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**Influence of Procurement Quality Management on Performance of  
Manufacturing Firms in Kenya**



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## **Influence of 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 quality management on performance of manufacturing firms in Kenya, with an aim of making recommendations on proper use of procurement quality management in the manufacturing sector. The study aimed to establish how process management, continuous improvement, supplier management and customer focus influence performance of manufacturing firms

**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 24.

**Results and conclusion:** The response rate of the study was 86%. 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. The regression results revealed that procurement quality management practices identified in the study, that is, process management, continuous improvement, supplier management and customer focus combined could explain approximately 66.3% of the variations in the performance of manufacturing firms. The other 33.7% may be attributed to other strategies not explained by the model or the variables.

**Unique Contribution to Theory, Policy and Practice:** 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*

## 1.1 Introduction

The study sets out to investigate the influence of 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. Procurement quality management is considered an important catalyst in the performance of company's world over. This is why the 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, 2020). 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. 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. Procurement quality management, however, does not only consist of quality tools and techniques (Masters, 2021). 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, 2020). Despite the large number of articles and books on procurement quality management, procurement quality management remains a hazy, ambiguous concept. Quality teams provide companies with the structured environment necessary for successfully implementing and continuously applying the Procurement quality management (Al-Mashari & Zairi, 2021).

## 1.2 Statement of the Problem

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, 2021). However,

Kenya's manufacturing industrial sector enjoyed modest growth rates averaging 4 percent over the last decade (KAM, 2022). In the year 2013 manufacturing sector was the second largest sub sector of the economy after agriculture (CCG, 2020) but in 2019, it was in the fourth place behind agriculture, wholesale and retail trade, transport and communication (World Bank, 2020). 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 2022 (RoK, 2020).

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, 2021). 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, 2020) raising doubts about the sector's capacity to meet the goals of Vision 2030 (PPRA, 2020).

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, 2020). Nonetheless, Kenya experienced an average growth of 4.1% p.a. between the years 2021 and 2020 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 2021 (ICA, 2022) 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, 2022). 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 procurement quality management on performance of manufacturing firms in Kenya.



### **1.3 Objectives of the Study**

1. To assess the influence of process management on performance of manufacturing firms in Kenya.
2. To establish the influence of continuous improvement on performance of manufacturing firms in Kenya.
3. To determine the influence of supplier management on performance of manufacturing firms in Kenya.
4. To evaluate the influence of customer focus on performance of manufacturing firms in Kenya.

## **2.0 LITERATURE REVIEW**

### **2.1 The Resource Based Theory**

Resource based theory is the study of how the exterior resources of an organization influence the performance of the organization. The procurement of exterior resources such as production scheduling software's is a significant tenet of both the strategic and tactical management of any company, an implication in the procurement efficiency of the buying firms especially in tapping into the connection with suppliers as their important and dependable associates through resources such as just in times systems of delivery (Hadavand, 2020).

Thus, this theory props up the concept of supply chain management, resource-based theory proposes that actors lacking in crucial resources will seek to create relationships with others in order to acquire required resources such as sales scheduling resources. Just like sellers on buyers for precious markets and buyer will depend on suppliers for external resources (Hoyer & Hoyer, 2021).

Also, organizations endeavor to alter their reliance relationships by lessening their own reliance or by increasing the dependence of other organizations on them. Within this viewpoint, organizations are viewed as coalitions alerting their structure and patterns of behavior to acquire and maintain required external resources (Evans & Dean, 2022). Acquiring the external resources required by an organization comes by diminishing the organization's reliance on others and by increasing other's reliance on it, that is, modifying an organization's influence with other organizations.

This theory of the study resource-based view emphasizes the firm's resources as the fundamental determinants of competitive advantage through forecasting the span of life cycle for a product and its management. It adopts two assumptions in analyzing sources of competitive advantage (Eriksson & Hansson, 2021). First this model assumes that firms within an industry may be heterogeneous with respect to the bundle of resources that they control. Second, it assumes that resources heterogeneity may persist over time because the resources used to implement firm's

strategies are not perfectly mobile across firms. Resource heterogeneity is considered a necessary condition for a resource bundle to contribute to a competitive advantage.

