

RELATIONSHIP BETWEEN TOP MANAGEMENT COMMITMENT AND ORGANIZATIONAL PERFORMANCE IN ISO 9001 CERTIFIED MANUFACTURING ORGANIZATIONS

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Abstract

This study aims to examine the relationship between Top Management Commitment (TMC) and organizational performance in ISO 9001 certified manufacturing organizations. Further, the study tries to investigate the impact of TMC on indicators of organizational performance. In addition, the study examines the effect of company size on the relationship between TMC and organizational performance in ISO 9001 certified manufacturing organizations. For this purpose, a questionnaire was administered to 128 ISO 9001 certified manufacturing organizations and the response was collected from 455 quality management personnel. Karl Pearson's coefficient of correlation was employed to examine the relation between TMC and organizational performance in ISO 9001 certified manufacturing organizations. Multiple regression analysis was performed to investigate the impact of TMC on organizational performance in ISO 9001 certified manufacturing organizations. Analysis of Variance (ANOVA) was used to examine whether the perception of TMC on ISO 9001 standard would differ across company size. The study reveals that there is a high degree of correlation between TMC and organizational performance. The study further shows that there is a significant impact of TMC on indicators of organizational performance. The study demonstrates that the perception of TMC on ISO 9001 standard differs according to company size.

Keywords:

ISO 9001 Standard, Top Management Commitment, Company Size, Organizational Performance

1. INTRODUCTION

Modern business is more complex as the expectations of the customers are changing and are diversifying in many ways. Any product, which is latest in its style and technology today, will become obsolete tomorrow. Such a highly demanding and ever-changing complex business environment characterized by Liberalization, Privatization and Globalization (LPG) has compelled the business organizations to be intelligent in offering competitive products and services with exceptional quality. The products and services having exceptional quality will enable the business organizations to pull new customers and reinforce their relationship with the existing customers. Further, increased pressure from the stakeholders is also propelling the organizations to formulate and implement competitive strategies for reducing operating costs and enhancing efficiency, without negotiating with the quality.

According to Arauz and Suzuki [1], the major challenge for every business organization is to accomplish global business excellence by producing products and services of superior quality with a least cost and most profit. ISO 9001 standard is one such tool which helps all types of organizations to face such challenges. These standards also facilitate the organizations to produce and

market its products at an international level by providing a set of quality system requirements [4].

The ISO 9000 family of standards is reviewed at regular intervals to keep the standards current and relevant for the marketplace. The updated fifth edition namely ISO 9001:2015 was brought into force in the year 2015. Although this edition was published in September 2015, organisations had a three-year transition period till September 2018 to move to the fifth edition. ISO 9001:2015 basically focuses more upon risk based thinking, which means analysis of risk in order to decide which challenges can be seen at what intensity while managing the business process. In addition, ISO 9001:2015 also emphasizes more on leadership and management commitment. The role of top management always had a greater role to play even in earlier version. Context of the organisation is another important addition into the new version. It refers to reviewing and understanding of internal and external environment in which the organisation is prevailing.

2. FINDINGS FROM THE LITERATURE REVIEW

'Quality management' is one of the main challenges faced by business organizations not only in India but also all over the world. The implementation of ISO 9001 Quality Management System (QMS) standard by business organizations represents a strategy to meet this challenge [16]. ISO 9000 family of standards specifies the requirements to obtain ISO 9001 certification that facilitates the business organizations to manufacture quality products and services [28]. Further, ISO 9000 family of standards are neither sector specific nor product specific [31]. Every sector and each product or a service is accounted while designing ISO 9000 family of standards [21]. Therefore, ISO 9001 standards are used by all varieties of business organizations from all the sectors, regardless of their size, field, and activity [20].

Although, there is an increase in the number of ISO 9001 certified organizations across many countries, many of them are skeptical about the benefits of those standards. Few organizations consider it as expensive or others view it as time consuming. While most of the organizations, comply with the ISO 9001 standard as a requirement from the customer. Therefore, the need arises to study the impact of ISO 9001 certification on overall organizational performance, so that organizations can decide whether to go for such certifications [12]. A study conducted by Gilbert and Sia [13] on the topic 'ISO 9000, the answer for TQM implementation in Malaysia found that the major reason for ISO 9000 registration to be the obligation from management.

The researchers in the past have identified several critical factors which play a significant role in the successful implementation of ISO 9001 standard. According to Poksinska

et al. [21] there are two important critical factors of ISO 9001 standard such as top management and quality manager to facilitate work improvement within the Quality Management System. Badiru et al. [2] had identified two more critical factors such as quality manager and general manager in an organization are potential to be the drivers of quality management process. Few other researchers observed that leadership role is the main driver for the successful execution of ISO 9001 standard [5] [10] [14] [27]. Burli et al. [26] proposed six determinants of TQM practices namely; Management Support, People Management, Training, Continuous Improvement, Customer Focus, and Supplier Relationship. Based on the literature survey, top management commitment was found to be an important critical factor for the successful implementation of ISO 9001 standard and hence considered for the study.

