used to know the dimensions of ISO Management System Standards such as Design Quality, , Operational Efficiency and Supplier Quality and product quality; the Section – III used to analyze the organizational performance.

3.7 Reliability Analysis

Reliability analysis was also applied to test the reliability of the factors presented in above table. The reliability range from 0.88 to 0.94, which satisfies the Cronbach's alpha, should be at least 0.70 to be considered as acceptable.

S.No.	Variable	Reliability
1	Design Quality	0.88
2	Operational Efficiency	0.90
3	Supplier Quality	0.84
4	Product Quality	0.92
5	Organizational Performance	0.94

3.8 Sample design of the Study

The sample frame of the study was 3 manufacturing and 4 service industries which are certified for ISO 9001:2015 Quality Management System.

3.9 Sample size

A survey study was conducted to collect data to test the 10 proposed research hypotheses. The validated survey questionnaire by experts was circulated to 504 professionals working in seven companies. It includes 3 manufacturing and 4 service industries which are certified for ISO 9001:2015 Quality Management System. Incomplete sample responses from respondents were ignored and fully completed 343 samples were considered for the analysis.

3.10 Sampling Technique

Simple random sampling technique was adopted even though several researchers do not consider it as a better method (Srivastava, 2008). Data thus collected were verified for the eligibility for the adoption of the further processes.

3.11 Tool for data analysis

Path analysis was adopted for primary data analysis. Design Quality, Operational Efficiency and Supplier Quality were the independent variables; product quality was dependent variable; organizational was the outcome variable.

4. ANALYSIS AND INTERPRETATION

The results shown in above table outline of the model fit, which contains the RMSEA score was 0.001 and RMS was 0.045 were well nearby the recommended limit of less than eight percent suggested by Velaudham and Baskar (2016). All the goodness of fit indicators falls into best level of fit as suggested by Velaudham and Baskar (2016). The chi-square value was 3.002 and probability value was 0.084 as against the recommended level and suggested by Saminathan, et al. (2019). In this model, the research has obtained GFI, AGFI, NFI and Compared Fit Index were greater than 90 percent as against the recommended level and suggested by Velaudham and Baskar (2015).

Table 1: Model Fit Indication

Indicators	Observed Value	Recommended Value (Premapriya, et al. 2016)
Chi-Square	3.002	---
P	0.084	Greater than 0.050
GFI	0.983	Greater than 0.090
AGFI	0.903	Greater than 0.090
CFI	0.974	Greater than 0.090
NFI	0.969	Greater than 0.090
RMS	0.045	Less than 0.080
RMSEA	0.001	Less than 0.080

Source: primary data

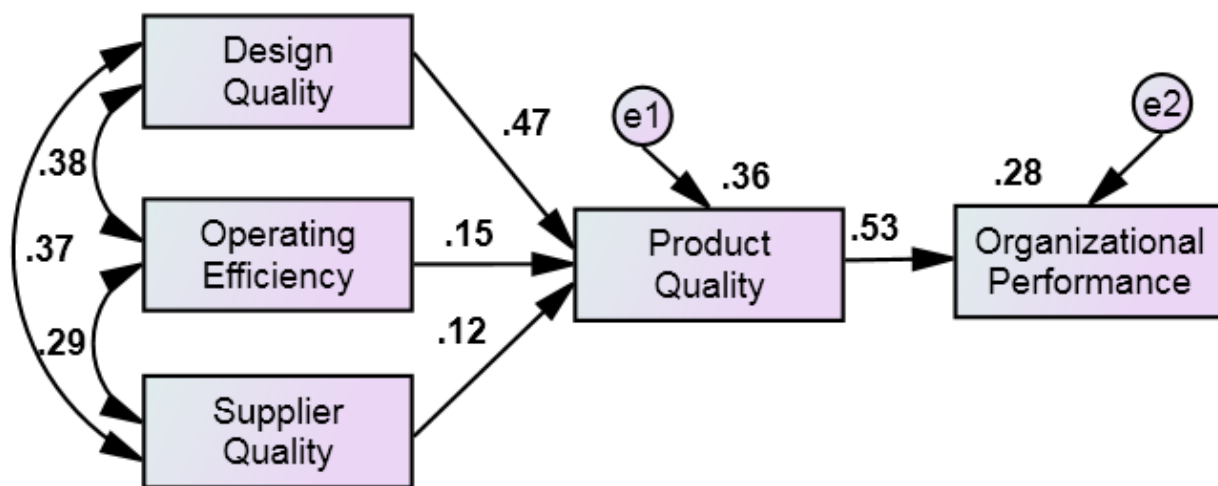


Figure 2: Path analysis of contribution of ISO Quality Management System Standard to Organizational Performance

Table 1: Regression Weights

DV		IV	Estimate	S.E.	C.R.	Beta	Label
Product Quality	<---	Design Quality	0.347	0.028	12.493	0.468	0.001
Product Quality	<---	Operational Efficiency	0.140	0.035	4.005	0.146	0.001
Product Quality	<---	Supplier Quality	0.103	0.032	3.262	0.118	0.001
Organizational Performance	<---	Product Quality	0.963	0.063	15.263	0.533	0.001

H₀: Design Quality has significant influence on Product Quality.

