International Journal of
Supply Chain Management
(IJSCM)

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CARI Journals

International Journal of Supply Chain and Logistics
ISSSN 2520-4661 (Online)
Vol. 4, Issue No.3, pp 1 - 24, 2020
www.carijournals.org

Influence of Iso 9001: 2015 Procurement Quality Management on Performance of Manufacturing Firms in Kenya

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Abstract

Purpose: The overall objective of this study was to examine the influence of procurement ISO 9001: 2015 procurement quality management on performance of manufacturing firms in Kenya, with an aim of making recommendations on proper use of ISO 9001: 2015 procurement quality management in the manufacturing sector.

Methodology: This research study adopted a descriptive research design.The researcher preferred this method because it allowed an in-depth study of the subject. To gather data, structured questionnaire was used to collect data. The study population was the manufacturing firms in Nairobi; the respondents were the designated heads of procurement of these firms. 200 heads of procurement were selected using stratified random sampling. Once collected, data was analyzed using descriptive and inferential statistics.Quantitative data was analyzed using multiple regression analysis. The qualitative data generated was analyzed by use of Statistical Package of Social Sciences (SPSS) version 20

Results and conclusion: The correlation analysis to determine the relationship between continuous improvement and performance of manufacturing firms in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship (r=0.387) between and continuous improvement performance of manufacturing firms in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05). The correlation analysis to determine the relationship between supplier management and performance of manufacturing firms in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship (r=0.598) supplier management and performance of manufacturing firms in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05). The correlation analysis to determine the relationship between customer focus and performance of manufacturing firms in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship (r= 0.690) between customer focus and performance of manufacturing firms in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05).

Policy recommendation: Finally, the study recommended that manufacturing firms should embrace procurement total quality practices so as to improve their performance and further researches should to be carried out in other institutions to find out if the same results can be obtained.

Keywords: *process management, continuous improvement, supplier management and customer focus influence*

1.1 INTRODUCTION

The study sets out to investigate the influence of ISO 9001: 2015 procurement quality management on performance of manufacturing firms in Kenya. To this end, this chapter builds the case by introducing the problem warranting the study. This chapter presents; the background of the study, problem statement, objectives, research questions, importance of the study, the scope of the study and limitations of the study.

ISO 9001: 2015 procurement quality management is considered an important catalyst in the performance of company's world over. This is why the ISO 9001: 2015 procurement quality management concept has captured the attention of all sides of commerce and industry, as well as that of academics. The large number of academic articles being published in this area is a testimony to the high level of interest in quality issues (Meegan & Taylor, 2015). During the past decade, quality improvement has become one of the most important organizational strategies for achieving competitive advantage.

Improving the quality with which an organization can deliver its products and services is critical for competing in an expanding global market. ISO 9001: 2015 procurement quality management begins with the primary assumption that employees in organizations must cooperate with each other in order to achieve quality for the needs of the customer. One can achieve quality by controlling manufacturing/service processes to prevent defects. ISO 9001: 2015 procurement quality management, however, does not only consist of quality tools and techniques (Masters, 2016).

ISO 9001: 2015 procurement quality management processes also depend on a certain set of values and beliefs shared by all organizational members. The concept of quality has migrated from being considered as a non-price factor on which imperfect competition in the markets is based, to being considered as a strategic resource of firms. In other words, quality went from being a one-dimensional attribute of the product to being considered a multi-dimensional construct which has to be managed and the implementation of which leads to a dynamic capability of firms (Demirbag, Tatoglu, Tekinkus & Zaim, 2015).

Despite the large number of articles and books on ISO 9001: 2015 procurement quality management, ISO 9001: 2015 procurement quality management remains a hazy, ambiguous concept. Quality teams provide companies with the structured environment necessary for successfully implementing and continuously applying the ISO 9001: 2015 procurement quality management (Al-Mashari & Zairi, 2016).

1.2 Problem Statement

In many emerging economies especially in Asia, manufacturing industry had been the economic growth engine and was the major tradable sector in those economies (Rotich, 2016). However, Kenya's manufacturing industrial sector enjoyed modest growth rates averaging 4 percent over the last decade (KAM, 2014). In the year 2013 manufacturing sector was the second largest sub sector of the economy after agriculture (CCG, 2015) but in 2014, it was in the fourth place behind agriculture, wholesale and retail trade, transport and communication (World Bank, 2015). As a result, the sector had seen a reduction in its contribution to GDP from 13.6% in the early 90's to 9.2% in 2014 (RoK, 2015).

Kenya Vision 2030 emphasizes the need for appropriate manufacturing strategy for efficient and sustainable practices as a way of making the country globally competitive and a prosperous nation (KNBS, 2016). Nevertheless, most manufacturing firms in Kenya operate at a technical efficiency of about 59% compared to their counterparts in Malaysia that average about 74% (Achuora, Guyo, Arasa & Odhiambo, 2015) raising doubts about the sector's capacity to meet the goals of Vision 2030 (PPOA, 2015).

Kenya's manufacturing sector is burdened by challenges such as resource scarcity, high cost of energy, unreliable electricity supply, low level technology utilization and declining trend of product innovation (UNEP, 2015). Nonetheless, Kenya experienced an average growth of 4.1% p.a. between the years 2006 and 2015 but this was smaller than the average annual growth in the overall GDP of 4.6%.

Kenyan firms still face challenges on the business environment although the country has recorded some improvements in the last years. According to Investment Climate Assessment Report 2017 (ICA, 2014) by the World Bank Group, the top constraints identified were tax rates and tax administration, corruption, security, infrastructure services (electricity and transportation), and business licensing. Although Kenya has recently reduced the number of tax payments, tax administration remains a major burden for firms in Kenya.