The resource-based view is an efficiency-based explanation of performance differences. Dale (2020) explains that organizational performance is attributed to resources such as demand and supply forecasting techniques having intrinsically different levels of efficiency in the sense that they enable the firms to deliver to their customers at different performance levels. This theory is relevant to the study because one thing depends on another thing to be effective. For better performance in the manufacturing industry effective procurement quality management practices especially customer focus is put in place in the procurement department.

## 2.2: Conceptual framework

Conceptual framework is a detailed description of the phenomenon under the study accompanied by the graphical or visual depiction of the major variable of the study (Ngechu, 2021). According to Larry (2020) conceptual framework is diagrammatical representation that shows the relationship between dependent variable and independent variables.

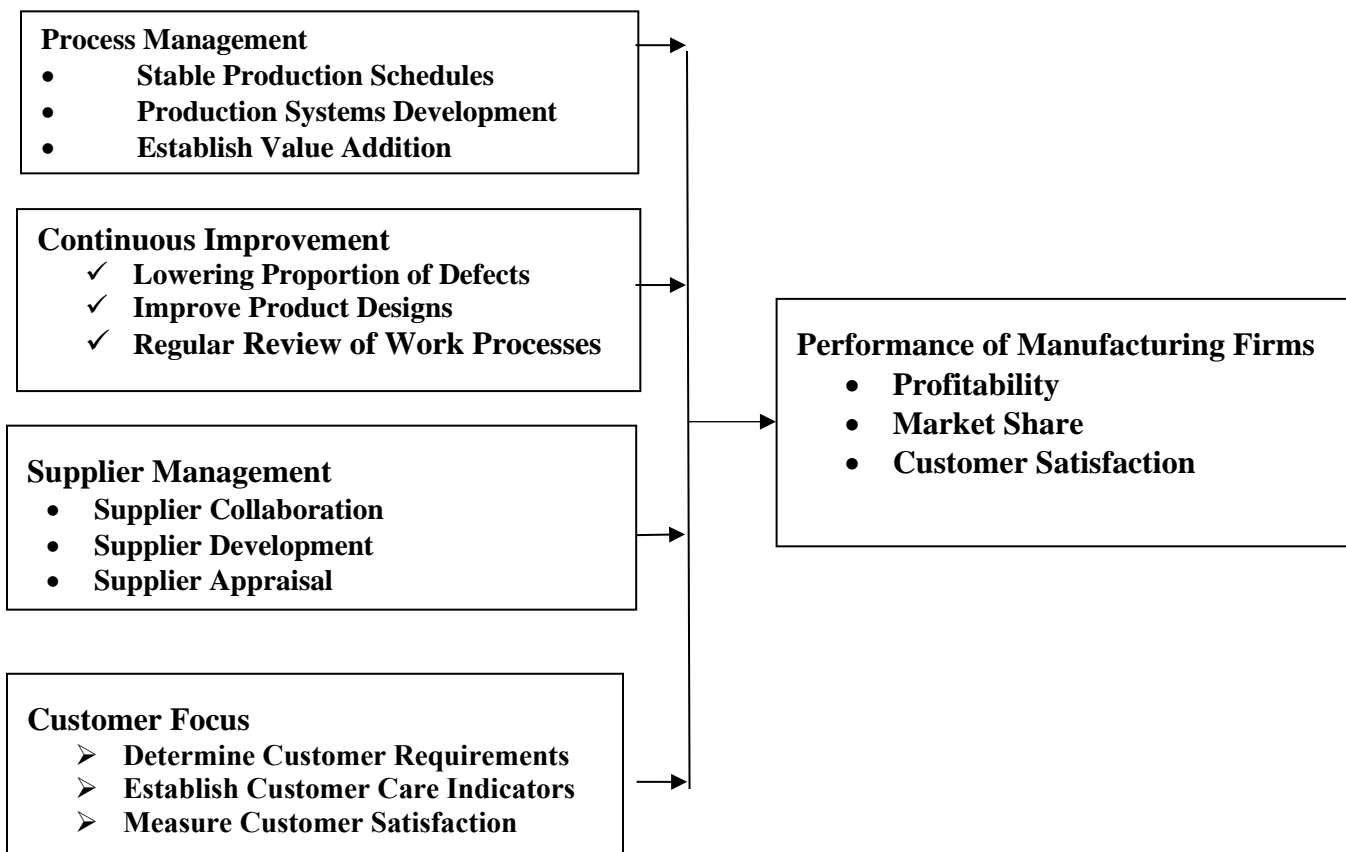


Figure 1: Conceptual framework

### **2.3 Empirical Review**

There are a limited number of studies illustrating how manufacturing firm's performance is influenced by procurement quality management, David et al., (2022) observed that the manufacturing industry firmware faced with the difficulty of meeting high performance targets with the many constraints they face to deliver effective and efficient services demanded by their customers.

### **2.4 Critique of the Existing Literature**

Existing literature has found colossal constraints in the effective use of procurement quality management by manufacturing firms. For instance, Malik et al., (2020) suggested that companies should organize the production and operations function in a way that will maximize its effective and bring commensurate performance to the company. He further concluded that some companies are best served by embedding proficient Procurement quality management professionals in various business units. For others, a more centralized operations unit embracing Procurement quality management is most effective (Ahire & Dreyfus, 2020).

Many of the progressive companies have, however, have adopted a hybrid approach that combines a centralized strategy to gain consensus with decentralized execution to improve service. While appreciating his findings, this study notes that the researcher did not employ the personal observation tool so as to gather data especially on operations. Analysis of factors such as core technical skills management is important to overcome some of the constraints.

According to Bahri, Hamzah and Yusuf (2022) a reliable procurement quality management implementation is a cornerstone of successful supply chain management and thus the whole business. But a collaborative procurement quality management initiative produces even better results. Rather than consider procurement quality management as just a matter for the purchasing department, best-in-class organizations get internal customers actively involved in the decision-making process. More importantly, they solicit feedback and information regarding their objectives and strategies from those customers. This approach not only ensures availability of supplies but also results in lower total cost, streamlined processes, and increased responsiveness to customers' changing needs.

