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STRATEGIC SUPPLY CHAIN PRACTICES AND PERFORMANCE OF SOFT DRINK MANUFACTURING FIRMS IN NAIROBI COUNTY, KENYA

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ABSTRACT

According to the Economic Survey conducted by the Kenya National Bureau of Statistics KNBS, the level of activities in the manufacturing sector has slowed down from 5.6 % in 2013 to 3.4 % in 2012 as a result of high costs of production and shortage of essential materials. This study sought to establish the influence of strategic supply chain practices on performance of manufacturing firms in Nairobi County, Kenya. Specifically, the study sought to determine the effect of outsourcing on performance of manufacturing firms in Nairobi County and to establish the effect of vendor management inventory on performance of manufacturing firms in Nairobi County. This study used descriptive research design. The target population of this study comprised of 347 employees working in soft drinks manufacturing firms, Kenya. The study used stratified random sampling technique in choosing the sample size from the three levels of management staffs. The sample size of the study was 186 employees. The study relied on primary data which was collected through use of questionnaires. This study gathered both quantitative and qualitative data. Qualitative data was analyzed by use of content analysis. Quantitative data was coded then analyzed using Statistical Package for Social Sciences (SPSS) computer software version 22. The collected data was analysed through use of descriptive and inferential statistics. Descriptive statistics were used to analyze the data in frequency distributions and percentages which were presented in tables and figures. Inferential statistics comprised of correlation and regression analysis. The study results were presented through use of tables and figures. The study concludes that outsourcing has a positive and significant effect on performance of manufacturing firms in Nairobi County. In addition, the study concludes that vendor management inventory has a positive and significant effect on performance of manufacturing firms in Nairobi County. From the findings, the study recommends that the management of manufacturing firms in Nairobi County should continue embracing contracting out non-core businesses, use of external experts, concentration of core businesses and classification of factors into core and non-core

Key Words; strategic supply chain practices, outsourcing, vendor management inventory, Just in Time procurement, e-procurement and manufacturing firms

Background of Study

Procurement is strategic as it tends to connect the firm's suppliers to its strategic objectives by translating those strategic objectives into sourcing needs that assist the firm achieve the same (Ambe & Badenhorst-Weiss, 2012). According to Hutt and Speh (2012), procurement is the overarching role that looks at the activities and procedures used to attain goods and services. Around the world, procurement management function has played a critical role in the corporate success of organizations in the last decade (Bortolotti, Danese & Romano, 2013). This has necessitated many firms to position their procurement management function at a strategic level with the aim of benefiting from its contribution to the bottom-line profit. The dynamic complexity of a supply chain allows firms to formulate procurement practices that not only gives it competitive edge, but also allows it to adopt practices robust enough to handle future changes at large and also competitive environments (Turner, 2011).

Strategic procurement is therefore a process that leads to the creation of consistency between long range objectives and overall strategy through procurement (Cao & Zhang, 2011). It entails the transformation of an organization's mission, goals, and objectives into measurable activities used to plan budget and manage the procurement function (Masiko, 2013). The adoption of procurement best practice creates a drift from traditional procurement practices with the aim of creating a value opportunity (Turner, 2011).

Strategic procurement practices have started gaining prominence in Kenya as more and more firms adopt them in their operations (Kiplagat, 2010). For instance, standard chartered Bank Kenya Limited has adopted outsourcing strategy where major technological operations are outsourced to third parties in an attempt to concentrate on their core business (Kiplagat, 2010). Another organization that has adopted strategic procurement practices of Just in Time production, outsourcing and vendor management is the East African Breweries (EABL, 2017). The Company has contracted the services of DHL Limited to transport its finished products to different markets with an objective of improving their performance (EABL, 2017).

Further strategic procurement practices have been adopted at the Del Monte Kenya Limited (Del Monte Kenya Limited, 2016). The Company has adopted Just in Time procurement and vendor management inventory in an effort to manage their operations costs (Del Monte Kenya Limited, 2016).

Strategic initiatives appear to be instrumental for improving procurement performance, by harmonizing purchases, launching co-ordination initiatives, setting standards and building skills (Yang*et al.,* 2011). As such, numbers of public entities are embracing strategic procurement such as e-procurement through the government IFMIS platform in order to improve their performance (GoK, 2015). However, despite heavy investment by both private and public entities in order to benefit from perceived positive impact on performance, there is no conclusive empirical research confirming the realization of these benefits in the Kenyan context (Kamanga & Ismail, 2016), thus the need to study the influence of SPP on the performance of manufacturing firms in Kenya.