High cost of electricity and its quality and transport are the main infrastructure bottlenecks affecting industries in Kenya. Among the major challenges that are facing the industry are the long and time-consuming bureaucratic procedures (GoK, 2018). Companies that experience good performance consistently have the understanding of what customer defined quality means to a business. For this reason, manufacturing companies in Kenya are adopting quality management strategies that work for them in order to improve on. It is against this backdrop that this study intends to look at the influence of ISO 9001: 2015 procurement quality management on performance of manufacturing firms in Kenya.

1.3 Objectives of the Study

i. To assess the influence of process management on performance of manufacturing firms in Kenya.

ii. To establish the influence of continuous improvement on performance of manufacturing firms in Kenya.

iii. To determine the influence of supplier management on performance of manufacturing firms in Kenya.

iv. To evaluate the influence of customer focus on performance of manufacturing firms in Kenya.

2.0 LITERATURE REVIEW

2.1 The Theory of Constraints

Theory of constraints is an approach to the management of operations and it was developed by Goldratt (1939). It provides a management theory of how organizations should be run. The concept was extended to theory of constraints (TOC) with a publication which views any manageable system as being limited in achieving more of its objectives by a very small number of constraints. There is always one constraint and the TOC uses a focusing process to identify the constraint and restructure the organization around it (Tari, Molina & Castejun, 2015).

TOC emphasizes on the optimization of performance within a defined set of constraints of the existing process and it provides an action framework which combines the activities of the managers and the visible system elements. TOC views organizations as systems consisting of resources, which are linked by the processes they perform. The goal of the organization serves as the primary judge of success. Within that system, a constraint is defined as anything that limits the system from achieving higher performance relative to its purpose (Witjaksono, 2014).

The pervasiveness of interdependencies within the organization makes the analogy of a chain, or network of chains, very descriptive of a system's processes. Just as the strength of a chain is governed by its single weakest link, the TOC perspective is that the ability of any organization to achieve its goal is governed by a single, or at most very few, constraints. The theory of constraints defines a set of tools that change agents can use to manage constraints, thereby increasing profits. TOC conceptually models this system as a chain, and advocates the familiar adage that a chain is only as strong as its weakest link. This theory incorporates the idea that the goal or mission of an organization exists, and organizations can be measured and controlled by variations on three measures throughput, operational expense and inventory.

Throughput is the rate at which the system generates money through sales, inventory is all the money that the system has invested in inventory management of the things it intends to sell. Operational expense is all the funds a system spends in order to draw the inventory into throughput (Yeung & Lo, 2016). In the context of this study one of the variables of ISO 9001: 2015 procurement quality management will show the linkage to one of the measures of process

management that are used to measure the performances of organizations in the manufacturing sector.

2.2 Influence of ISO 9001: 2015 Procurement

2.2.1 Process Management

Process management in this study will be considered as a ISO 9001: 2015 procurement quality management variable that influences performance of manufacturing firms. The attributes of process management which will be taken into consideration in this study are: stable production schedules, production systems development and establishing value addition mechanisms. The belief that the process is the entity that should be managed in order to eliminate or minimize errors, and the belief that improvements related to production processes will necessarily improve the overall quality performance (David & Robert, 2014).

2.2.2 Continuous Improvement

Continuous improvement in this study will be considered as a ISO 9001: 2015 procurement quality management variable that influences performance of manufacturing firms. The attributes of continuous improvement which will be taken into consideration in this study are: lowering proportion of defects, improving product designs and regular review of work processes. Continuous improvement (CI) is a philosophy that Deming (1974) described simply as consisting of improvement initiatives that increase successes and reduce failures (Bilich & Neto, 2015).

Yet others view CI as either as an offshoot of existing quality initiatives like ISO 9001: 2015 procurement quality management or as a completely new approach of enhancing creativity and achieving competitive excellence in today's market. According to Awino (2016), total quality can be achieved by constantly pursuing CI through the involvement of people from all organizational levels. We define CI more generally as a culture of sustained improvement targeting the elimination of waste in all systems and processes of an organization. It involves everyone working together to make improvements without necessarily making huge capital investments. CI can occur through evolutionary improvement, in which case improvements are incremental, or though radical changes that take place as a result of an innovative idea or new technology (Bahri, Hamzah & Yusuf, 2014).

2.2.3 Supplier Management

Supplier management in this study will be considered as a ISO 9001: 2015 procurement quality management variable that influences performance of manufacturing firms. The attributes of supplier management which will be taken into consideration in this study are: supplier collaboration, supplier development and supplier appraisal. A fundamental change in present day's organizations is the integration of internal processes of an organization to suppliers and customers that is, establishing a link between supply chain and suppliers and customers which leads to necessary improvements and maintaining its competitiveness (Smith, 2015).

2.2.4 Customer Focus

Customer focus in this study will be considered as a ISO 9001: 2015 procurement quality management variable that influences performance of manufacturing firms. The attributes of customer focus which will be taken into consideration in this study are: determining customer requirements, establishing customer care indicators and measuring customer satisfaction. ISO 9001: 2015 procurement quality management is a customer-based vision of company management to increase the value of goods offered to customers (Nwabueze, 2018).