Business organizations implement ISO 9001 standard to enhance their overall performance. Post application, performance measurement is very much important to evaluate the usefulness of the standard. Therefore, researchers in their study found different indicators of organizational performance for estimating the impact of implementing ISO 9001 standard on organizational performance. According to Richard et al. [23], organizational performance includes financial performance, market performance, and shareholder return. Another research study conducted by Manjot Singh Bhatia [17] proposed five indicators for assessing the performance of manufacturing organizations. They are design performance, operating performance, environmental performance, supplier performance, and customer relationships. According to Bhatia, evaluation of impact of QMS on business performance through improvement in mediating factors such as design performance, operating performance, environmental performance, supplier performance and customer relationships provides a comprehensive understanding of the model and thus those five indicators are considered for the study.

ISO 9001 QMS certification implementation enhances the overall quality standards of business organizations. A study conducted by Subba Rao et al. [29] on the topic, whether ISO 9000 standards affect quality management practices tried to explore the relationship between ISO 9000 and quality management practices in the international context. A questionnaire was employed to collect the primary data from four countries namely US, India, China and Mexico. The study revealed that ISO 9000 certified firms show improved quality leadership, strategic quality planning, human resource management, quality assurance, supplier relationships, customer orientation, and quality results. Shannon et al. [25], tried to answer the question as ‘why organizations seek ISO 9001:2000 certification: regulatory compliance or competitive advantage?’. The findings of the study indicated that, the purpose of obtaining ISO 9001 standard is a convincing indicator for customers regarding effective implementation of quality management systems. An empirical research conducted by Corbett et al. [6] on financial impact due to ISO 9000 certification in United States indicated that, publicly traded manufacturing firms experience significant improvements in financial performance. According to Jason A. Briscoe et al. [3], the implementation and Impact of ISO 9000 among Small Manufacturing Enterprises found that, quality is essential for customer satisfaction and competitive success. Padma et al. [19] conducted a study on presence of critical factors

in ISO 9001:2000 manufacturing organizations and their impact on organizational performance in India. The study also analyzed the relationship between organizational variables and critical factors as well as organizational variables and indicators of organizational performance. The findings of the study showed a significant change in all critical factors and indicators of organizational performance because of ISO 9001:2000 implementation. The study of Liang and Dong [15] demonstrated that the organization’s motive for obtaining ISO certification affects the strength of the relationship between maintenance and benefits gained by ISO certification. Psomas and Kafetzopoulos [22] tried to examine the service industries in Greece with the purpose of evaluating the effect of ISO 9001 standard on performance of operations and found that ISO 9001 and operational performance are significantly associated with one another. According to Gilberto and Millan [9], the motivation for ISO 9001:2008 implementation is quality improvement, marketing advantage and reduction in costs. Santos et al. [8] studied ‘Motivation and benefits of implementation and certification according ISO 9001’ The Portuguese experience and found that the main motivation for certification is improvement of quality, improvement of Company image, marketing advantage, give empowerment to workers/capturing workers knowledge and cost reduction. Jackie Ochieng et al. [11] studied the impact of ISO 9001 implementation on organizational performance in Kenya. According to Adalia Martin [7] after implementing the ISO 9001 standard companies have more satisfied customers, better process and improved decision making which resulted in higher profit. Sultan and Hasret [30] studied the impact of ISO 9001 QMS implementation on employees. And the study results showed a significant impact on employee performance, the implemented Quality Management System (QMS) ISO 9001 is strongly recommended to be implemented by all Omani Civil Organizations.

3. CONCEPTUAL FRAMEWORK

Top Management Commitment (TMC) is an important critical factor for the successful implementation of ISO 9001 standard [18] [19] [24].

Table.1. Conceptual Framework

Independent Variable		Moderating Variable		Dependent Variable
TMC	→	Company Size	→	Design Performance
				Operating Performance
				Customer Relationship

The present study proposes to probe the relationship between TMC and organizational performance by assessing the impact of TMC on organizational performance in ISO 9001 certified organizations. Hence, TMC was considered as an independent variable and organizational performance as dependent variable. Based on the previous literature survey, the selected three indicators of organizational performance such as Design Performance (DP), Operating Performance (OP) and Customer relationship (CR) were considered for the study. Further, the study also tried to examine whether TMC would differ across company

size in ISO 9001 certified manufacturing organizations. Hence the demographic variable such as company size was considered for the present study.