Influence of Design Quality on Product Quality computed CR value was 12.493 and the probability value was 0.001. Hence, the hypothesis was rejected. The computed standard regression weight was 0.468. It shows that the one unit increase of Design Quality leads to increase of 46.8 percent on Product Quality. Hence, it is finished that there is influence of Design Quality on Product Quality towards includes 3 manufacturing and 4 service industries which are certified for ISO 9001:2015 Quality Management System.

H₀: Operational Efficiency has significant influence on Product Quality.

Influence of Operational Efficiency on Product Quality computed CR value was 4.005 and the probability value was 0.001. Hence, the hypothesis was rejected. The computed standard regression weight was 0.146. It shows that the one unit increase of operating performance leads to increase of 14.6 percent on Product Quality. Hence, it is finished that there is influence of Operational Efficiency on Product Quality towards includes 3 manufacturing and 4 service industries which are certified for ISO 9001:2015 Quality Management System.

H₀: Supplier Quality has significant influence on Product Quality.

Influence of Supplier Quality on Product Quality computed CR value was 3.262 and the probability value was 0.001. Hence, the hypothesis was rejected. The computed standard regression weight was 0.118. It shows that the one unit increase of Supplier Quality leads to increase of 11.8 percent on Product Quality. Hence, it is finished that there is influence of Supplier Quality on Product Quality towards includes 3 manufacturing and 4 service industries which are certified for ISO 9001:2015 Quality Management System.

H₀: Product Quality has significant influence on organizational performance.

Influence of Product Quality on organizational performance computed CR value was 15.263 and the probability value was 0.001. Hence, the hypothesis was rejected. The computed standard regression weight was 0.533. It shows that the one unit increase of Product Quality leads to increase of 53.3 percent on organizational performance. Hence, it is finished that there is influence of Product Quality on organizational performance towards includes 3 manufacturing and 4 service industries which are certified for ISO 9001:2015 Quality Management System.

5. FINDINGS OF THE STUDY

5.1 Findings

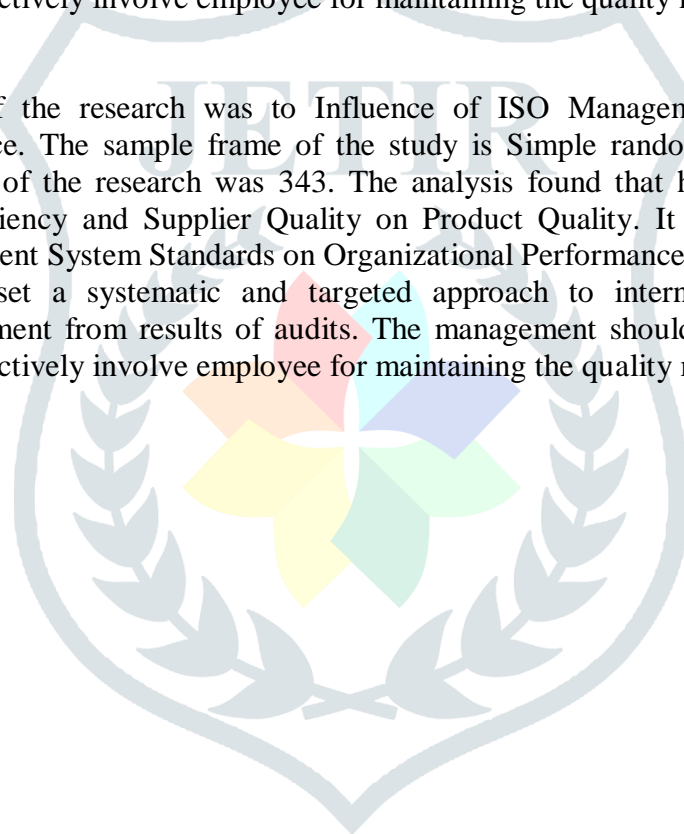
- The analysis found that there is influence of Design Quality, Operational Efficiency and Supplier Quality on Product Quality.
- It is also found that there is influence of ISO Management System Standards on Organizational Performance.

5.2 Implications

The main implication for practicing managers is that success of implementing ISO 9001:2015 quality management systems would be increased (operational and business performance) if it is well planned and implemented. Also management should align the organization management system with principle and requirement of the quality management system. An effective system for communicating with the employees should be determined especially with people whose activities effect on the key process of organization. The organization should set a systematic and targeted approach to internal audit and identify the opportunities for improvement from results of audits. The management should support the internal audit team continuously and effectively involve employee for maintaining the quality management system.

5.3 Conclusion

The importance of the research was to Influence of ISO Management System Standards on Organizational Performance. The sample frame of the study is Simple random sampling technique was adopted. The sample size of the research was 343. The analysis found that there is influence of Design Quality, Operational Efficiency and Supplier Quality on Product Quality. It is also found that there is influence of ISO Management System Standards on Organizational Performance. Hence, it is concluded that the organization should set a systematic and targeted approach to internal audit and identify the opportunities for improvement from results of audits. The management should support the internal audit team continuously and effectively involve employee for maintaining the quality management system.



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