



DETERMINANTS OF IMPLEMENTATION OF PROCUREMENT MANAGEMENT PRACTICES IN MANUFACTURING FIRMS IN NAIROBI CITY COUNTY, KENYA

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ABSTRACT

The objective of the study was to examine the influence of procurement management practices on performance of manufacturing firms in Nairobi County, Kenya. The target population of the study was 400 manufacturing firms. The study used 80 respondents and data was collected through the use of questionnaires. A pilot study was conducted to pretest the validity and reliability of instruments for data collection. The quantitative data was analyzed with help of SPSS version 24. The study adopted a regression analysis at .05 level of significance to determine strength and direction of the relationship of the variables under study. It was notable that there exist strong positive relationship between the independent variables and dependent variable. The top and lower level employees should be involved in formulation and development of the procurement plans so as to make the process of implementation easier and acceptable by all employees. The study recommended for correct forecasting methods thus reduction of stock outs in the organization. The forecasting accuracy can lead to improvement and related observations results in inventory markdowns. The study recommended that there is need to enhance supplier outsourcing that allows a company to adequately select its vendors and negotiate the best prices for goods and services that it purchases. The study recommended that there is need to enhance logistics management such as turning non-core functions over to external suppliers which can enable companies to leverage their resources, spread risks and concentrate on issues critical to survival and future growth. The study identified that the most important reasons why companies outsource their logistics functions is the need to decrease the number of warehouses, vehicles and excess inventories and to reduce shrinkage, and labor costs.

Key Words: Supplier, Material, Logistics, Warehouse, Manufacturing Firms

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INTRODUCTION

The procurement functions have become the obvious choice with companies eyeing for cost reduction and value enhancement while distributing and transporting products. As a result, outsourcing service providers (SPs) has now become the norm across the industry. As per Joto (2013), an improvement in the delivery process, resulting from the outsourcing process, can also contribute towards competitive advantages, as contributed by the product. Further, he observes that logistics outsourcing has also been instrumental in turn around cases in many companies, wherein shippers incurred loss; hence it has taken its place in strategic boardroom agendas. Many managers view outsourcing as the only way to keep a business competitive into the twenty-first century.

The highly competitive environments along with customers' demands for tailored products and services has forced companies to continuously evaluate, improve and reengineer their transport operations. These operations have a noticeable contribution in companies' efforts to meet customers' expectations. Their outcomes, such as place convenience, waiting time convenience, delivery time convenience, and after sales convenience, are easily visible and assessable by the final customer and consequently delineating its Purchasing behaviour. The close relationship between transportation and customer service dictate that companies handle their transport services function prudently so as to receive full potential benefits (Maghanga, 2011).

Kaevke (2014) observes procurement outsourcing practices as the transfer of all or part of a range of sourcing-to-settlement processes including sourcing, tactical buying, requisitioning, accounts payable and supplier management to a third party whereby it does not mean that the company loses control of the procurement process, but merely that it utilizes the services of a third party service provider/procurement outsourcing.

Price Water Coopers (2012) conducted a survey in the United States among America's fastest growing companies, the conclusion arrived at was that businesses that outsource were growing faster, were larger and made more profits than those that did not. The survey further revealed that, of the companies that outsourced, 70 percent claimed to save money and 25 percent had improved focus on core business. The goals of outsourcing often include reducing labor and overhead costs, maximizing profits, dominating a market, and gaining a competitive advantage. While this strategy looks quite promising, it is surprising to find that "more than one-fourth of outsourcing deals fail in the first year. According to Kyusya (2015), success rate of IT outsourcing is only 56 per cent. Aron and Sing (2005) state that half of the organizations that shifted processes to external providers failed to generate the financial benefits they expected. Pricewater House Coopers (2005), noted that companies are outsourcing more and more while enjoying the benefits less and less and this was attributed to firms overestimating the profitability of the their outsourcing ventures by not taking into account very influential transaction costs which decrease or even outweigh the benefits.

The public sector in many African countries are operating in an environment characterized by countless economic and political disruptions to their sources of supplies and services. In order to survive in this turbulent marketplace, these organizations must continually monitor their competitive position as well as their internally controllable processes, especially the procurement process (Kaveke, 2014). The government ministries in African countries are no exception. The governments through various ministries annually procure billions of shillings worth of systems, supplies, and services in support of the government operations. As a result, modernization of procurement practices and processes presents government with a clear opportunity to leverage

significantly improved value for money from its total spend on goods and services.