Statement of the Problem

According to World Bank Report (2012), the rate of unemployment in Kenya increased to 40 % in 2011 from 12.70 % in 2006. According to the Economic Survey (2015) conducted by the Kenya National Bureau of Statistics KNBS, the level of activities in the manufacturing sector has slowed down from 5.6 % in 2013 to 3.4 % in 2012 as a result of high costs of production and shortage of essential materials (Makali, 2015). According to the Census of Industrial Production (CIP) (2010), the manufacturing capacity utilization was below 50%. Therefore, unless a new approach of

management concept is adopted, the sector's ability to contribute to the realization of the Country's Vision 2030 will be in doubt (Abala, 2014). Consequently, a number of practices have been tried with minimal results; for example, export processing zones (EPZ) have only had an impact on the small manufacturing sector dealing in export leaving a majority of the firms (Kingori, 2013). Buffer stock have ended up increasing costs of production (Abala, 2014). This then calls for a new management paradigm with the potential of improving the performance of manufacturing firms. According to Toktaş-Palut et al. (2014), strategic procurement has the potential of impacting positively on the performance of firms. Maiga et al. (2015) established its effects on the performance of firms in the Indian Textile industry. Bortolotti, Danese and Romano (2013) further concluded in his study of food and beverage in Canada that strategic procurement practices positively affected the profitability of the firm.

Further, the existing literature (Szwejczewski & Marsh, 2012, Belekoukias et al., 2014) on strategic procurement is skewed towards Asia and Europe hence the study on the influence of strategic supply chain practices on performance of manufacturing firms in Nairobi County, Kenya

Main Objectives

To establish the influence of strategic supply chain practices on performance of manufacturing firms in Nairobi County, Kenya

Specific Objectives

i. To determine the effect of outsourcing on performance of manufacturing firms in Nairobi County
ii. To establish the effect of vendor management inventory on performance of manufacturing firms in Nairobi County

Theoretical Framework

Stakeholders' Theory

Stakeholder theory posits that an organization is a social construction made of interaction of various stakeholders (Mersland and Strøm, 2009). It further argues that an organization‘s value is created when it meets the needs of the firm‘s important stakeholders in a win-win fashion (Harrison *et al.,* 2007). Stakeholders are further distinguished in various ways. In terms of effect, there are two categories - primary and secondary stakeholders. Primary stakeholders are those who are directly affected, either positively or negatively, by an organization's actions. They are those groups whose continuing participation is necessary for the survival of the organization. Primary stakeholders include shareholders, investors, employees, customers and suppliers. Secondary stakeholders, on the other hand, are those individuals, groups or organizations who can indirectly influence or be influenced by the organization's actions (Matten& Crane, 2005). They are not essential to the operations of the organization, although their actions can significantly damage (or benefit) the organization (Freeman et al, 2001). These may include public groups, such as the community.

The internal stakeholders are those groups which belong inside the organization, such as managers and employees. External stakeholders are groups that are outside the organization and have effects on the survival of the organizations (Baraldi, Brennan, Harrison, Tunisini & Zolkiewski, 2007). It is further argued that the core idea of stakeholder theory is not only to recognize internal stakeholders with whom stakeholder communication has been implemented for a longer time and has become obligatory (e.g., employee councils), but also external stakeholders whose claims are patently political or social in nature (Baraldi et al., 2007). This is in line with what some literature

argues - that all stakeholder entities have legitimate values and equal interests and a mutual dependency exists between them and the organization (Donaldson and Preston, 1995 as cited by Payne, Ballantyne, & Christopher, 2005).

Advocates of stakeholder theory further suggest that including stakeholder representatives on boards is a formal mechanism in place that acknowledges the importance of their relationship with the organization (Firer & Mitchell, 2003 and Hillman & Keim, 2001). This implies that stakeholder groups represented are both powerful and legitimate, as well as a part of the organization's dominant coalition‖ (Firer et al, 2003 Clement, 2005). That is, by including stakeholders on boards, organizations are signaling their commitment to stakeholders in a visible way. This theory is relevant in explaining the supplier relationship management especially in the outsourcing contracts where a third party is introduced. In planning its procurement, an organization has to take into consideration the conditions of the stakeholders and the period they take to deliver considering the relationship they have enjoyed. This theory therefore supports the objective touching on outsourcing as it enables an organization to manage its expectations depending on the observed timelines by an outsources party to delivery on their part.