Kirungu (2022) in his study found that inefficiency in the supply chain was caused by bureaucratic procurement irrational supply base, adversarial customer-supplier relationships, and traditional storage operations. He recommended that Kenyatta National Hospital (KNH) procurement procedures to adopt Procurement quality management, rationalization of the supply base, and supplier management. This study concurs with his findings pertaining to supply base rationalization and relationships but wishes to point out that the research instruments used were limited to an interview and observations. No questionnaires were administered which could have given adequate data for analysis. It was further noted that senior managers were not interviewed

and he failed to employ records analysis method. This study supports the recommendation that KNH procurement procedures employ Procurement quality management.

## **2.5 Summary of Literature Reviewed**

Based on the discussion above, there are various factors affecting effective implementation of procurement quality management among manufacturing firms in Kenya. These factors include but may not be limited to process management, continuous improvement, supplier management and customer focus. Process management has been expounded as an important element of activity in the manufacturing of goods, from raw materials and work in progress through to finished products.

It is integral part to the supply chain network within which it operates and as such its roles and objectives should synchronize with the objectives of the supply chain. Continuous improvement involves meeting customer expectations which are increasing and changing with the dynamics of global environmental changes. Organizations are benchmarking one another so as to unravel the secrets behind their successes. The major challenge to organization is how to acquire customers, retain them, build relationship with them and discover ways of being more valuable to them.

No organization can achieve this without continuously improving not only its products or services but also processes and people. Supplier management is the other factor that is important and cannot be undermined in the effective use of Procurement quality management practices. All successful companies build strong relationships with their suppliers. In reality, successful companies recognize the need to build bridges between their organization and the suppliers that they work with by establishing strong buyer and seller relationship.

Customer focus has been observed to various benefits in enhancing the performance of manufacturing firms, in order to implement the practice of customer focus successfully, the organization must draw extensively on customer data which typically provides information that enables employees to engage more fully to address customer related issues. The practice of customer focus is frequently considered to be an integral feature of Procurement quality management.