The envisaged benefits of procurement practices have been forthcoming within the Kenyan public agencies. Some scholars have argued that, if public sector firms operate under the requirement to treat all activities as potentially outsource-able due to envisaged gains, then they may be failing to develop their core competencies (Kinyanjui, 2014). This is confirmed by other scholars who posit that, procurement in the public sector is imposed through government policies and regulations with many public agencies failing to develop their core competences therefore missing out on one of the main benefits that outsourcing can bring (Kusya, 2015).

In Kenya, in the past decades, According to Odhiambo and Kamau (2013), the public procurement system in Kenya has undergone significant developments. From being a system with no regulations in the 1960s, and a system regulated by Treasury Circulars in the 1970s, 1980s and 1990s, the introduction of the Public Procurement Asset and Disposal Act (PPDA) of 2015 and the Procurement Regulations of 2006 has introduced new standards for public procurement in Kenya. Using procurement management processes, organization in the country purchase the resources they need from suppliers or vendors to conduct business. Effective procurement management policies and procedures enable purchasing organizations to negotiate prices from supplies and vendors to get the best quality materials and services for business operations. Because large companies purchase resources in large volumes, they typically utilize formal procurement management processes.

Manufacturing is to make or process (a raw material) into a finished product, especially by means of a large-scale industrial operation. According to Shavulimo (2014), manufacturing is an important sector in Kenya and it makes a substantial

contribution to the country's economic development. It has the potential to generate foreign exchange earnings through exports and diversify the country's economy. This sector has grown over time both in terms of its contribution to the country's gross domestic product and employment (Magutu, Chirchir & Haines, 2016). The manufacturing sector in Kenya constitutes 70 per cent of the industrial sector contribution to GDP, with building, construction, mining and quarrying cumulatively contributing the remaining 30 per cent. Kenya Vision 2030 identifies the manufacturing sector as one of the key drivers for realizing a sustained annual GDP growth of 10 per cent.

Statement of the Problem

Manufacturing industry was the leading business activity in Kenya during the early 80's both in terms of size and employment. The industry was employing over 200,000 family households and about 30% of the labor force in the national manufacturing sector. Later the sub-sector started declining in the mid-1980s until the 1990s (Willy, 2012). Efforts to boost growth in manufacturing industry have been undertaken with procurement outsourcing being one of the strategies (Mahonza, 2017).

The manufacturing sector in Kenya has not been performing as expected or projected, expressing declining performance in some sectors and stagnating figures in other sectors, in the recent past. According to the Kenya Economic Report (2016), the manufacturing sector contribution to GDP has stagnated at about 10 per cent, with the sector's growth during the first Medium Term Plan being a mere 3.16 per cent. The key contributors to the reduced performance are Spiraling energy costs, an increased tax burden, and increasing cost of raw materials, which have seen the sector's contribution to the economy (GDP) decline from 11.21% in 2013 to 10.41% in 2016. The latest data from the Kenya National Bureau of Statistics (KNBS) shows that the downturn affects all key sectors including sugar,

cement, vehicles and dairy, which experienced a month-on-month decline in production of between 2% and 11%. This fuels the fear that Kenya's hopes of becoming a manufacturing hub by 2030 hang in the balance (KeNBS, 2017).

The Kenya Manufacturing Association (KAM) attributes the exits to a host of factors, among them the high costs of production and the local market being flooded with cheap imports, poor infrastructure and limited market access. Manufacturers also decry other operational costs, among them labour, rent and other overheads. This, coupled with the high cost of capital, is discouraging investment in critical areas, for example, setting up manufacturing plants or growth (Kubai, 2016). In light of this scenario, it has become inevitable for manufacturing firms to focus closely on procurement management practices to ensure that they are not eroded by the highly competitive global environment. This would enable manufacturing companies to outsmart their competitors and manage better profitability and counter the extensive competition waged in the current liberalized economies scenario (Maku & Iravo, 2013). It is on this premise that the study sought to establish the influence of procurement management practices on performance of manufacturing firms in Nairobi County, Kenya.

Study Objectives

The purpose of the study was to establish the influence of procurement management practices on performance of manufacturing firms in Nairobi County, Kenya. The specific objectives were;

- To establish how supplier management influence performance of manufacturing firms in Nairobi County, Kenya
- To find out how material management influence performance of manufacturing firms in Nairobi County, Kenya
- To establish how logistics management influence performance of manufacturing firms in Nairobi County, Kenya

- To examine how warehouse management influence performance of manufacturing firms in Nairobi County, Kenya

LITERATURE REVIEW

Transaction Cost Theory (TCT)

Transaction Cost Theory was first developed by Ronald Coase in 1937. TCT states that a firm's ownership decision is based on minimizing the sum of its transaction and production costs. Transaction costs occur in the exchange between client and vendor. Williamson (1994) also asserts that transaction costs are comprised of the costs of seeking the suppliers, inspection of goods and establishing and formalizing the terms of agreement, including the means to both guarantee compliance with the terms and protect against the potential expropriation of the investments made, to ensure that contract conditions are fulfilled. These aspects form the pillar to successful outsourcing from third party providers given the delivery by each party to the relationship.

