Int Journal of Social Sciences Management and Entrepreneurship 7(2): 629-639, 2023

ISSN 2411-7323

www.sagepublishers.com

AGILE PROCUREMENT AND PERFORMANCE OF MANUFACTURING FIRMS IN NAIROBI CITY COUNTY, KENYA

[1] Adan Mohamed Ali, [2] Dr. Noor Ismael Shale (PhD)

[1]Masters student, Jomo Kenyatta University of Agriculture and Technology, Kenya

[2]Lecturer, Jomo Kenyatta University of Agriculture and Technology, Kenya

ABSTRACT

The main purpose of the study was to determine the relationship between agile procurement and performance of manufacturing firms in Nairobi City County, Kenya. The specific objective was: lead time and supplier collaboration on performance of manufacturing firms in Nairobi City County. This study was anchored to different theories relevant. The study used descriptive research design, where both qualitative and quantitative research was applied. The target population was 328 respondents from the concerned firms in Nairobi city county, Kenya. The researcher carried census survey since respondents are manageable. The research technique was purposive sampling techniques. 10% (33) of the respondents was pilot tested for validity and reliability of the research instrument. Data was analyzed using descriptive statistics and inferential statistics with the help of Statistical Package for Social Science version 28 and the same is now presented in a form of tables and figure. The reliability and validity results were acceptable with rating of over 0.7 and 0.5 respectively. This study concludes and recommends that agile procurement had a strongly relationship with performance of manufacturing firms in Nairobi city County, Kenya.

Key Words: Agile procurement, Lead time, Supplier collaboration, Performance, Manufacturing firms

INTRODUCTION

In current world, companies have come up with a business strategy that has enabled them to be more competitive against their business competitors. Bode and Wagner (2015) argued that the competitive strategy is all about attracting the more customers towards by their products. The general aim of company's supply chain department is to ensure that the company remains more competitive on market. They also argued that the relationship between market competitive advantage and Supply Chain Management (SCM) are openly related. Many companies have focused on more improved and developed supply chain processes with an aim of ensuring that their customers are more satisfied while at the same time the company makes profit. Subsequently, most companies have become authoritative on handling the irregular market situations intensifying a competitive supply chain centred on quality production, quick response to customer complains, innovativeness and flexibility in production. The objective this is to shrink the production cost through increased efficiency and effectiveness. These are key characteristics of agile competencies (Cope, 2014).

In the midst of changes in the global manufacturing scene, impact on natural environmental has attracted considerable attention from various stakeholders ranging from regulatory authorities to customers. Authorities are interested on compliance while customers are concerned on their health. These have seen environmental and social issues claim a stake on managerial decisions in businesses globally. Within the ecological business practices, green procurement has emerged as favourite to many firms due to its ability to address environmental issues caused by external players and at the same time improves procurement performance (Halldórsson & Vural, 2019) Consequently, in an attempt to manage ecological issues caused by vendors, a number of firms around the globe have embraced ecological practices in their businesses operations. For example, Coca-Cola Company in the United States of America (USA) has adopted green procurement practices in all their operations and processes. These include having supplier guiding principles that emphasize on environmental protection by the suppliers. The Coca-Cola Company works with independent third-party auditors to regularly monitor the supplier guiding principles' compliance of companies which supply to the Coca-Cola system. The adoption of the agile procurement practices has seen the company greatly improve its performance (Ekman, Thilenius & Windahl, 2014).

In Nigeria adoption of the agile procurement practices by Shell Nigeria has been attributed to the achievement of savings through various sustainable initiatives, including energy, supply, operations and logistics. Unilever Plc East & West Africa has also been able to enhance its competitiveness through improvements in environmental performance to comply with environmental regulation, to address the environmental concern of customers and to reduce the environmental impact of its product and service activities. As a result, the company has been able to lower waste management fees, lower hazardous material management fees, less time and costs for reporting. Other companies in Africa that have benefited from green procurement include; Philips, Nestlé, Pepsi (Munn, Porritt, Lockwood, Aromataris & Pearson, 2014).