Contingency Theory of Management

This theory was developed by Carlisle in 1976 to improve on the need to consider the circumstances under which a decision is made (Baranyi, 2001). The theory hinges on the open system where organizations are viewed as environmental dependent. This is to say that the decision made need to consider the happenings in the immediate environment as it is affected by the immediate environment in equal manner that it affected it (Donaldson, 2001). It argues that there are no universal principles in management of organizations but different organizational structures demand that different management decisions be tailor made to create a best fit that addresses the contextual issues. This explains why different organizations react differently to same operating environment to emerge competitive. This is because no one common approach may proof successful in all organizations as the contextual circumstances are different.

Using this theory, Matyusz (2012) argues that management need to create a level of harmonization between organizational structures and prevailing environmental conditions. It advocates for a fit between internal processes and the operating environment. Holmes (2013) successfully applied the structural contingency theory to supply chain management by developing a strategic model for prefabricated timber systems. The theory was also applied by Makali (2015) to study e-procurement and procurement performance of supermarkets in Nairobi. In all these circumstances, contingency management supported the Just In Time (JIT) practice of procurement. This theory is relevant for this study as it helps explain reasons for the application of JIT in procurement process among organizations. Therefore, this theory will support the objective covering JIT practice among manufacturing firms. It therefore holds that the procurement needs to be done on just in time basis as this takes into account the changes in the environment in real time so as to minimize costs associated with stock holding costs.

Conceptual Framework

The conceptual framework for this study is derived from the theoretical framework which identified four major strategic procurement practices and their conceptual relationship with the performance of firms. The practices include outsourcing, Vendor Managed Inventory (Hutt & Speh 2012). The conceptualized relationship is presented in Figure 2.1:

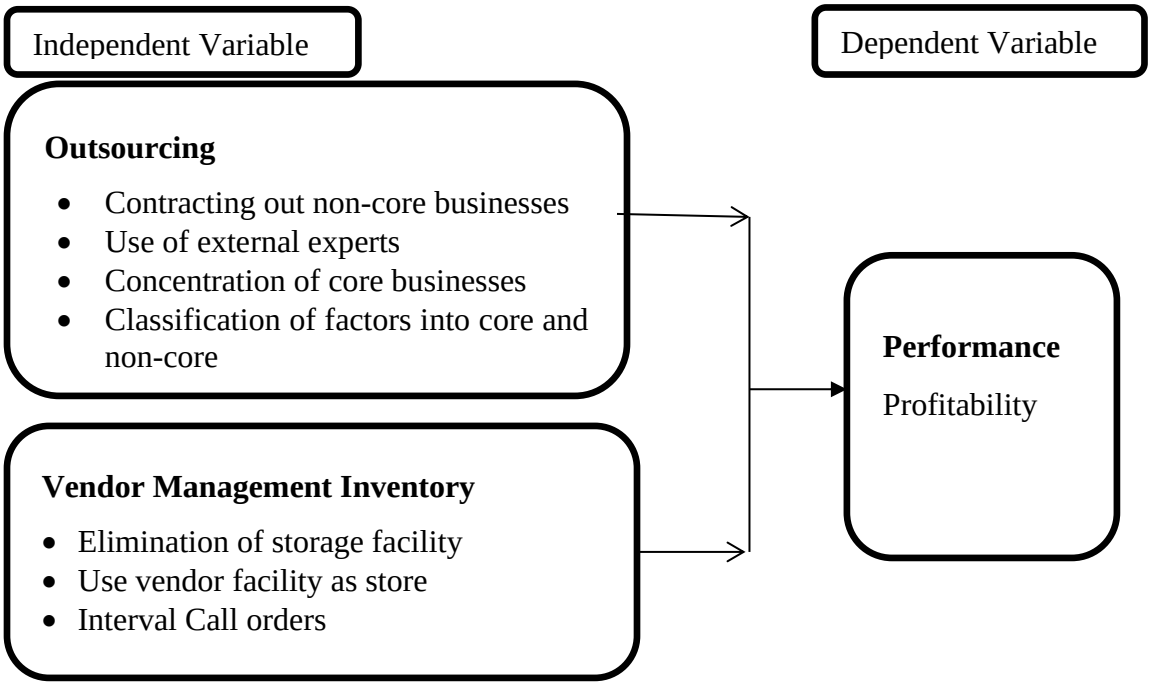

Figure 2. 1: Conceptual Framework

Out Sourcing

Out sourcing is defined as the process of identifying the most suitable expert third party service provider to undertake the management, administration and provision of the service in question (Willcocks & Lacity, 2016). Outsourcing in this study will be measured in terms of contracting out non-core businesses, use of external experts and concentration on core businesses as recommended by Willcocks and Lacity, (2016).