Supply Chain Operations Reference Model

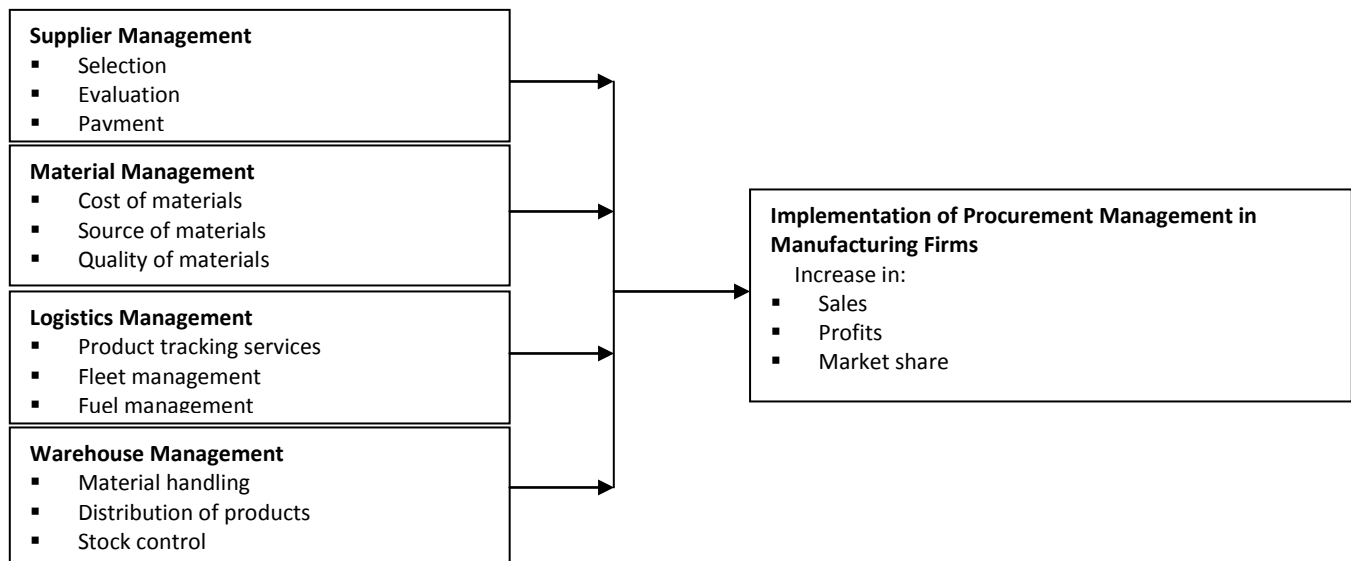
The Supply Chain Operations Reference model provides a unique framework that links performance metrics, processes, best practices, and people into a unified structure (Estampe et al., 2013). The framework supports communication between supply chain partners and enhances the effectiveness of supply chain management, technology, and related supply chain improvement activities. Business value, whether real or perceived, is derived from the predictability and sustainability of business outcomes. It lives, healthy or sick, in those gaps between expected vs. perceived vs. actual performance (Pundoor & Herrmann, 2016). Value is articulated by measuring what is being managed. The SCOR model helps refine strategy, define structure (including human capital), manage processes, and measure performance (Estampe et al., 2013).

Firm Theory

Theories of the firm were originally developed to identify why firms existed hence, earlier theories of the firm were rooted in deductive economics and had their foundation transaction cost theory (Penrose, 2009). According to Maghanga (2011), introduction of the concept of transaction costs as the factor was to determine whether a firm or market contracts existed for the coordination of production or not. Firm existence was based on differences between the transaction costs of market contracts versus those of a firm (Kiptum, 2014). If market contracts were characterized by low transaction costs, it meant that all factors of firm production both intra and inter had low transaction costs as well hence logistics could

have influenced such situation in the market when handled rightly by the firms (Kaveke, 2014).