## **2.6 Research Gaps**

In recent years, there has been increasing amount of research on procurement quality management and performance of manufacturing firms (Bilich, 2020). This issue has been raised in literature on marketing, procurement, information systems and strategy. However, there is still fragmented evidence on how procurement quality management work, especially in private sector. From the previous studies, it is unclear whether procurement quality management favor big manufacturing firms or puts at a disadvantage the smaller firms (Awino, 2021).

More investigations in this field are needed to better understand how procurement quality management can impact on the competitive capabilities of procuring entities and the wider supply chain (Al-Mashari et al., 2021). Therefore, this demonstrates that there is still room to study which



other factors influence performance of manufacturing firms. The literature review of the study indicate that different researchers have made numerous attempts to explain various issues surrounding performance in different sectors but no major study or theoretical explanation has successfully managed to elaborate on the influence of process management, continuous improvement, supplier management and customer focus on performance of manufacturing firms.

This has hence influenced development of major knowledge gaps on factors affecting performance and hence necessitated the need to conduct this study. The research study will narrow its research undertakings into this gap with an aim of gathering data that would help to come up with effective recommendations on how to improve performance in manufacturing firms

### 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 24.

The research used a multiple regression model.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where:

Y = Performance of Manufacturing Firms

$\beta_0$  = Constant

$\beta_1, \beta_2, \beta_3, \beta_4$  = Beta Coefficients

X1 = Process Management

X2 = Continuous Improvement

X3 = Supplier Management

X4 = Customer Focus

$\epsilon$  = Error Term

### 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 questionnaires were distributed to heads of procurement. Out of the population covered, 172 were responsive representing a response rate of 86%. This was above the 50% which is considered adequate in descriptive statistics according to (Mugenda & Mugenda, 2022).

Table 1: Response Rate of Respondents

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Actual Response</b>	172	86
<b>Non-Response</b>	28	14
<b>Total</b>	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, 2022). 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

<b>Variable</b>	<b>No. of Items</b>	<b>Respondents</b>	<b><math>\alpha</math>=Alpha</b>	<b>Comment</b>
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

This section presents the personal details of the respondents and it provides data regarding the study and is necessary for the determination of whether the individuals in a particular study are a

representative sample of the target population and testing appropriateness of respondent in answering the questions for generalization.

#### 4.4.1 Distribution of Respondents by Gender

The study also determined the gender of the respondents. The results are submitted in figure 2 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 country, 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, 2021).

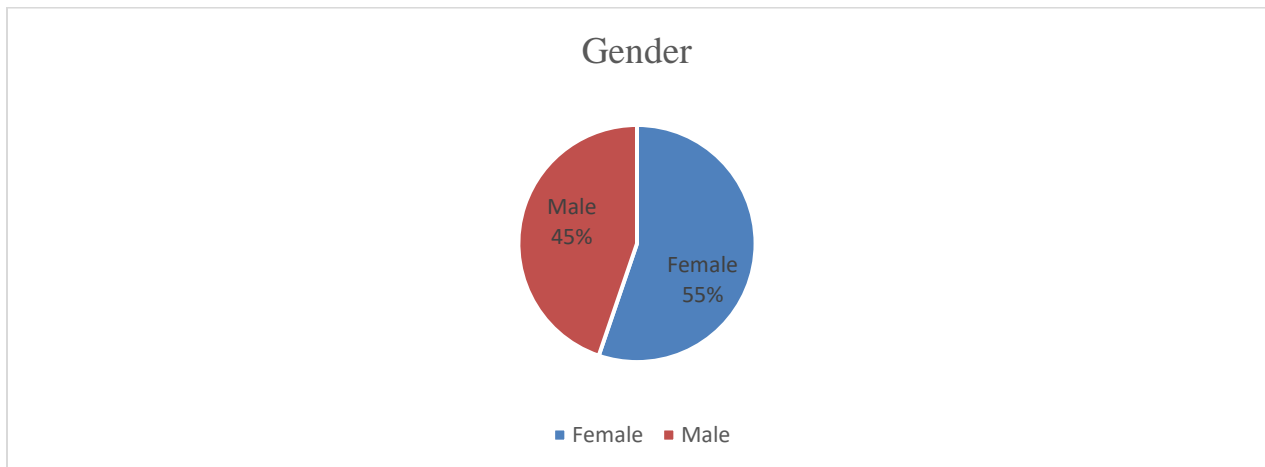


Figure 2 Distributions of Respondents by Gender

#### 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 were 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 (2020) 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 (2020) 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 (2020) 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

The study set out to establish the influence of procurement quality management on performance of manufacturing firms in Kenya. To this end, four variables were conceptualized as components of Procurement quality management of manufacturing firms in Kenya. These include; process management, continuous improvement, supplier management and customer focus.