Vendor Management Inventory

Vendor management inventory (VMI) is another common approach adopted by different manufacturing units and firms in managing their inventory. In VMI approach the supply chain is efficient and faster since the supplier is directly linked to the consumers/customers demand. The buyer sends their demand information directly to the supplier who then generates a replenishing order, since most communication is through ICT platforms, the order is more accurate (Shi & Xiao, 2015). VMI will allow the companies to collaborate with complete clarity on the demand facts, which allows both parties to benefit from the added attention given to consumer demand. Thus VMI shall be measured by checking the Elimination of storage facility within the organization, Use vendor facility as store and Interval Call orders

Empirical Literature

Out Sourcing and Performance of Manufacturing Firms

Several studies have examined the influence of outsourcing on performance of firms across the world. For instance, Calia and Pacei1 (2017) examined the influence of outsourcing on firm performance using evidence drawn from manufacturing firms in Italy. The study conducted an empirical analysis of the production outsourcing effect on firm productivity and profitability using firm-level panel data developed by the Italian National Statistical Institute. The findings indicated the existence of a non-significant effect of outsourcing on profitability and a significant negative effect of outsourcing on productivity. The initial results demonstrate that outsourcing firms are not

significantly different from non-outsourcing firms with respect to the target variables. Outsourcing strategies could improve the firm's performance because of reducing costs or because the firm can concentrate on its core business.

In another study, Verwaal (2016) examined global outsourcing, explorative innovation and firm financial performance from a knowledge-exchange based perspective. Building on knowledge and relational capital literatures, the study acknowledges that firms experience higher cognitive and normative barriers in knowledge exchange in global outsourcing and causes explorative innovation to negatively mediate the relationship between global outsourcing and firm financial performance. The negative mediation effect can be positively moderated by building relational capital with foreign suppliers. Further findings indicated that global outsourcing had a positive and significant effect on market value, whereas domestic outsourcing had a negative effect. Lampel and Bhalla (2011) find that both benefits and risks increase when high value activities are outsourced.

In another study, Muriithi (2014) studied outsourcing and performance of savings and credits society in Nairobi. The study revealed that outsourcing was practiced to a great extent by the SACCOs but the effect of outsourcing on performance was not significantly seen. Mwegwa (2017) examined business process outsourcing and performance of Bidco Africa Limited. The study adopted a descriptive research design and established that outsourcing increased the capacity of the organization to utilize available resources and time to improve the production of its core areas.

Vendor Management Inventory and Performance of Manufacturing Firms

Shi and Xiao (2015) in their study stated that in order to maximize sales and customer service while minimizing cash resources that is tied up in inventory, suppliers and retailers can share demand facts through VMI. This will allow the companies to collaborate with complete clarity, which allows both parties to benefit from the added attention given to consumer demand.

Govindan (2013) on the review of vendor-managed inventory shares that VMI is another method by which supply chains can be managed, and, owing to centralised decision-making and constant information sharing, the benefits are much higher than in traditional supply chain case. The study further identified six dimensions which included inventory, transportation, manufacturing, general benefits, coordination/collaboration, and information sharing.

Jepchumba and Ismail (2015) considered the role of vendor managed inventory on supply chain performance in milk processing firms -KCC in Kenya, sharing that automating the systems increases the accuracy of placing and receiving the order. One common system is the automatic replenishment program such that inventory restocking decisions are made more on actual sales than long term forecasts or safety stocks and the decisions are made by the supplier. There are varieties of names that address to these programs such as Vendor Managed Inventory, Continuous Replenishment Program and Quick Response. Automating systems is advantageous as it prevents out of stock products in a precise manner, easily share information with business partners, forecast future product demands and easily synchronization of facts.