2.3 Conceptual Framework

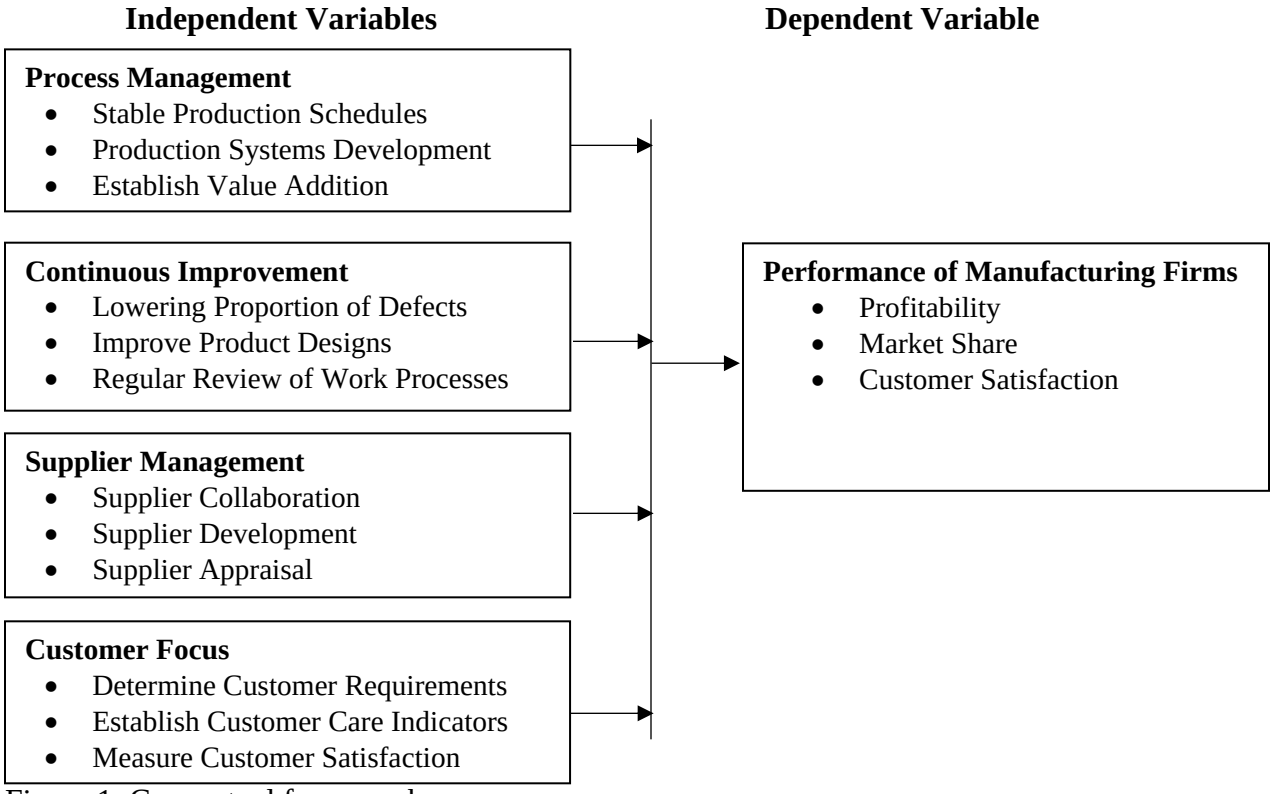

Figure 1: Conceptual framework

3.0 METHODOLOGY

This research study adopted a descriptive research design. The researcher preferred this method because it allowed an in-depth study of the subject. To gather data, structured questionnaire was used to collect data. The study population was the manufacturing firms in Nairobi; the respondents were the designated heads of procurement of these firms. 200 heads of procurement were selected using stratified random sampling. Once collected, data was analyzed using descriptive and inferential statistics. Quantitative data was analyzed using multiple regression analysis. The qualitative data generated was analyzed by use of Statistical Package of Social Sciences (SPSS) version 20.

4.0 RESULTS FINDINGS

4.1 Introduction

4.2 Response Rate

A sample of 200 respondents were interviewed using questionnaires that allowed the researcher to drop the questionnaire to the respondents and then collect them at a later date when they had filled the questionnaires. A total of 200 questionnares were distributed to heads of procurement. Out of the population covered, 172 were responsive respresenting a response rate of 86%. This was above the 50% which is considered adequate in descriptive statistics according to (Mugenda & Mugenda, 2018).

Table 1: Response Rate of Respondents

Response	Frequency	Percentage
Actual Response	172	86
Non-Response	28	14
Total	**200**	**100%**

4.3 Pilot Study

The Cronbach's alpha was computed in terms of the average inter-correlations among the items measuring the concepts. The rule of thumb for Cronbach's alpha is that the closer the alpha is to 1 the higher the reliability (Kothari, 2018). A value of at least 0.7 is recommended. Cronbach's alpha is the most commonly used coefficient of internal consistency and stability. Consistency indicated how well the items measuring the concepts hang together as a set. Cronbach's alpha was used to measure reliability. This was done on the four objectives of the study. The higher the coefficient, the more reliable is the test**.**

Table 2 Reliability Results

Variable	No. of Items	Respondents	α=Alpha	Comment
Process Management	9	20	0.893	Reliable
Continuous Improvement	9	20	0.987	Reliable
Supplier Management	9	20	0.974	Reliable
Customer Focus	9	20	0.976	Reliable

4.4 Demographic Information

4.4.1 Distribution of Respondents by Gender

The study also determined the gender of the respondents. The results are submitted in figure 4.1 where 45% of the respondents were male while 55% of the respondents were female. This indicates that majority of manufacturing firms' staff in Kenya are female. The percentages may show the issue of gender equity has been attained in the manufacturing industry in this counrty, but that is

outside the scope of this study. A study on USA manufacturing firms found that women and men do not differ in their ability to perform operational tasks, but rather bring a different perspective to strategic decision making through their increased sensitivity to others (Phu-Van, 2016).