According to the Kenya Association of Manufacturers KAM, (2017) there are a total of 217 food and beverages manufacturing companies in Kenya registered with the Kenya Association of Manufacturers. Manufacturing firms in Kenya are made of both multinational and local firms and a large number of them are based in Nairobi county where the Country capital city is located (KAM, 2017). Examples of multinational firms include Guinness PLC which partners with East African Breweries Ltd and Diageo Group to make and supply bottled beer to the South and East Africa markets, Coca cola, Del Monte, Kurusu food products etc. which are engaged in beverage production. Examples of local companies include, Unga limited, Kenya breweries limited and Bidco Africa Ltd (Razmi & Haghighi, 2014).

The sector is composed of dairy and meat processing firms, grain milling firms, edible fats and oils processing firms, beverages, fruits and vegetable processing firms, fish processing firms, wines, beer and spirits firms. Manufacturing in Kenya, apart from being considered as the country's economic growth lever under Vision 2030, is expected to contribute to the realisation of the government big four agendas. However, the sector has experienced decline in performance over period of time (KAM, 2017) registering losses of 50 million annually as a result of supply chain management related issues. This performance issue has created doubt on the sector ability to contribute effectively to the realization of the country development under vision 2030 and the big four agendas. As a result, manufacturing firms in Kenya have embraced green practices within their supply chain as a way of addressing performance issues. According to the perceived relationship between green practices and performance has not been confirmed empirically in Kenyan context. It is therefore imperative that a relationship be established between agile procurement practices and performance of manufacturing firms in Kenya (Stank et al., 2017).

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 labour force in the national manufacturing sector (Ekman, Thilenius & Windahl, 2014). Later the sub-sector started declining in the mid-1980s to the current situation where it registers losses of Ksh 50 million annually (KAM, 2013) which have been attributed to acquisition issues (Halldórsson & Vural, 2019).

There was therefore need for the manufacturing firms in Kenya to consider other management concepts with the potential of improving their procurement performance significantly. Agile procurement management concept, as suggested the potential to eliminate or minimize waste along procurement resulting to organization performance. Additionally, Hervani, Helms, and Sarkis, (2015) established a significant improvement in procurement performance of processing firms in South Korea due to application of agile practices within the procurement function. However, Humphreys (2013) noted that the concept of agile procurement and its association with performance has not been empirically proved in Kenya. Kabergey and Richu (2015) added that empirical studies in this area is largely in other countries outside Kenya and mainly in America, Europe and limited parts of Asia. Thus, the study established the influence of agile procurement on the performance of manufacturing firms in Nairobi County, Kenya. In view of the foregoing this study is done in the Kenyan context so as to bridge the existing gap with new knowledge.

Despite the existing literature on factors influencing project implementation, there is limited research specifically addressing software development projects in the context of SMEs operating in Nairobi City County. This study aims to fill this research gap by examining the determinants that influence software development project outcomes and their subsequent impact on SME performance in this specific context (Githenya & Ngugi, 2018). By building upon the findings of previous studies and focusing on the unique challenges and opportunities faced by SMEs in Nairobi City County, this research seeks to provide valuable insights and practical recommendations to optimize software development processes and enhance overall performance in this dynamic business landscape (Smith, 2021).In view of the foregoing this study is done in the Kenya Context so as to bridge the gap in project software development and performance of SMS in Nairobi City County, Kenya

Objectives of the Study

i. To establish the effect of lead-time on performance of manufacturing firms in Nairobi City County, Kenya.
ii. To the effect of supplier collaboration on performance of manufacturing firms in Nairobi City County, Kenya.