Walumbe (2016) on supplier management shares that in true VMI setting, the supplier has the freedom to plan its own production and decide the replenishment schedules as long as the agreed customer service levels are met. VMI is often implemented with minimum and maximum levels for inventory and the vendor is responsible in maintaining those. VMI shifts responsibility in decision making of the replenishment schedule and inventory management from the customer to

the supplier. In other words, VMI is a form of outsourcing as organizational functions previously done by the customer are done by the vendor.

RESEARCH METHODOLOGY

Research Design

This study used descriptive research design which involved gathering of data that describes events then organizing, tabulating depicting and describing the data. The choice of this research design is influenced by the fact that it enables the researcher to assess the situation in the study area at the time of study. The study is therefore able to determine the influence of different inventory management systems on performance of soft drinks manufacturing firms in Kenya.

Target Population

The study population was manufacturing firms while the target population was soft drinks manufacturing firm's staff. Target population is a universal set of the study of all members of real or hypothetical set of people, events or objects to which investigators wishes to generalize the result (Silverman, 2016). The target population for this study was supply chain staff from soft drinks manufacturing firms, Kenya. The choice of these firms is influenced by the fact that they are the main players in the industry and thus they were in a better position to answer the questions in order to address the research problem.

Sample Size and Sampling Technique

Sampling is the process by which a relatively small number of individuals, objects or events are selected and analyzed to find out a feature of the entire population Woods, (2006). A sample is smaller subset of a population that adequately represents the entire group Saunders *et al*., (2009). A total sample size of 186 respondents were taken with the aid of Slovin's formula

Pilot Study

Pilot study was administered in order to test for validity, reliability and practicability of the research instruments. The most important issue in the research is to ensure reliability and validity. Joppe (2000) defines reliability as: ―The extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable. The pilot study was carried out on 10 supply chain officers who are sufficient based on Glesne (2015) who stated that 10% of the population is adequate to constitute the pilot test size.

Data Analysis and Presentation

This study gathered both quantitative and qualitative data. Qualitative data was analyzed by use of content analysis. Quantitative data was coded then analyzed using Statistical Package for Social Sciences (SPSS) computer software version 22. The choice of the software is influenced by its ability to appropriately create graphical presentation of questions, data reporting, presentation and publishing. SPSS is also able to handle large amount of data and it is purposefully designed for social; sciences.

Descriptive statistics were used to analyze the data in frequency distributions and percentages which were presented in tables and figures. Discussions and presentations of the analyzed data was done in tables of frequency distribution, percentages, bar graphs and pie charts. Measures of

dispersion were used to provide information about the spread of the scores in the distribution. The study also adopted multiple regression analysis to test the relationships between the variables.

Inferential analysis

In the study, a statistical model was developed from the conceptual framework that was as follows: the dependent variable (DV) which in this study is performance of soft drinks manufacturing firms took the variable [Y], and the coefficients of the independent variables (IV) denoted by X_1, X_2, …..X_4 was used to show the relationship of the independent variables.

ANALYSIS AND INTERPRETATION OF DATA

Descriptive Statistics Analysis

Outsourcing and Performance of Manufacturing Firms

The first specific objective of the study was to determine the effect of outsourcing on performance of manufacturing firms in Nairobi County. The respondents were requested to indicate their level of agreement on statements relating to outsourcing and performance of manufacturing firms in Nairobi County. A 5 point Likert scale was used where 1 symbolized strongly disagree, 2 symbolized disagree, 3 symbolized neutral, 4 symbolized agree and 5 symbolized strongly agree. The results were as presented in Table 1.

From the results, the respondents agreed that their company has more time to concentrate on its core activities due to outsourcing. This is supported by a mean of 3.968 (std. dv = 0.905). In addition, as shown by a mean of 3.959 (std. dv = 0.885), the respondents agreed that their company is able to access diverse expertise in different fields as a result of outsourcing. Further, the respondents agreed that outsourcing has promoted production of high quality products by our Company. This is shown by a mean of 3.920 (std. dv = 0.605).

With a mean of 3.815 (std. dv = 0.981), the respondents agreed that outsourcing has enabled their company to invest the capital in other revenue generating activities. Further, with a mean of 3.811 (std. dv = 0.873), the respondents agreed that outsourcing has increased the level of their company's reliance on the outsourced firm. The respondents also agreed that outsourcing has improved the economies of scale of our Company. This is shown by a mean of 3.798 (std. dv = 0.786).