##### 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%.

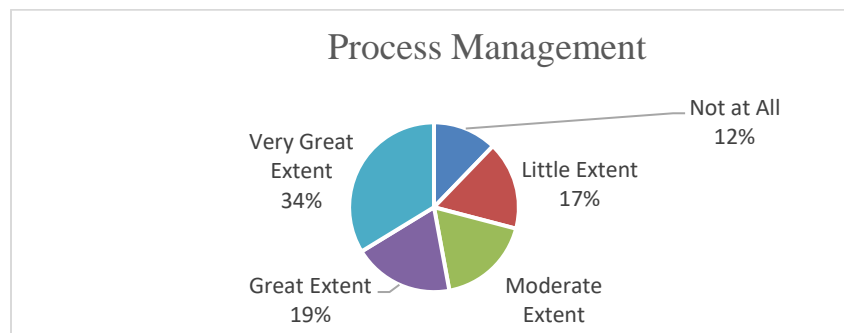


Figure 3: Process Management

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 (2021) that using process management when dealing with 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%.

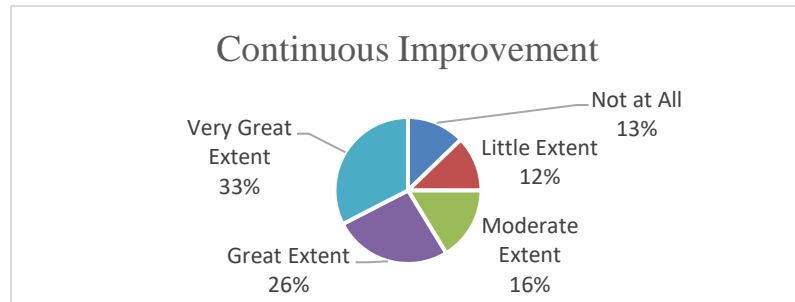


Figure 4 Continuous Improvement

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 (2022) 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 play 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 play 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 play a significant role in	0.00%	22.10%	20.30%	30.80%	26.70%	3.48	1.172

attaining higher customer satisfaction

Reviewing work processes plays a significant role in attaining higher customer satisfaction

Average

2.30%	22.10%	27.30%	21.50%	26.70%	3.51	1.167
					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%.

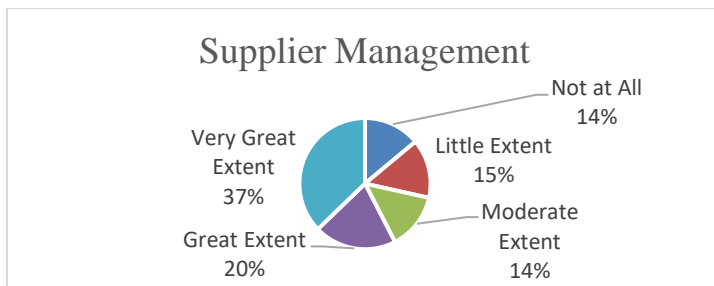


Figure 5 Supplier Management

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, 2021).

Table 4.8: 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%.