LITERATURE REVIEW

Theoretical Review

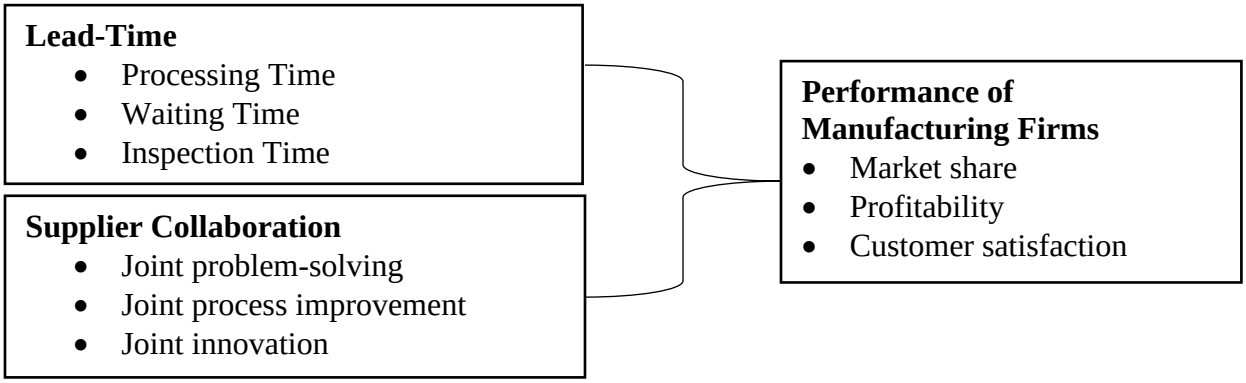
Resource-Based View Theory

The Resource-Based View (RBV) theory states that the resources and capabilities of an organization determine its performance (Barney, 1991). The theory posits that organizations that have the ability to effectively manage their resources, including their supply chains, will have a competitive advantage and perform better than organizations that do not have this ability. The theory suggests that order fulfilment, as a key aspect of agile procurement, can have a significant impact on the performance of organizations. This theory will therefore be used to assess the influence of order fulfilment on performance of manufacturing firms in Nairobi City County, Kenya. This theory was used to establish the influence of information integration on performance of manufacturing firms in Nairobi City County, Kenya.

Theory of Inter-Organizational Relations

The Theory of Interorganizational Relations (TOR) focuses on the relationships between organizations and how they impact performance (Powell, 1990). The theory suggests that organizations that are able to develop and maintain positive relationships with their suppliers will be able to achieve better performance than organizations that do not have these relationships. The theory argues that supplier collaboration, as a key aspect of procurement management, can have a significant impact on the performance of organizations (Amuhaya, 2016). These authors argued the need for multi-level analysis, with an industry group clearly recognized as an important unit of analysis, and for theory that is processual, with recognition of the dynamic interaction between influences on behaviour and the behaviour that occurs. The previous theoretical work is extended to give propositions concerning the development of IOS -- how change is related to industry structure, how change occurs, and how change can be facilitated. This theory was used to assess the influence of supplier collaboration on performance of manufacturing firms in Nairobi City County, Kenya.

Conceptual Framework



Lead Time

Bode and Wagner (2015) claim that shortening the replenishment lead-time is a more efficient way to decrease base-stock level compared to reducing lead-time variances in the case of high variation customer demand. These studies all point to the same idea: the faster an order replenishment is, the lower the optimal safety stock required to hedge against demand uncertainty since a shorter lead-time enables firms to dynamically respond to the shifting customer demand and provides less incentive for them to hold excessive inventory on-hand. However, when facing supply disruptions that stem from delivery problems or supply shortage, firms would be severely affected by the

disruptive impact, such as production halt, stock out frequency, and backorder rate, due to low buffering inventory. On the contrary, in a supply chain with longer delivery lead-time, supply chain members tend to increase stock levels to offset the forecast error of relative lead-time demand (Cope, 2014).