From the results, the respondents agreed that outsourcing has improved the level of legal compliance in their Company. This is supported by a mean of 3.754 (std. dv = 0.932). In addition, as shown by a mean of 3.715 (std. dv = 0.734), the respondents agreed that outsourcing has improved overall efficiency in operations in their Company. Further, the respondents agreed that outsourcing has promoted development of new products in their company. This is shown by a mean of 3.672 (std. dv = 0.854).

Table 1: Outsourcing and Performance of Manufacturing Firms

	Mean	Std. Dev.
Our Company has more time to concentrate on its core activities due to outsourcing	3.968	0.905
Our Company is able to access diverse expertise in different fields as a result of outsourcing	3.959	0.885
Outsourcing has promoted production of high quality products by our Company	3.920	0.605
Outsourcing has enabled our Company to invest the capital in other revenue generating activities	3.815	0.981
Outsourcing has increased the level of our company's reliance on the outsourced firm	3.811	0.873
Outsourcing has improved the economies of scale of our Company	3.798	0.786
Outsourcing has improved the level of legal compliance in our Company	3.754	0.932
Outsourcing has improved overall efficiency in operations in our Company	3.715	0.734
Outsourcing has promoted development of new products in our Company	3.672	0.854
Aggregate	**3.839**	**0.854**

Vendor Management Inventory and Performance of Manufacturing Firms

The second specific objective of the study was to establish the effect of vendor management inventory on performance of manufacturing firms in Nairobi County. The respondents were requested to indicate their level of agreement on the statements relating to vendor management inventory and performance of manufacturing firms in Nairobi County. The results were as shown in Table 2

From the results, the respondents agreed that their product consumers send demand information to the suppliers who create a replenishing order. This is supported by a mean of 4.084 (std. dv = 0.997). In addition, as shown by a mean of 3.967 (std. dv = 0.831), the respondents agreed that the suppliers and retailers share facts on the demand orders using VMI. Further, the respondents agreed that VMI has enabled them to collaborate with clarity to other company stakeholders. This is shown by a mean of 3.958 (std. dv = 0.563).

With a mean of 3.931 (std. dv = 0.851), the respondents agreed that they use automated systems that have improved their accuracy levels in managing orders. Further, with a mean of 3.851 (std. dv = 0.935), the respondents agreed that VMI has enabled us to cut on costs as a waste reduction solution in their operations. The respondents also agreed that the collaborating partnerships improve their operations through lowered distribution costs. This is shown by a mean of 3.843 (std. dv = 0.897).

From the results, the respondents agreed that VMI leads to partnerships that help us improve on customer demand fill rate. This is supported by a mean of 3.811 (std. dv = 0.763). In addition, as shown by a mean of 3.786 (std. dv = 0.786), the respondents agreed that their automated systems prevents out of stock products leading to continuous operations. Further, the respondents agreed that With VMI our suppliers have freedom to plan the replenishment schedules. This is shown by a mean of 3.675 (std. dv = 0.862).

Table 2: Vendor Management Inventory and Performance of Manufacturing Firms

	Mean	Std. Dev.
Our product consumers send demand information to the suppliers who create a replenishing order	4.084	0.997
The suppliers and retailers share facts on the demand orders using VMI	3.967	0.831
VMI has enabled us to collaborate with clarity to other company stakeholders	3.958	0.563
We use automated systems that have improved our accuracy levels in managing orders	3.931	0.851
VMI has enabled us to cut on costs as a waste reduction solution in our operations	3.851	0.935
The collaborating partnerships improves our operations through lowered distribution costs	3.843	0.897
VMI leads to partnerships that help us improve on customer demand fill rate	3.811	0.763
Our automated systems prevents out of stock products leading to continuous operations	3.786	0.786
With VMI our suppliers have freedom to plan the replenishment schedules	3.675	0.862
Aggregate	**3.822**	**0.845**

Inferential Statistics

Correlation Analysis

The present study used Pearson correlation analysis to determine the strength of association between independent variables (outsourcing and vendor management inventory) and the dependent variable (performance of manufacturing firms in Nairobi County) dependent variable. Pearson correlation coefficient range between zero and one, where by the strength of association increase with increase in the value of the correlation coefficients. The current study employed Taylor (2018) correlation coefficient ratings where by 0.80 to 1.00 depicts a very strong relationship, 0.60 to 0.79 depicts strong, 0.40 to 0.59 depicts moderate, 0.20 to 0.39 depicts weak.