According to the transaction cost framework, the organization's form that developed was the one that most efficiently completed transactions and minimized production costs (Mulama, 2013). Transaction costs were those costs associated with exchange, while production costs were associated with the coordination of various production activities in-house (Maku & Iravo, 2013) A firm that managed logistics activities efficiently created situation where both transaction costs and production costs were minimized (Kinyanjui, 2014).



Independent Variables

Dependent Variable

Figure 1: Conceptual Framework

Empirical Review

Amida Lema (2013) conducted a study focusing on the factors affecting implementation of procurement plan in the parastatals. The study argued that preparation of procurement plan is very important to many organizations and it needs close cooperation between procurement, user departments and management in general as it acts as a roadmap to procurement of the goods and services for continuous operations hence achievement of target

goals. The research findings showed a great positive correlation between procurement planning and procurement processes and procedures. These findings indicate that efficient, effective and harmonized annual implementation of procurement plan eventually result into value for money procurement.

Manyara (2006) in his study, "Assessment of Annual Procurement Planning" concluded that, procurement planning in public procurement is still having a

problem of implementation due to the facts that many procurement in public are conducted without following the procurement plan as a result there is misuse of funds.

Gonzalez and Quesada (2004) found that supplier selection was the most influential supply management process for achieving product quality. However, a firm's ability to create or enhance its own capability in a strategically important domain such as quality by leveraging supplier capabilities in quality may depend not only on its ability to select a capable supplier in the quality domain but also on its ability to successfully integrate the supplier into the firm's operations and network. Successful supplier selection is a source for competitive advantage; they affect competitive performance of public institutions positively if effectively selected.

Boyle et al. (2008) presented findings from electronics industry, where original equipment manufacturers (OEM) could not predict demand beyond a 4 week horizon. Moon et al. (2000) presented demand forecasting from Lucent (Alcatel-Lucent), demonstrating improvement in forecasting accuracy (60% to 80-85%). Related observations (Datta, 2008) resulted in inventory markdowns. Recent and past research has shown that advanced forecasting tools enable improvements in supply chain performance (Zhao et al., 2002, Bayraktar et al., 2008, Wright & Yuan, 2008), if certain pre-requisites are optimized (ordering policies, inventory collaboration). Autoregressive models have been effective in macroeconomic inventory forecasts (Albertson & Aylen, 2003). Zhao et al. (2002) and Bayraktar et al., (2008) emphasize that the role of forecasting in supply chain is to indicate the right direction for the actors rather than being exactly right, at every moment. Choosing the correct forecasting method is often a complex issue (Chatfield & Yar 2008).

Mulama (2012) conducted a study to the logistics outsourcing practices and performance of manufacturing firms in Nairobi Kenya. The research was a cross sectional survey of the manufacturing companies operating in Nairobi, Kenya. The study used primary data which was collected through a self-administered questionnaire that consisted of both open and closed aided questions. The data was analysed using descriptive statistics. The finding of the study was that the outsourcing services adopted by the firms were transportation management, warehouse management, material handling management, formation management and inventory management. The outsourcing practices being adopted the firms resulted in increased productivity, organizational effectiveness, increased profits, continuous improvement, improved quality and improved quality of work life and thus sourcing of these processes was an ideal solution that helps the firm expand internationally and operate on a much larger scale. At the same time, outsourcing resulted in decreased crating costs, improved customer satisfaction, increased productivity, timely delivery of services to clients, and reduced lead time, improved profits and faster response to customer demands was an indication that the performance of the firms was influenced by the outsourcing prices adopted by the firms.

Magutu (2013) study explored outsourcing practices viz a viz the performance of large manufacturing firms Nairobi, Kenya. The population of the study in this research was all the large scale manufacturing companies that are based in Nairobi. The results established that the firms were outsourcing transportation management, warehouse management and material handling management. The firms opted to outsource their services due to its advantages and its possible influence on organizational performance, as it enables the firms to focus on its core competencies. The outsourcing practices adopted by the large manufacturing firms

will in the long run determine their survival as they would seek to reduce operating costs, improved customer satisfaction and timely delivery of services to clients which in turn increase productivity and reduce lead time and improved profits. The study confined itself to large manufacturing firms in Nairobi and the findings may not be applicable in other sectors as a result of uniqueness of the manufacturing firms. It is therefore recommended that the study is replicated in other service sectors to establish the logistics outsourcing services and performance.