4. OBJECTIVES OF THE STUDY

- To examine the relationship between TMC and organizational performance in ISO 9001 certified manufacturing organisations
- To investigate the impact of TMC on indicators of organisational performance in ISO 9001 certified manufacturing organisations.
- To examine the perception of TMC across company size in ISO 9001 certified manufacturing organisations

5. RESEARCH QUESTIONS

- *Research Question 1:* Does TMC relate to organizational performance?
- *Research Questions 2:* What might be the strength of association between TMC and indicators of organizational performance in ISO 9001 certified manufacturing organizations?
- *Research Question 3:* Whether TMC would differ across company size in ISO 9001 certified manufacturing organizations?

6. RESEARCH METHODOLOGY

6.1 SAMPLE

The study was carried out in Belagavi city in Karnataka state. Belagavi has a rich heritage of small, medium and large scale foundries and engineering units with more than 300 companies producing automotive parts and castings. These foundries support other industries such as engineering and various conventional machine shops, which further polish castings that are produced in Belagavi. Therefore, only manufacturing organizations such as foundry, engineering and machine shops with ISO 9001 certification were considered for the study.

Further, organizations which were either member of Belgaum Foundry Cluster (BFC) or Belgaum Chamber of Commerce and Industries (BCCI) are selected as sample population for the study. The list of ISO 9001 certified manufacturing organizations located in Belagavi city was collected from TUV Sud South Asia which is one of the leading ISO certifying agencies in India. The sample consisted of 455 respondents from 128 manufacturing organizations from Belagavi city (Karnataka State).

Convenience sampling method was adopted for respondent selection. Only those organizations that met the following two criteria have been included in the study; firstly, the organization should be manufacturing company and the secondly, company should be ISO 9001 certified one.

6.2 STATISTICAL ANALYSIS

The present study used a survey questionnaire instrument consisting of items related to TMC and indicators of

organizational performance. Data was analyzed using SPSS version 22.0. The Karl Pearson's Correlation Coefficients were calculated to examine the relation between TMC and organizational performance. Linear regression was run to analyze the extent of the effect of TMC on indicators of organizational performance. Analysis of Variance (ANOVA) was employed to examine whether TMC would differ across company size.

7. RESULTS AND DISCUSSION

Research Question 1: Does TMC relate to organizational performance?

The Karl Pearson's Coefficient of Correlation was calculated to examine the relation between TMC and indicators of organizational performance. The Table.2 presents the correlation coefficients of TMC and indicators of organizational performance.

Table.2. Correlation Coefficient of TMC and Indicators of Organizational Performance

	DP	OP	CR
TMC	0.03**	0.04**	0.07**
** Correlation is significant at the 0.05 level (2-tailed)			

The Top Management Commitment, which is an important critical factor of ISO 9001 standard demonstrated a positive and significant correlation with all the three indicators of organizational performance namely, design performance ($r=0.03$, $p<0.05$), operating performance ($r=0.04$, $p<0.05$), and customer relationship ($r=0.07$, $p<0.05$).

The results indicate that, leadership commitment contribute towards enhancement of all the indicators of organizational performance. Top management's emphasis on the establishment of quality policy and quality objective significantly contributes towards the overall performance of the organization. Development of methods and measurements to determine the effectiveness of various processes in the organization helps the organization to improve design performance.

Continuous review of quality management further helps the organizations to enhance their effectiveness in processes, which results into to low product defect rates, reduced unit production cost and reduced process cycle time. This results into improved operating performance. In addition, top management's commitment on customer focus in terms of identification of customer requirements and continuous improvement also assist the organization to enhance their customer relationship.

Research Questions 2: What might be the strength of association between TMC and indicators of organizational performance in ISO 9001 certified manufacturing organizations?

Multiple regression analysis was computed to determine the strength of association between TMC and organizational performance. It was computed separately for TMC with every indicator of organizational performance namely design performance, operating performance and customer relationship.

7.1 REGRESSION ANALYSIS OF TMC WITH DESIGN PERFORMANCE

Table.3. Regression Analysis of TMC with Design Performance

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	0.715 ^a	0.512	0.504	1.76
Dependent Variable : Design Performance				
F Value : 66.72				
$\beta = 0.32, p < 0.05$				

The Table.3 presents regression of TMC on design performance, which showed the value of R² as 0.512. This explains that TMC explained 51.2% of the variance in design performance. Further, the results also showed statistically significant relationship between TMC and design performance. The F test results [$F(7,446)=66.72, p<0.05$] was positive and significant at 5% level of significance. This indicates that there is a significant relationship between TMC and design performance. In addition, the results of multiple regression analysis also demonstrated that, TMC significantly predicted design performance ($\beta=0.32, p<0.05$).