Table 3: Correlation Coefficients

		Firm Performance	Outsourcing	Vendor Management Inventory
Firm Performance	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	176		
Outsourcing	Pearson Correlation	.880**	1	
	Sig. (2-tailed)	.001		
	N	176	176	
Vendor Management Inventory	Pearson Correlation	.842**	.279	1
	Sig. (2-tailed)	.002	.061	
	N	176	176	176

From the results, there was a very strong relationship between outsourcing and performance of manufacturing firms in Nairobi County (r = 0.880, p value =0.001). The relationship was significant since the p value 0.001 was less than 0.05 (significant level). The findings are in line with the findings of Sarros and Cooper (2016) who indicated that there is a very strong relationship between outsourcing and organization performance.

Moreover, the results revealed that there is a very strong relationship between vendor management inventory and performance of manufacturing firms in Nairobi County (r = 0.842, p value =0.002). The relationship was significant since the p value 0.002 was less than 0.05 (significant level). The findings conform to the findings of Medlin and Green Jr. (2019) that there is a very strong relationship between vendor management inventory and organization performance.

Regression Analysis

Multivariate regression analysis was used to assess the relationship between independent variables (outsourcing and vendor management inventory) and the dependent variable (performance of manufacturing firms in Nairobi County)

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.934	.872	.873	.10120

a. Predictors: (Constant), outsourcing and vendor management inventory

The model summary was used to explain the variation in the dependent variable that could be explained by the independent variables. The r-squared for the relationship between the independent variables and the dependent variable was 0.872. This implied that 87.2% of the variation in the dependent variable (performance of manufacturing firms in Nairobi County) could be explained by independent variables (outsourcing and vendor management inventory).

Table 5: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.027	2	2.007	52.82	.000[b]
	Residual	6.568	173	.038		
	Total	14.595	175			

a. Dependent Variable: performance of manufacturing firms in Nairobi County
b. Predictors: (Constant), outsourcing, vendor management inventory

The ANOVA was used to determine whether the model was a good fit for the data. F calculated was 52.82 while the F critical was 2.425. The p value was 0.000. Since the F-calculated was greater than the F-critical and the p value 0.000 was less than 0.05, the model was considered as a good fit for the data. Therefore, the model can be used to predict the influence of outsourcing and vendor management inventory on performance of manufacturing firms in Nairobi County.

Table 6: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	**(Constant)**	0.205	0.038		5.395	0.000
	outsourcing	0.369	0.099	0.367	3.727	0.004
	vendor management inventory	0.486	0.107	0.487	4.542	0.001

a Dependent Variable: performance of manufacturing firms

The regression model was as follows:

$Y = 0.205 + 0.369X_1 + 0.486X_2 + \varepsilon$

According to the results, outsourcing has a significant effect on performance of manufacturing firms in Nairobi County β_1=0.369, p value= 0.004). The relationship was considered significant since the p value 0.004 was less than the significant level of 0.05. The findings are in line with the findings of Sarros and Cooper (2016) who indicated that there is a very strong relationship between outsourcing and organization performance

The results also revealed that vendor management inventory has significant effect on performance of manufacturing firms in Nairobi County, β1=0.486, p value= 0.001). The relationship was considered significant since the p value 0.001 was less than the significant level of 0.05. The findings conform to the findings of Medlin and Green Jr. (2019) that there is a very strong relationship between vendor management inventory and organization performance

Conclusions

The study concludes that outsourcing has a positive and significant effect on performance of manufacturing firms in Nairobi County. Findings revealed that contracting out non-core businesses, use of external experts, concentration of core businesses and classification of factors into core and non-core influence performance of manufacturing firms in Nairobi County.

In addition, the study concludes that vendor management inventory has a positive and significant effect on performance of manufacturing firms in Nairobi County. Findings revealed that elimination of storage facility, use vendor facility as store and interval Call orders influence performance of manufacturing firms in Nairobi County

Recommendations

The study found that outsourcing has a positive and significant effect on performance of manufacturing firms in Nairobi County. This study therefore recommends that the management of manufacturing firms in Nairobi County should continue embracing contracting out non-core businesses, use of external experts, concentration of core businesses and classification of factors into core and non-core

In addition, the study found that vendor management inventory has a positive and significant effect on performance of manufacturing firms in Nairobi County. This study therefore recommends that the management of manufacturing firms in Nairobi County should consider embracing the use vendor facility as store and interval Call orders.

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