METHODOLOGY

This study adopted a descriptive survey designed to obtain pertinent and precise information concerning the current status of phenomena and whenever possible to draw valid general conclusion from the facts discovered. All procurement managers of the registered manufacturing firms in Nairobi City County, Kenya were used in the study. The Kenya Association of manufacturers had 400 registered large manufacturing firms distributed across Nairobi City County. The study used questionnaires to collect primary data from the respondents as research tools (Crewell & Creswell, 2017). The study collected both qualitative and quantitative data and was analyzed using both quantitative and qualitative methods with the help of (SPSS) version 24. The Multiple Regression model that aided the analysis of the variable relationships was as follows:

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

Where;

Y= Implementation of Procurement Management in manufacturing firms (dependent variable);

β_0 = constant (coefficient of intercept);

X_1 = Supplier Management (independent variable);

X_2 = Material Management (independent variable);

X_3 = Logistics Management (independent variable);

X_4 = Warehouse Management (independent variable);

ϵ = Error term;

$\beta_1 \dots \beta_4$ = regression coefficient of four variables.

RESULTS

Material Management

The study sought to assess the influence of material management on the implementation of procurement practices in manufacturing firms in Nairobi County, Kenya. This section presented findings to statements posed in this regard with responses given on a five-point likert scale (where 1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5= Strongly Agree). The scores of 'strongly disagree' and 'disagree' were taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'Neutral' was taken to represent a statement 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 5.0.

Majority of respondents were found to be neutral with the statement posed in regard to the influence of material management on the implementation of procurement practices in manufacturing firms in Nairobi County, Kenya. The study established that the cost of materials used in the manufacturing firms are in line with the organization policy (Mean=3.456). The organization carries out procurement in accordance with the set procedures in the organization (Mean=3.250). The source of materials was prepared early enough to allow for proper allocation of funds (Mean=3.862).). The quality of funds was first approved before any procurement is initiated ((Mean=3.446). The organization ensured there was a quality sourcing to avoid reckless and over spending of funds ((Mean=3.590). The study findings implied that procurement planning does influence implementation of procurement practices in the Nairobi County, Kenya.

Table 1: Material Management Statistics

Resources	Mean	Std. Dev
The cost of materials used in the manufacturing are in line with the policy	3.456	1.356
The organization carries out procurement in accordance with the set procedures of source of materials	3.250	.528
The quality sourcing of materials plan is prepared early enough to allow for proper allocation of funds	3.862	1.524
The source of materials is first approved before any procurement is initiated	3.446	1.690
The organization source of materials ensures there is a plan to avoid reckless and over spending of funds	3.590	.580

Supplier Management

The study sought to assess the influence of supplier management on implementation of procurement practices in manufacturing firms in Nairobi County, Kenya. This section presented findings to statements posed in this regard with responses given on a five-point likert scale (where 5 = Strongly Agree; 4 = Agree; 3 = Neutral; 2 = Disagree; 1= Strongly Disagree). The scores of 'strongly disagree' and 'disagree' were taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'Neutral' was taken to represent a statement agreed upon moderately, 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 5.0.

As tabulated, a majority of respondents were found to disagreed that the firms had the flexible contracting period for reduction of costs in the firms (3.568); The firms had a friendly types of contracts to enhance order fulfilment (3.236); The firms had a dispute resolution mechanism to enhance order fulfillment and reduction of costs (2.908); The firms had a provision on a vague or conflicting requirements to enhance quality of procured goods

(2.134); The firms used contracting period review systems in the procurement process to enhance quality of procured goods (2.565). The firm had a dispute resolution mechanism for a continuous improvement program to enhance order fulfillment (3.218). The firms had the flexible contracting period for reduction of costs in the 2.890). The study findings implied that supplier management enhances procurement performance in the organization in Kenya.

Gonzalez and Quesada (2004) found that supplier management was the most influential supply management process for achieving product quality. However, a firm's ability to create or enhance its own capability in a strategically important domain such as quality by leveraging supplier capabilities in quality may depend not only on its ability to select a capable supplier in the quality domain but also on its ability to successfully integrate the supplier into the firm's operations and network. Successful supplier sourcing is a source for competitive advantage; they affect competitive performance of organization positively if effectively selected.

Table 2: Supplier Management Statistics

Supplier Management	Mean	Std. Dev
The firms has the flexible contracting period for reduction of costs in the organization	3.568	.439

The firms has a friendly types of contracts to enhance order fulfillment	3.236	.468
The firms has a dispute resolution mechanism to enhance order fulfillment and reduction of costs	2.908	.568
The firms has a provision on a vague or conflicting requirements to enhance quality of procured goods	2.134	.326
The firms uses contracting period review systems in the procurement process to enhance quality of procured goods	2.565	.580
The firms has a dispute resolution mechanism for a continuous improvement program to enhance order fulfillment	3.218	.328
The firms has the flexible contracting period for reduction of costs in the organization	2.890	.346

Warehouse Management

The study sought to assess the influence of warehouse management on implementation of procurement practices in manufacturing firms in Nairobi County, Kenya. Responses were given on a five-point likert scale (where 5 = Strongly Agree; 4 = Agree; 3 = Neutral; 2 = Disagree; 1= Strongly Disagree). The scores of 'strongly disagree' and 'disagree' were taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of 'Neutral' was taken to represent a statement agreed upon moderately, equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' were taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.4.