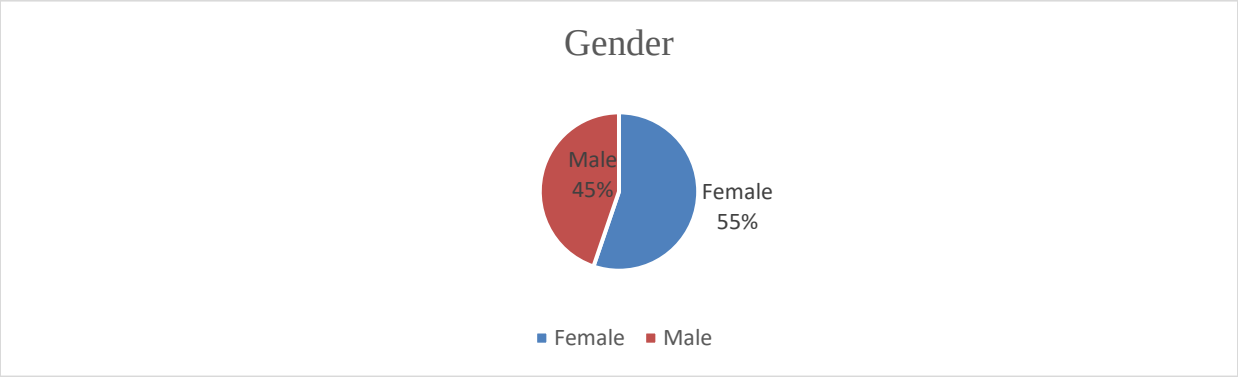

Figure 2: Distributions of Respondents by Gender

4.4.2 Distribution of Respondents by Age

The study determined the age distribution of the respondents. The results summarized in the table below. The findings indicate that the majority respondents belonged to age bracket of 18-30 years, this is at 29%. Respondents between 41-50 years accounted for 24%. Results also indicated that respondents above 50 years are 24%, finally respondents between 31- 40 years was 23%. Again this shows that those interviewed are experienced persons capable of making independent judgments and the results of a research process involving them is deemed to be valid. The findings are in agreement with those of Dunn (2015) who established that there are two natural age peaks of the early 30s and mid 40s which correlated to employee performance.

Table 3: Distribution of Respondents by Age

Category	Frequency	Percent
18-30 Years	50	29.1
31-40 Years	40	23.3
41-50 Years	41	23.8
50 and above	41	23.8
Total	**172**	**100**

4.4.3 Distribution of Respondents by Level of Education

The respondents were asked to state their highest level of education and the results were as captured in tables 4.3. The results indicated that majority of the respondents 37 % had a diploma, 31% percent had acquired a certificate, 25% had a degree and 7% had acquired a master's degree. These findings concur with those of Kakwezi and Nyeko (2015) who established that majority of who work in manufacturing firms are highly educated and that there is evidence linking education and performance in manufacturing firms. With majority respondents having degree and above, it

is expected that their level of understanding of performance of firms is good. This is an indication that the results obtained from respondents interviewed in the present study can be relied upon**.**

Table 4: Distribution of Respondents by Level of Education

Category	Frequency	Percent
Certificate level	45	26.2
Diploma level	47	27.3
Degree level	41	23.8
Master level	39	22.7
Total	**172**	**100**

4.4.4 Distribution of Respondents by Length of Service

The study determined the number of years the respondents had worked in their current office. From the findings the majority of the respondents had worked for 3-5 years at 34.9%, 0-2 years at 26.7%, 6-8 years at 23.8% and finally 9 years and above at 14.5%. %. The findings of the study are in tandem with literature review by Kaynak (2015) who indicated that a duration and experience of employee helps him or her to have better knowledge and skills which contribute to performance of manufacturing firms.

Table 5: Distribution of Respondents by Length of Service

Category	Frequency	Percent
0-2 Years	46	26.7
3-5 Years	60	34.9
6-8 Years	41	23.8
9 and above	25	14.5
Total	**172**	**100**

4.5 Descriptive Statistics.

4.5.1 Process Management

The first objective of the study was to assess the influence of process management on performance of manufacturing firms in Kenya. The respondents were asked to indicate to what extent process management influences performance of manufacturing firms in Kenya. Results indicated that majority of the respondents 34% said it was to a very great extent 19% said that it was to a great extent, 18% said it was moderate, while little extent was at 17% and not all at 12%.

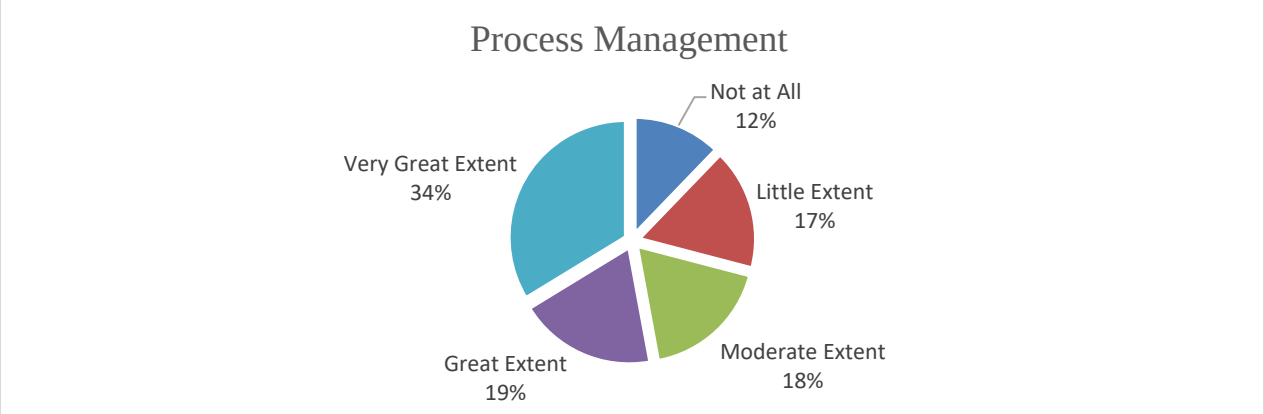

Figure 3: Process Management

The respondents were also asked to comment on statements regarding process management influence on performance of manufacturing firms in Kenya. The responses were rated on a Likert scale and the results presented in Table 4.4 below. It was rated on a 5-point Likert scale ranging from; 1 = strongly disagree to 5 = strongly agree. The scores of 'strongly disagree' and 'disagree' have been taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'neutral' has been taken to represent a statement agreed upon, equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' have been taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.

Results indicated that majority of the respondents 58.1% agreed on the statement that stable production schedules play a significant role in profitability improvement. Further results indicated that 58.8 % of the respondents were in agreement that production systems development play a significant role in profitability improvement. A 61.1% of the respondents agreed that value addition mechanisms play a significant role in profitability improvement.