7.2 REGRESSION ANALYSIS OF TMC WITH OPERATING PERFORMANCE

Table.4. Regression Analysis of TMC with Operating Performance

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	0.722 ^a	0.522	0.514	2.34
Dependent Variable : Operating Performance				
F Value : 69.52				
$\beta = 0.66, p < 0.05$				

The Table.4 presents regression of TMC on operating performance and showed that the value of R square as 0.522. This explains that TMC explained 52.2% variance in operating performance. Further the results of regression analysis exhibited statistically significant relationship between TMC and operating performance. The F test results [$F(7,446)=69.52, p<0.05$] was positive and significant at 5% level of significance. Therefore, it is indicated that there was a significant relationship between TMC and operating performance. Similarly, multiple regression computations demonstrated that, TMC significantly predicted operating performance ($\beta=0.66, p<0.05$).

7.3 REGRESSION ANALYSIS OF TMC WITH CUSTOMER RELATIONSHIP

The Table.5 presents the regression of TMC on customer relationship, which demonstrated the R square value as 0.5. This indicates that TMC explained 50.0% variance in customer relationship. The ANOVA results of TMC demonstrated that there was statistically significant relationship between TMC and customer relationship. The F test results [$F(7,446)=63.61,$

$p<0.05$] was positive and significant at 5% level of significance. Hence, it is understood that there was a significant relationship between TMC and customer relationship. Multiple regression calculations presented in Table.5 further showed that TMC significantly predicted the 'Customer Relationship'. ($\beta=0.54, p<0.05$).

Table.5. Regression Analysis of TMC with Customer Relationship

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	0.707 ^a	0.500	0.492	2.14
Dependent Variable : Customer relationship				
F Value : 63.61				
$\beta = 0.54, p < 0.05$				

From the above analysis we can conclude that all the three indicators of organizational performance significantly predict organizational performance. Operating performance has the highest predictive ability and design performance has the lowest predictive ability towards organizational performance. While customer relationship has the moderate predictive ability for organizational performance

Research Question 3: Whether TMC would differ across company size in ISO 9001 certified manufacturing organizations?

One-way Analysis of Variance (ANOVA) was computed to examine whether TMC would differ across company size. In order to examine the same, manufacturing organizations were classified into four categories based on their turnover. That is, micro enterprises = 0 to 5 crores; small enterprises = 5 crores to 75 crores; medium enterprises = 75 crores to 250 crores; and large enterprises = 250 crores and above. The Table.6 presents ANOVA results of TMC and company size and Table.7 show the descriptive statistics of TMC across company size.

Table.6. ANOVA of TMC across Company Size

	SS	df	MS	F	Sig.
TMC	113	3	37.97	5.28	0.01*
	11279	451	25.00		
	11392	454			

The results of one-way ANOVA as shown in Table.6 demonstrated that there was significant difference in TMC at $p<0.05$ across company size. The ANOVA results as shown in Table 6 further indicated that there was statistically significant difference in TMC [$F(3,451)=5.28, p<0.05$] across company size.

It is observed from Table.7 that the mean scores were significantly lower in micro enterprises ($M=32.86, SD=5.44$) as compared to the remaining three categories namely, small enterprises ($M=33.47, SD=4.95$), medium enterprises ($M=33.86, SD=4.72$) and large enterprises ($M=35.0, SD=5.0$). The mean score of large enterprise showed highest amongst all categories.

Table.7. Descriptive Statistics of TMC across Company Size

		N	Mean	SD
TMC	Micro	42	32.86	5.44
	Small	209	33.47	4.95
	Medium	163	33.86	4.72
	Large	41	35.00	5.00

The results indicate that top management in large enterprises are more committed towards quality policy, quality objectives, resource allocation and continuous review of quality management systems as compared to medium, small and micro enterprises. Top management from Micro and Small enterprises do not generally perceive quality standards more seriously rather they comply with such certifications because they are requirements from the customer end. Further these organizations feel that, such standards involve more of documentation and time consuming. On the other hand, large organizations have understood the importance of quality standards in international market and hence top management in large enterprises are more serious towards such standards.

8. CONCLUSION

The results of the present study show the existence of a strong relationship between ISO 9001 standard and organizational performance. The manufacturing organizations, which implement quality management practices in general and ISO 9001 standard in particular are found to be better in terms of overall performance. The results further show that top management commitment has a predictive ability for organizational performance. It is inferred that committed leadership augments overall organizational performance.

Another significant finding is that top management commitment is highest in large scale ISO 9001 certified organizations as compared to medium scale and small scale organizations. Thus, given the empirical connection between TMC in ISO 9001 certified organizations and organizational performance, manufacturing organizations should show their seriousness towards the implementation of such quality standards to sustain in a competitive environment.

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