As indicated by high levels of agreement, a majority of respondents affirmed that the they had the material handling thus reduction of stock outs in the organization (mean of 3.2145 and Std of 1.2231) though the sentiments were very much contested as shown by a standard deviation above 1.0.; The original equipment manufacturer was used to predict demand beyond a 4 week horizon (mean of 3.6723 and Std of 1.6753) though the sentiments were very much contested as shown by a standard deviation above 1.0; The distribution of products demonstrate improvements and related observations results in inventory markdowns (mean of 3.3332 and Std of

1.0009) though the sentiments were very much contested as shown by a standard deviation above 1.0.

The organization has advanced stock control that can enable improvements in cost reduction (mean of 3.9003 and Std of 1.2373) though the sentiments were very much contested as shown by a standard deviation above 1.0. The organization has advanced forecasting tools that can enable improvements in cost reduction (mean of 3.6782 and Std of 1.3801) though the sentiments were very much contested as shown by a standard deviation above 1.0. The stock control synchronizes the supply and demand cycle than the use of real time information (mean of 3.6782 and Std of 1.3801) though the sentiments were very much contested as shown by a standard deviation above 1.0.; Having years of demand data helps the organization to better predict future demand thus timely purchases-stock out reduction (mean of 3.0091 and Std of 1.6732) though the sentiments were very much contested as shown by a standard deviation above 1.0. The study findings are in agreement with literature review by Boyle et al. (2008) that where original equipment manufacturers (OEM) could not predict demand beyond a 4 week horizon. Moon et al. (2000) presented demand forecasting demonstrating improvement in forecasting accuracy and related observations resulted in inventory markdowns).

Table 3: Warehouse Management Statistics

Warehouse Management	Mean	Std. Dev
We have the correct material handling thus reduction of stock outs in the organization	3.2145	1.2231
The original equipment manufacturer is used to predict demand beyond a 4 week horizon	3.6723	1.6753
The distribution of products demonstrate improvements and related observations results in inventory markdowns	3.3332	1.0009
The stock control has advanced forecasting tools that can enable improvements in cost reduction	3.9003	1.2373
The material handling accuracy tools synchronizes the supply and demand cycle than the use of real time information	3.6782	1.3801
Having years of demand data helps the firms to better predict future demand thus timely purchases-stock out reduction	3.0091	1.6732

Logistics Management

The study sought to assess the influence of logistics management on implementation of procurement management practices in manufacturing firms in Kenya. This section presented findings to statements posed in this regard with responses given on a five-point likert scale (where 1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5= Strongly Agree). The scores of 'strongly disagree' and 'disagree' were 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 equivalent to a mean score of 2.6 to 3.4. The score of 'agree' and 'strongly agree' were taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.0.

Majority of respondents were found to be neutral that the vehicle scheduling and maintenance policy (3.232); Fuel management policy (2.998); automated

and tracking systems (2.654); scheduling pickups at regional distribution centers (3.116). The study results were in agreement with findings by Brice and Huseem (2008) who established that in the face of increasingly intensified competition in the emerging global economy, manufacturing firms were progressively turning to outsourcing of their logistics functions. Outsourcing is a viable business strategy because turning non-core functions over to external suppliers enables companies to leverage their resources, spread risks and concentrate on issues critical to survival and future growth. One of the most important reasons why companies outsource their logistics functions is the need to decrease the number of warehouses, vehicles and excess inventories and to reduce shrinkage, and labor costs.

Table 4: Logistics Management Statistics

Description	Mean	Std. Dev
Vehicle scheduling and maintenance policy	3.232	1.435
Fuel management policy	2.998	1.356
Automated and tracking systems	2.654	1.235
Scheduling pickups at regional distribution centers	3.116	1.562

Implementation of Procurement Management Practices

The study sought to examine the determinants of implementation of procurement management practices, attributed to the influence of procurement planning, supplier sourcing, supply chain forecasting and logistics management. The study sought to of implementation of procurement practices with reference to manufacturing firms, attributed to the influence of procurement planning, supplier sourcing, supply chain forecasting and logistics management. The study was particularly interested in three key indicators, namely Quality of goods purchased, Cost reduction and Timely Purchases-stock out reduction, with all the three studied over a 5 year period, running from 2014 to 2018.