87.2% of the respondents expressed agreement on the statement that stable production schedules play a significant role in expanding market share. Results indicated that majority of the respondents 90.1% agreed on the statement that production systems greatly influenced market share. Results indicated that majority of the respondents 92.4% agreed on the statement that value addition mechanisms play a significant role in expanding market share.

Results indicated that majority of the respondents 91.9% agreed on the statement that stable production schedules play a significant role in attaining higher customer satisfaction. Results indicated that majority of the respondents 60.5% agreed on the statement that production systems development play a significant role in attaining higher customer satisfaction. Results indicated that majority of the respondents 84.8% agreed on the statement that value addition mechanisms play a significant role in attaining higher customer satisfaction.

The average mean of all the statements was 4.04 indicating that majority of the respondents agreed on process management influence on performance of manufacturing firms in Kenya. However, the variations in the responses were varied as shown by a standard deviation of 0.992. These findings imply that process management was at the heart of the organization. The findings agree with

Kazemi and Hooshyar (2016) that using process management when dealing with ISO 9001: 2015 procurement quality management for a new product or service can be smart.

Table 6: Process Management

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
Stable production schedules play a significant role in profitability improvement	4.10%	2.90%	34.90%	30.80%	27.30%	3.82	0.941
Production systems development play a significant role in profitability improvement	0.60%	5.20%	35.50%	29.10%	29.70%	3.65	1.101
Value addition mechanisms play a significant role in profitability improvement	7.00%	5.20%	26.70%	38.40%	22.70%	4.12	1.139
Stable production schedules play a significant role in expanding market share	7.00%	5.80%	0.00%	43.00%	44.20%	4.3	0.873
Production systems development play a significant role in expanding market share	2.30%	2.90%	4.70%	42.40%	47.70%	4.26	0.907
Value addition mechanisms play a significant role in expanding market share	2.90%	4.70%	0.00%	48.80%	43.60%	4.35	0.77
Stable production schedules play a significant role in attaining higher customer satisfaction	1.70%	0.60%	5.80%	44.20%	47.70%	3.73	1.175
Production systems development play a significant role in attaining higher customer satisfaction	9.30%	0.00%	30.20%	29.70%	30.80%	4.15	1.03
Value addition mechanisms play a significant role in attaining higher customer satisfaction	5.80%	1.20%	8.10%	42.40%	42.40%	4.26	4.26
Average						**4.04**	**0.992**

4.5.2 Continuous Improvement

The second objective of the study was to establish the influence of continuous improvement on performance of manufacturing firms in Kenya. The respondents were asked to indicate to what extent the influence of continuous improvement had on performance of manufacturing firms in Kenya. Results indicated that majority of the respondents 33% agreed that it was to a very great extent, 26 % said that it was to a great extent, 16% said it was moderate, while 12% said by little extent and not all tied was at 13%.

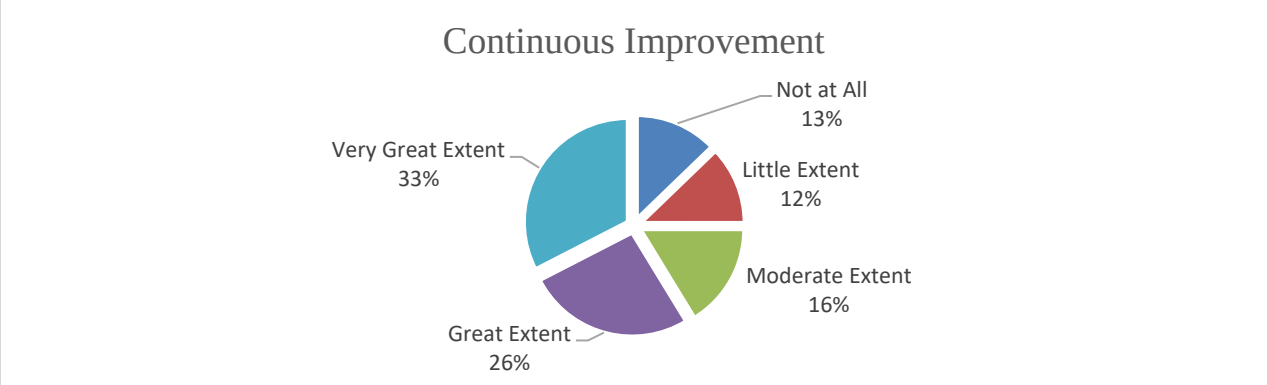

Figure 4.: Continuous Improvement

The respondents were also asked to comment on statements regarding influence of continuous improvement on performance of manufacturing firms in Kenya. Results indicated that majority of the respondents 69.8% agreed on statement that lowering the proportion of defects plays a significant role in profitability improvement. Further results indicated that 56.4% of the respondents were in agreement that improved product designs play a significant role in profitability improvement. A 40.7% of the respondents agreed that reviewing work processes plays a significant role in profitability improvement.

44.7% of the respondents expressed agreement on the statement that lowering the proportion of defects plays a significant role in expanding market share. Results indicated that majority of the respondents 95.3% agreed on the statement that improved product designs play a significant role in expanding market share. Results indicated that majority of the respondents 40.7% agreed on the statement that reviewing work processes plays a significant role in expanding market share.

Results indicated that majority of the respondents 44.7% agreed on the statement that lowering the proportion of defects plays a significant role in attaining higher customer satisfaction. Results indicated that majority of the respondents 57.5% agreed on the statement that improved product designs play a significant role in attaining higher customer satisfaction. Results indicated that majority of the respondents 48.2% agreed on the statement that Reviewing work processes plays a significant role in attaining higher customer satisfaction.