Furthermore, a longer lead-time could intensify inventory in-efficiency since firms with longer delivery lead-time could face a greater risk in terms of supply disruptions due to less accurate inventory management. According to Kagwiria (2014) how that longer replenishment lead-times cause inflated order variance at upper echelons by modelling a simple supply chain and manipulating different deterministic lead-times with autoregressive customer demand. Kim et al. (2006) show that wide lead-time variance enhances the magnitude of bullwhip effect1more than the mean lead-time does. Many studies also suggest that reducing lead-time is significantly beneficial for improving the phenomenon of up-stream order oscillation which could cause an imbalance between supply and demand, and thus leads to firms' In ability to handle the disruption appropriate.

Supplier Collaboration

In today's globalized economy, single companies no longer compete with other single companies, in manufactured competition has moved towards whole supply chains competing with each other, even on a global scale. The traditional definition of supply chain is centred on the idea that a supply chain covers the entire flow from the first supplier to the final customer. The academic research results have overtime point in the direction that a key success factor for supply chains is its ability to integrate all the involved actors and manage the supply chain as a whole

Integration can be described as a way of handling relationships, sharing information and resources, as well as coordination between actors. Furthermore, managing global supply chains involves collaboration with several actors, which during the last decade has led to supply chains becoming increasingly complex (Bode and Wagner, 2015). As former vice president of supply chain operations from Coca-Cola North America stated, "If you are in supply chain management today, then complexity is a cancer you have to fight". One of the roots regarding this increased complexity is firms' strategy of focusing on core competencies to operate more effectively and efficiently within their own processes. Due to this, outsourcing have become a more or less a standard solution in order to focus on core competence and share risks (Dinu, 2015) This has amplified the necessity for actors in supply chain to collaborate in order to achieve an efficient and effective supply chain by bringing in special competency through outsourcing.

Empirical Review

Lead Time

In uncertain environments, flexibility to adapt previously made decisions to recently observed outcomes is always valuable. A special case of this general concept has found vast use in supply chain (SC) literature such as quantity flexibility or buyback contracts (Ongeri & Osoro, 2021). However, most SC contracts have dealt with quantity flexibility while totally ignoring lead time flexibility to the best of our knowledge. Lead time flexibility refers to an arrangement between the retailer and the transporter or the manufacturer, where delivery lead times are not firm when orders are placed but they evolve into firm(er) times. This evolution is controlled by the retailer as long as it is within limits posed by the transporter/manufacturer. The retailer monitors its demand and requests lead times accordingly; high demand observations lead to shorter lead times, e.g. expediting deliveries via using a faster transportation mode or via rushing the production at the manufacturer or buying a portion of the production lot from a spot market. Conversely, low demand observations suggest using a slower transportation mode or postponing deliveries from the manufacture where inventory holding costs are lower (Razmi & Haghighi, 2014).

For example, Boeing provides delivery lead time flexibility to its customers, such as Delta airlines. Airlines place aircraft orders to Boeing without firm delivery (lead) times, timing is made firmer with expediting or postponing deliveries as airlines observe more passenger demand. Under uncertainty, flexibility provides a hedge that distributes or reduces the risk. In the well-known example of quantity flexibility contracts the manufacturer and the supplier share the risk by promising the availability and purchase of a certain amount of goods. This set up gives retailer some leverage to counter against extreme demands which are unlikely but possible. It is possible to provide a similar hedging mechanism to retailer with flexible lead times. Our objective is to study this hedging mechanism, its benefits to the retailer and also to SC overall (Ongeri & Osoro, 2021).

Supplier Collaboration

There are different levels of integration and different supply chains as well as actors themselves handle integration differently depending on their goal. This creates a wide variety of types and levels of collaboration and integration. As explained by Razmi and Haghighi (2014), logistics companies can be divided into different categories, namely carriers, logistics service providers (3PL) and logistics service intermediaries (4PL). They classify the carriers as providers of transportation and the most basic services, 3PL's as a more advanced service provider who in addition to the basic services also provides more advanced logistics services as well as administrative and operational services (Ongeri & Osoro, 2021).