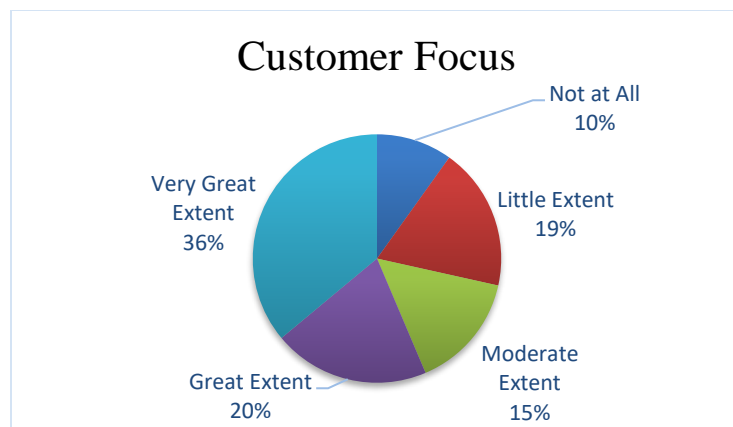


Figure 6: Customer focus

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, 2021).

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 1.70% 2.30% 1.70% 48.30% 45.90% 4.37 0.771

higher customer satisfaction

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 10

Table 10: Summary of Pearson’s Correlations

		Process Management	Continuous Improvement	Supplier Management	Customer Focus	Performance of Manufacturing Firms
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 of Manufacturing Firms	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 ( $\beta=0.655$ ),  $p=0.000 < 0.05$ ).

Table 11: Model Summary

1	.814 <sup>a</sup>	.663	.655	.153653
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Predictors: (constant), Process Management, Continuous Improvement, Supplier Management and Customer Focus

Dependent Variable: Performance of Manufacturing Firms

Table 12: ANOVA

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

Predictors: (constant), Process Management, Continuous Improvement, Supplier Management and Customer Focus

Dependent Variable: Performance of Manufacturing Firms

The significance value is 0.000 which is less than 0.05 thus the model is statistically significant 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 Procurement quality management practices influencing performance of manufacturing firms. These results agree with Smith (2020) results which indicated a positive and significant influence of Procurement quality management on performance of manufacturing firms.

Table 13: Coefficients of Determination

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	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

Predictors: (constant), Process Management, Continuous Improvement, Supplier Management and Customer Focus

Dependent Variable: Performance of Manufacturing Firms

The research used a multiple regression model

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where;

Y= Performance of Manufacturing Firms in Kenya

$\beta_0$ = Constant

$X_1$ = Customer Focus

$X_2$ = Continuous Improvement

$X_3$ = Supplier Management

$X_4$ = Process Management

$\epsilon$ = 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 CONCLUSION AND RECOMMENDATIONS**

### **5.1 Introduction**

The main aim of the study was to study was investigate the influence of procurement quality management on performance of manufacturing firms in Kenya. It specifically sought to determine the influence of; process management, continuous improvement, supplier management and customer focus in the procurement departments of manufacturing firms in Kenya.

### **5.2 Summary of Findings**

The study sought to examine the influence of procurement quality management on performance of manufacturing firms in Kenya. The study targeted staff of manufacturing firms, specifically the heads of procurement in the organizations. A total of 172 heads of procurement participated. This specific study found out that majority of respondents highly agree that manufacturing firms had embraced process management with regard to their procurement activities, a majority of respondents were found to highly agree that manufacturing firms had embraced continuous improvement with regard to their procurement activities, a majority of respondents were found to

highly agree that manufacturing firms had embraced supplier management with regard to their procurement activities and lastly this study found out that majority of respondents highly agree that manufacturing firms had embraced customer focus with regard to their procurement activities.

The study endeavored to determine influence of procurement quality management on performance of manufacturing firms in Kenya. The regression results revealed that procurement quality management practices identified in the study, that is, process management, continuous improvement, supplier management and customer focus combined could explain approximately 66.3% of the variations in the performance of manufacturing firms. The other 33.7% may be attributed to other strategies not explained by the model or the variables.

Quality of goods purchased recorded positive growth, timely purchases and stock out reduction further recorded positive growth, cost reductions due to minimal or no reworks also recorded positive growth. From inferential statistics, a positive correlation is seen between each determinant variable and performance of manufacturing firms. The strongest correlation was established between process management and performance of manufacturing firms. All the independent variables were found to have a statistically significant association with the dependent variable at ninety-five percent level of confidence.

### 5.3 Conclusion of the Study

Based on the study findings, the study concludes that performance of manufacturing firms can be improved by process management, continuous improvement, supplier management and customer focus.