The average mean of all the statements was 3.67 indicating that majority of the respondents agreed on continuous improvement influence on performance of manufacturing firms in Kenya. However, the variations in the responses were varied as shown by a standard deviation of 1.113. These findings indicate that through continuous improvement, the management could improve the processes capacity, demand additional cost reductions, faster deliveries, better quality and better performance. This study agrees with Kirungu (2014) that organizations must look toward their continuous operational improvements. The opportunities for cost savings and operational improvements can be enormous as the impact on margins and bottom line is considerable.

Table 7: Continuous Improvement

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
Lowering the proportion of defects plays a significant role in profitability improvement	0.00%	0.00%	30.20%	37.80%	32.00%	3.71	1.001
Improved product designs plays a significant role in profitability improvement	4.10%	2.30%	37.20%	31.40%	25.00%	3.86	0.975
Reviewing work processes plays a significant role in profitability improvement	4.10%	1.20%	27.30%	39.50%	27.90%	4.33	0.924
Lowering the proportion of defects plays a significant role in expanding market share	5.20%	0.00%	0.00%	45.90%	48.80%	4.34	0.804
Improved product designs plays a significant role in expanding market share	2.30%	2.30%	0.00%	50.00%	45.30%	3.04	1.448
Reviewing work processes plays a significant role in expanding market share	19.20%	21.50%	18.60%	17.40%	23.30%	3.01	1.477
Lowering the proportion of defects plays a significant role in attaining higher customer satisfaction	23.30%	18.00%	14.00%	24.40%	20.30%	3.62	1.104
Improved product designs plays a significant role in attaining higher customer satisfaction	0.00%	22.10%	20.30%	30.80%	26.70%	3.48	1.172
Reviewing work processes plays a significant role in attaining higher customer satisfaction	2.30%	22.10%	27.30%	21.50%	26.70%	3.51	1.167
Average						**3.67**	**1.113**

4.5.3 Supplier Management

There was also need to determine the influence of supplier management on performance of manufacturing firms in Kenya. The respondents were asked to comment on extent of supplier management influence on performance of manufacturing firms in Kenya. Results indicated that majority of the respondents 37% agreed that it was to a very great extent, 20% said that it was to a great extent, 14% said it was moderate; little extent was 15% and not all at 14%.

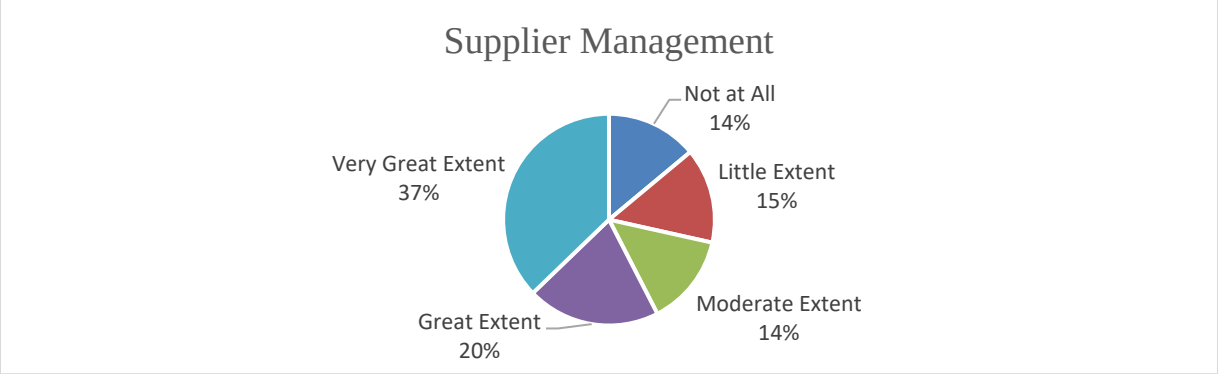

Figure 5: Supplier Management

Results indicated that 64% agreed on the statement that supplier collaboration plays a significant role in profitability improvement. Majority of the respondents 73.3% agreed on the statement that supplier development plays a significant role in profitability improvement. Further results indicated that 61.6% of the respondents were in agreement supplier appraisal plays a significant role in profitability improvement.

A 64% of the respondents agreed that supplier collaboration plays a significant role in expanding market share. 61.1% of the respondents expressed agreement on the statement that supplier development plays a significant role in expanding market share. Results indicated that majority of the respondents 66.2% agreed on the statement that supplier appraisal plays a significant role in expanding market share.

Results indicated that majority of the respondents 45.6% agreed on the statement that Supplier collaboration plays a significant role in attaining higher customer satisfaction. Results indicated that majority of the respondents 94.2% agreed on the statement that Supplier development plays a significant role in attaining higher customer satisfaction. Results indicated that majority of the respondents 94.7% agreed on the statement that Supplier development plays a significant role in attaining higher customer satisfaction.

The average mean of all the statements was 3.98 indicating that majority of the respondents agreed on supplier management influence on performance of manufacturing firms in Kenya. However, the variations in the responses were varied as shown by a standard deviation of 0.893. These findings imply that through supplier management, companies can improve competitive positioning, gain entry to new supply base which is dynamic, technology driven, supplement critical skills and share the risk or cost of major development projects (Robbins & Coulter, 2016).