Findings revealed improved implementation of procurement management practices across the 5 year period running from the year 2014 to 2018. Quality of goods purchased recorded positive growth with a majority affirming to less than 10% in 2014 (42.3%)

and 2015 (37.7%), to 10% in 2016 (36.1%) then more than 10% in 2017 (41.1%) and 2018 (37.5%). A similar trend was recorded in Cost reduction, growing from less than 10% (44.1%) in 2014, to more than 10% in 2015 (36.4%), 2014 (40.4%) and 2016 (37.3%). Timely Purchases-stock out reduction further recorded positive growth with a majority affirming to less than 10% in 2014 (37.9%) and 2015 (35.9%), to 10% in 2016 (35.9%) and 2017 (35.3%) then by more than 10% in 2018 (36.2%).

It was deduced from the findings that key procurement performance indicators had considerably improved as influenced by among other procurement management attributes, the influence of procurement planning, supplier sourcing, supply chain forecasting and logistics management. Quality of goods purchased and Timely Purchases-stock out reduction have particularly improved by at least 10 percent across most of the institutions pointing to the significance of determinants in the supply chain process.

Table 5: Implementation of Procurement Management Practices

Quality of goods purchased	2014	2015	2016	2017	2018
Improved by less than 10%	42.3	37.7	31.6	30.7	29.5
Improved by 10%	31.8	32.9	36.1	28.2	33
Improved by more than 10%	25.9	29.4	32.3	41.1	37.5
Cost reduction	2014	2015	2016	2017	2018
Improved by less than 10%	44.1	35.2	33.4	25.7	27.1
Improved by 10%	31.7	32.6	30.2	33.9	35.6
Improved by more than 10%	23.5	32.2	36.4	40.4	37.3
Timely Purchases-stock out reduction	2014	2015	2016	2017	2018
Improved by less than 10%	37.9	35.9	31.2	25.7	33.1
Improved by 10%	36.2	31.3	35.9	35.3	30.7
Improved by more than 10%	25.9	32.8	32.9	39	36.2

Multiple Regression Analysis

According to the model summary, R is the correlation coefficient which showed the relationship between the independent variables and dependent variable. It was notable that there exist strong positive relationship between the independent variables and

dependent variable as shown by R value of 0.827. The coefficient of determination (R^2) explained the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable and the four independent variables that the

studied explain 68.40% of the implementation of procurement management practices as represented by the R^2 . This therefore meant that other factors not studied in this research contributed 21.60% of the implementation of procurement management practices. This implied that these variables were very significant therefore needed to be considered in any

effort to boost implementation of procurement management practices in the manufacturing firms. The study therefore identified the set of the independent variables that influence implementation of procurement management practices in the manufacturing firms.

Table 6: Model Summary

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
1	.827	.684	.678	.000

ANOVA Results

Based on the study results of the ANOVA Test or F-test in Table 7 obtained F-count (calculated) was 29.491 greater the F-critical (table) (12.876) with significance of 0.000. Since the significance level of

0.000 < 0.05 we concluded that the set of independent variables affect the implementation of procurement management practices in the manufacturing firms and this shows that the overall model was significant.

Table 7: ANOVA Results

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	21.057	4	5.2642	29.491	.000 ^a
Residual	9.819	55	.1785		
Total	30.876	59			

NB: F-Critical Value = 12.876

The study conducted a multiple regression analysis so as to determine the relationship between the dependent variable and independent variables. From the study findings on the regression equation established, taking all factors into account (independent variables) constant at zero implementation of procurement management practices in the manufacturing firms would be 9.859.

The data findings analyzed also showed that taking all other independent variables at zero, a unit increase in material management would lead to a 0.864 increase in implementation of procurement management practices in the manufacturing firms; a unit increase in supplier management would lead to a 0.889 increase in implementation of procurement

management practices in the manufacturing firms, a unit increase in warehouse management would lead to 0.922 increase in implementation of procurement management practices in the manufacturing firms and a unit increase in logistics management would lead to 0.598 increase in implementation of procurement management practices in the manufacturing firms. This infers that warehouse management contributed most to implementation of procurement management practices in the manufacturing firms.

Based at 5% level of significance, material management had a .002 level of significance; logistics management show a .000 level of significance, warehouse management show a .001

level of significance and logistics management show a .003 level of significance hence the most significant

factor was material management.