First, in regard to process management, the regression coefficients of the study show that it has a significant influence of 0.590 on performance of manufacturing firms. This implies that increasing levels of process management by a unit would increase the levels of performance of manufacturing firms by 0.590. This shows that process management has a positive influence on performance of manufacturing firms.

Second in regard to customer focus, the regression coefficients of the study show that it has a significant influence of 0.243 on performance of manufacturing firms. This implies that increasing levels of customer focus by a unit would increase the levels of performance of manufacturing firms by 0.243. This shows that customer focus has a positive influence on performance of manufacturing firms.

With regard to the third objective, continuous improvement, the regression coefficients of the study show that it has a significant influence of 0.128 on performance of manufacturing firms. This implies that increasing levels of continuous improvement by a unit would increase the levels of performance of manufacturing firms by 0.128. This shows that continuous improvement has a positive influence on performance of manufacturing firms.



Lastly, concerning supplier management as the last objective the regression coefficients of the study show that it has a significant influence of 0.059 on performance of manufacturing firms. This implies that increasing levels of supplier management by a unit would increase the levels of performance of manufacturing firms by 0.059. This shows that supplier management has a positive influence on performance of manufacturing firms.

Drawing on this research, lack of process management, continuous improvement, supplier management and customer focus in manufacturing firms is leading to poor performance. Though the manufacturing firms are striving hard to improve their performance there are still issues of poor-quality products, long lead time and high cost of projects/products. It was articulated that the current phenomenon of poor performance among the manufacturing firms can be reversed if the firms and other stakeholders ensure process management; continuous improvement, supplier management and customer focus are embraced in the procurement function. Thus, it is evident that all the independent variables identified in this study were all important Procurement quality management that influenced the performance of manufacturing firms.

#### 5.4 Recommendations of the Study

To ensure that manufacturing firms have better performance they should focus more on using their process management so as to establish stable production schedules, develop their production systems and ensure that there are value addition mechanisms. In the same regard, they should outsource consultants to enable them to come up with process management practices that articulate with their organization objectives.

With regard to the second objective, it would be salutary for manufacturing firms to invest more in continuous improvement to reduce the cost of procurement through unnecessary proportions of defective goods and ensure suppliers get it right the first time. This should be done consistently with the training, improvement of their channels, processes and capacity as well as enabling them financially to acquire the up-to-date equipment.

In relation to supplier management, the organizations should form strategic alliances with their suppliers so as to have a more improved working relationship characterized by a shared mindset and good financial and funds flow. If manufacturing firms embrace supplier development among its suppliers, then there will be cost reduction and timing of delivery will improve.

Concerning customer focus, there is need for manufacturing firms to always set aside a substantial part of their resources for activities that consume a huge amount of total costs, which is in determining customer requirements. This is because decisions made in the first stages of product design and production has major influence on the resulting product or service costs. In the same regard, they should outsource consultants to enable them to come up with customer focus strategies that articulate with their organization objectives.

The study recommends that procurement staff should ensure that they strictly follow procurement procedures to ensure that goods supplied are of the right quality, in the right quantity, at the right time, to the right place from the right source. This will aim at satisfaction of customers in terms of cost, quality, and timeliness of the delivered product or service, minimizing administrative operating costs, conducting business with integrity, fairness and openness. This can be attained by proper strategic planning. More checks and controls should be introduced to check on the integrity of the system and ensure that it is as open as possible.

### 5.5 Areas for Further Studies

The study is a milestone for further research in the field of performance of manufacturing firms in Africa and particularly in Kenya. The findings demonstrated the important procurement quality management to performance of manufacturing firms to include; process management, continuous improvement, supplier management and customer focus. The current study should therefore be expanded further in future in order to include other procurement quality management that may as well have a positive significance to performance of manufacturing firms. Existing literature indicates that as a future avenue of research, there is need to undertake similar research in other institutions in Kenya and other countries in order to establish whether the explored practices herein can be generalized to influence performance in the institutions.

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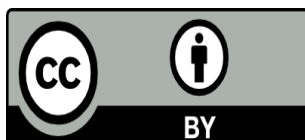
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