Table 8: Supplier Management

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
Supplier collaboration plays a significant role in profitability improvement	4.10%	0.00%	32.00%	25.00%	39.00%	3.95	1.039
Supplier development plays a significant role in profitability improvement	0.00%	0.00%	26.70%	37.80%	35.50%	4.09	0.786
Supplier appraisal plays a significant role in profitability improvement	0.00%	5.20%	33.10%	26.70%	34.90%	3.91	0.942
Supplier collaboration plays a significant role in expanding market share	0.00%	0.00%	36.00%	32.00%	32.00%	3.96	0.826
Supplier development plays a significant role in expanding market share	2.90%	2.90%	33.10%	28.50%	32.60%	3.85	1.009
Supplier appraisal plays a significant role in expanding market share	0.00%	0.00%	33.70%	30.20%	36.00%	4.02	0.837
Supplier collaboration plays a significant role in attaining higher customer satisfaction	18.00%	14.0%	22.70%	22.10%	23.30%	3.19	1.41
Supplier development plays a significant role in attaining higher customer satisfaction	0.00%	0.00%	5.80%	51.20%	43.00%	4.37	0.593
Supplier appraisal plays a significant role in attaining higher customer satisfaction	0.00%	0.00%	5.20%	36.60%	58.10%	4.53	0.597
Average						**3.98**	**0.893**

4.5.4 Customer Focus

There was also need to evaluate the influence of customer focus on performance of manufacturing firms in Kenya. The respondents were also asked to comment on statements regarding customer focus on performance of manufacturing firms in Kenya. Results also showed that 36% of respondents indicated to very great extent, great extent was at 20%, moderate extent was 15%, while little extent was at 19% and not at all was at 10%.

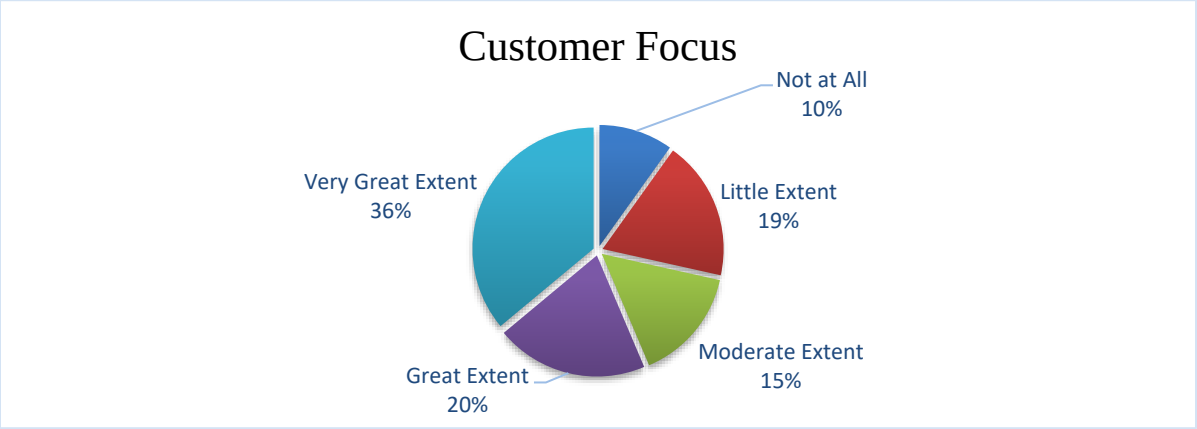

Figure 5: Customer focus

Results indicated that majority of the respondents 92.5% agreed on the statement that determining customer requirements plays a significant role in profitability improvement. Further results indicated that 94.8% of the respondents were in agreement that establishing customer care indicators plays a significant role in profitability improvement. An 88.4% of the respondents agreed that measuring customer satisfaction plays a significant role in profitability improvement.

90.2% of the respondents expressed agreement on the statement that determining customer requirements plays a significant role in expanding market share. Results indicated that majority of the respondents 94.2% agreed on the statement that establishing customer care indicators plays a significant role in expanding market share. Results indicated that majority of the respondents 97.1% agreed on the statement that measuring customer satisfaction plays a significant role in expanding market share.

91.9% of the respondents expressed agreement on the statement that determining customer requirements plays a significant role in attaining higher customer satisfaction. Results indicated that majority of the respondents 98.2% agreed on the statement that establishing customer care indicators plays a significant role in attaining higher customer satisfaction. Results indicated that majority of the respondents 94.2% agreed on the statement that measuring customer satisfaction plays a significant role in attaining higher customer satisfaction.

The average mean of all the statements was 4.3 indicating that majority of the respondents agreed on customer focus influence on performance of manufacturing firms in Kenya. However, the variations in the responses were varied as shown by a standard deviation of 0.713. The results imply that an organization benefits greatly when customer focus is embraced to reduce costs, introduce customer feedback evaluation systems designed to address the customer's needs, and work with the organization to streamline customer focus (Rotich, 2016).

Table 9: Customer Focus

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std. Deviation
Determining customer requirements plays a significant role in profitability improvement	2.30%	2.30%	2.90%	47.70%	44.80%	4.42	0.7
Establishing customer care indicators plays a significant role in profitability improvement	1.20%	0.60%	3.50%	44.80%	50.00%	4.22	0.895
Measuring customer satisfaction plays a significant role in profitability improvement	2.30%	4.10%	5.20%	46.50%	41.90%	4.22	0.927
Determining customer requirements plays a significant role in expanding market share	3.50%	3.50%	2.90%	48.30%	41.90%	4.37	0.613
Establishing customer care indicators plays a significant role in expanding market share	0.00%	0.60%	5.20%	50.60%	43.60%	4.37	0.54
Measuring customer satisfaction plays a significant role in expanding market share	0.00%	0.00%	2.90%	57.60%	39.50%	4.41	0.715
Determining customer requirements plays a significant role in attaining higher customer satisfaction	0.60%	1.20%	6.40%	40.70%	51.20%	4.51	0.535
Establishing customer care indicators plays a significant role in attaining higher customer satisfaction	0.00%	0.00%	1.70%	45.30%	52.90%	4.34	0.783
Measuring customer satisfaction plays a significant role in attaining higher customer satisfaction	1.70%	2.30%	1.70%	48.30%	45.90%	4.37	0.771
Average						**4.35**	**0.713**

4.6 Correlation Analysis

Correlation analysis was used to determine both the significance and degree of association of the variables and also predict the level of variation in the dependent variable caused by the independent variables. The correlation technique is used to analyze the degree of relationship between two variables. The results of the correlation analysis are summarized in Table 4.10.