Table 8: Coefficient Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	B		
(Constant)	5.632	.987		5.706	.000
X ₁ _Material Management	.864	.200	.465	4.320	.002
X ₂ _Supplier Management	.889	.211	.354	4.218	.001
X ₃ _Warehouse Management	.922	.230	.255	4.009	.000
X ₄ _Logistics Management	.598	.238	.232	3.245	.003

The general form of the equation was to predicted implementation of procurement management practices in the manufacturing firms from material management, supplier management, warehouse management and logistics management is: $(Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon)$ becomes: $Y = 5.632 + 0.864X_1 + 0.889X_2 + 0.922X_3 + 0.598X_4$. This indicates that implementation of procurement management practices in the manufacturing firms = $5.632 + 0.864 * \text{Material Management} + 0.889 * \text{Supplier Management} + 0.922 * \text{Warehouse Management} + 0.598 * \text{Logistics management}$.

CONCLUSION

The regression coefficients of the study showed that material management had a significant influence implementation of procurement management practices in the manufacturing firms in Kenya. This implied that increasing levels of material management would increase the levels of implementation of procurement management practices in the manufacturing firms in Kenya. This shows that material management has a positive influence implementation of procurement management practices in the manufacturing firms in Kenya.

The study concluded that supplier management is the second important factor that affects implementation of procurement management practices in the manufacturing firms in Kenya. The regression coefficients of the study show that supplier

management has a significant influence on implementation of procurement management practices in the manufacturing firms in Kenya. This implies that increasing levels of supplier management would increase the levels of implementation of procurement management practices in the manufacturing firms in Kenya. This shows that supplier management has a positive influence implementation of procurement management practices in the manufacturing firms in Kenya.

Further, the study concluded that warehouse management is the third important factor that affects implementation of procurement management practices in the manufacturing firms in Kenya. The regression coefficients of the study showed that warehouse management has a significant influence on implementation of procurement management practices in the manufacturing firms in Kenya. This implied that increasing levels of warehouse management would increase the levels of implementation of procurement management practices in the manufacturing firms in Kenya. This shows that warehouse management has a positive influence on implementation of procurement management practices in the manufacturing firms in Kenya.

Finally, the study concluded that logistics management is the fourth important factor that affects implementation of procurement management

practices in the manufacturing firms in Kenya. The regression coefficients of the study showed that logistics management has a significant influence on implementation of procurement management practices in the manufacturing firms in Kenya. This implies that increasing levels of logistics management would increase the levels of implementation of procurement management practices in the manufacturing firms in Kenya. This shows that logistics management has a positive influence on implementation of procurement management practices in the manufacturing firms in Kenya.

RECOMMENDATIONS

The top level and lower level employees should be involved in formulation and development of the procurement plans so as to make the process of implementation easier and acceptable by all employees. The procurement personnel's in manufacturing firms need to carefully study and understand the applicable procurement thresholds in different situations and relevant procurement method applicable.

The study recommended for correct material management thus reduction of stock outs in the organization. The forecasting accuracy can lead to improvement and related observations results in inventory markdowns. The organization should have advanced forecasting tools to synchronize the supply and demand cycle than the use of real time information and minimize inventory, and move it to the field for use exactly when needed.

The study recommended that there is need to enhance supplier management that allows a company to adequately select its vendors and negotiate the best prices for goods and services that it purchases. The managers should monitor the supply chain to ensure that vendors familiarize themselves with the

company's operating activities and manufacturing with their own organizational requirements and priorities.

The study recommended that there is need to enhance logistics management such as turning non-core functions over to external suppliers which can enable companies to leverage their resources, spread risks and concentrate on issues critical to survival and future growth. One of the most important reasons why companies outsource their logistics functions is the need to decrease the number of warehouses, vehicles and excess inventories and to reduce shrinkage, and labor costs.

Areas for Further Research

The study contributed the body of knowledge by examining the determinants of implementation of procurement practices in the manufacturing firms in Kenya. The implementation of procurement management practices in the manufacturing firms is greatly affected by inadequate procurement planning, supply chain forecasting, supplier sourcing and logistics management. The current study should therefore be expanded in future in order to determine the other determinants hindering implementation of procurement management practices in the county governments in Kenya. Existing literature indicates that there is scanty information and a research need to be undertaken in the private sector for the findings to be generalized. The findings demonstrated the important procurement practices to include; supplier management, material management, warehouse management and logistics management. The current study covered only 68.40% and the remaining 21.60% should therefore be expanded further in future in order to determine other factors affecting implementation of procurement management practices in manufacturing firms in Kenya.

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