Table 10: Summary of Pearson's Correlations

		Process Management	Continuous Improvement	Supplier Management	Customer Focus	Performance
Process Management	Pearson Correlation	1				
	Sig. (2-tailed)					
Continuous Improvement	Pearson Correlation	.661**	1			
	Sig. (2-tailed)	0				
Supplier Management	Pearson Correlation	.616**	.499**	1		
	Sig. (2-tailed)	0	0			
Customer Focus	Pearson Correlation	.519**	.471**	.504**	1	
	Sig. (2-tailed)	0	0	0		
Performance	Pearson Correlation	.677**	.387**	.598**	.690**	1
	Sig. (2-tailed)	0	0	0	0	

** Correlation is significant at the 0.05 level (2-tailed).

The correlation summary shown in Table 4.10 indicates that the associations between each of the independent variables and the dependent variable were all significant at the 95% confidence level. The correlation analysis to determine the relationship between process management and performance of manufacturing firms in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship (r=0.677) between process management and performance of manufacturing firms in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05).

The correlation analysis to determine the relationship between continuous improvement and performance of manufacturing firms in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship (r=0.387) between and continuous improvement performance of manufacturing firms in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05).

The correlation analysis to determine the relationship between supplier management and performance of manufacturing firms in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship (r=0.598) supplier management and performance of manufacturing firms in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05).

The correlation analysis to determine the relationship between customer focus and performance of manufacturing firms in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship (r= 0.690) between

customer focus and performance of manufacturing firms in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05).

4.7 Regression Analysis

In this study multivariate regression analysis was used to determine the significance of the relationship between the dependent variable and all the independent variables pooled together. Regression analysis was conducted to find the proportion in the dependent variable (performance of manufacturing firms in Kenya) which can be predicted from the independent variables (process management, continuous improvement, supplier management and customer focus). Table 4.11 presents the regression coefficient of independent variables against dependent variable. The results of regression analysis revealed there is a significant positive relationship between dependent variable and the independent variable.

The independent variables reported R value of 0.814 indicating that there is perfect relationship between dependent variable and independent variables. R square value of 0.663 means that 66.3% of the corresponding variation in performance of manufacturing firms in Kenya can be explained or predicted by (process management, continuous improvement, supplier management and customer focus). The results of regression analysis revealed that there was a significant positive relationship between dependent variable and independent variable at (β=0.655), p=0.000 <0.05).

Table 11: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	**.814[a]**	**.663**	**.655**	**.153653**

Table 12: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.764	4	1.941	82.214	.000[b]
	Residual	3.943	167	0.024		
	Total	11.707	171			

The significance value is 0.000 which is less that 0.05 thus the model is statistically significance in predicting how process management, continuous improvement, supplier management and customer focus influence performance of manufacturing firms. The F critical at 5% level of significance was 61.793. Since F calculated which can be noted from the ANOVA table above is 82.214 which is greater than the F critical (value = 61.793), this shows that the overall model was significant. The study therefore establishes that; process management, continuous improvement, supplier management and customer focus were all important ISO 9001: 2015 procurement quality management practices influencing performance of manufacturing firms. These results agree with Smith (2015) results which indicated a positive and significant influence of ISO 9001: 2015 procurement quality management on performance of manufacturing firms.

Table 13: Coefficients of Determination

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		β	Std. Error	Beta		
1	(Constant)	.987	.283		3.484	.001
	Process Management	.590	.083	.482	7.103	.000
	Customer Focus	.243	.029	.458	8.270	.000
	Continuous Improvement	.128	.032	.243	3.964	.000
	Supplier Management	.059	.018	.192	3.229	.001

$$Y= \beta_0+ \beta_1X_1+\beta_2X_2+\beta_3X_3 +\beta_4X_4 +Ɛ$$

Where;

Y= Performance of Manufacturing Firms in Kenya

β_0= Constant

X_1= Customer Focus

X_2= Continuous Improvement

X_3= Supplier Management

X_4= Process Management

Ɛ= Error Term at 95% confidence level.

The regression equation will be;

$$Y=0.987+ 0.59X_1 + 0.128X_2 + 0.059X_3 +0.243X_4$$

The regression equation above has established that taking all factors into account (process management, continuous improvement, supplier management and customer focus) constant at zero, performance of manufacturing firms in Kenya will be an index of 0.987. The findings presented also shows that taking all other independent variables at zero, a unit increase in process management will lead to a 0.59 increase in performance of manufacturing firms in Kenya. The P-value was 0.000 which is less 0.05 and thus the relationship was significant.

The study also found that a unit increase in continuous improvement will lead to a 0.128 increase in performance of manufacturing firms in Kenya. The P-value was 0.000 and thus the relationship was significant. In addition, the study found that a unit increase in supplier management will lead to a 0.059 increase in the performance of manufacturing firms in Kenya. The P-value was 0.001 and thus the relationship was significant.

Lastly, the study found that a unit increase in customer focus will lead to a 0.243 increase in the performance of manufacturing firms in Kenya. The P-value was 0.000 and hence the relationship was significant since the p-value was lower than 0.05. The findings of the study show that, process management contributed most to the performance of manufacturing firms in Kenya.

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of the Findings

The correlation analysis to determine the relationship between continuous improvement and performance of manufacturing firms in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship (r=0.387) between and continuous improvement performance of manufacturing firms in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05).

The correlation analysis to determine the relationship between supplier management and performance of manufacturing firms in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship (r=0.598) supplier management and performance of manufacturing firms in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05).

The correlation analysis to determine the relationship between customer focus and performance of manufacturing firms in Kenya, Pearson correlation coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship (r= 0.690) between customer focus and performance of manufacturing firms in Kenya. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05).

5.2 Conclusion

The findings of the study indicated that process management, continuous improvement, supplier management and customer focus have a positive relationship with performance in manufacturing firms.

5.3 Recommendations

Finally, the study recommended that manufacturing firms should embrace procurement total quality practices so as to improve their performance and further researches should to be carried out in other institutions to find out if the same results can be obtained.

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