The classification of a 4PL is the role of a consultant who builds and manages the logistics operations, however without their own physical assets they outsource physical activities (Razmi & Haghighi, 2014). They provide a similar type of framework of classifying different logistics firms, which shows that there are a wide variety of logistics service providers operating, who all provide different types and levels of integration and services. Whereas integration has been proved to be beneficial to performance, integration, cooperation and communication between actors it has also been confirmed to be difficult (Ongeri & Osoro, 2021). With the increase in size and complexity of supply chains, more actors are becoming involved and collaboration between actor's increases. They stated that conflicts are an undesired but unavoidable phenomenon of functional interaction, when collaborating within a company or with chain partners such as suppliers or logistics service providers.

Furthermore, according to Razmi and Haghighi (2014) buyer supplier relationships and collaboration is a sensitive issue since it can provide benefits for both parties while at the same time trigger conflicts and problems due to differences. In addition to this and due to the unavoidable nature of conflicts, Shaiq et al. (2015) found that 91% of managers in their study had faced conflicts with one of their supply chain partners. While conflicts might not be completely avoidable, ways to reduce the negative effects and improve the handling and management of conflicts as well as the area in general have been extensively studied in previous literature Ongeri and Osoro (2021) With the many different type of collaboration partners that exists, there are several types of collaboration setups that can be seen within different supply chains. Previous research has focused heavily on conflicts and conflict management in general, however there are little research regarding the differences of how collaboration setups work depending on what type of logistics partner that is involved

RESEARCH METHODOLOGY

The study used descriptive cross-sectional research design. Descriptive cross-sectional survey research design was proposed for this study because it involves measuring different variables in the population of interest at a single point in time. Descriptive cross-sectional survey research was a method of collecting information by interviewing and administering questionnaires to a sample

of individuals at a point in time (Mugenda & Mugenda, 2008). The unit of analysis in this study was 217 food and beverage manufacturing firms in Kenya, who are members of the Kenya Association of Manufacturers (KAM, 2018). Data was collected using a self-administered semi-structured questionnaire. A drop and pick later method was used in administering the questionnaire which gave the respondent ample time to fill in the data questionnaire based on questionnaire used in previous studies. Presentation of data was done in form of quantitative and qualitative reports which was presented in forms of tables and essay. Data obtained from the field was coded, cleaned, and entered into the computer for analysis using the Statistical Package for Social Science (SPSS) version 26.

RESEARCH FINDINGS AND DISCUSSIONS

Response rate

Out of 195 questionnaires that were send to the respondents,188 of them were dully filled and retuned by the respondents; yielding a response of 96.4%. This was considered every reliable response rate for the generalization of study findings is in line with Kothari (2011), states that a response rate of 70% and above is believed to be a reliable response rate.

Descriptive Analysis of the Variables of the Study

Lead Time

The statements relating to lead time and performance of Manufacturing firms in Nairobi City County, Kenya are presented in Table 1. The respondents unanimously agreement that lead time ensured performance of Manufacturing firms in Nairobi City County, Kenya (M=3.471, SD=1.1605); Through processing time assessment the manufacturing firms has been able been the cause of non-performance of manufacturing firms in Nairobi city county, Kenya (M=3.931, SD=.9201); willingness to have waiting time has contribution to performance of manufacturing firms in Nairobi city county, Kenya ((M=3.902, SD=.9005); assessment of inspection time accurately in lead time is important to manufacturing firms in Nairobi city county, Kenya ((M=4.159, SD=.8251); The management in Nairobi City County wants to improve performance of Manufacturing firms through lead time management (M=3.838, SD=1.2018); and lead time enhances performance of Manufacturing firms at Nairobi City County, Kenya (M=3.665, SD=.8015). The result concurs with the findings of Nyile *et al.* (2022) who observed that clear description of lead time, can enhance effective performance of Manufacturing firms.

Table 1: Lead Time

Statement	Mean	Std. Dev.
We ensure conformance of lead time on manufacturing firms in Nairobi city county, Kenya	3.471	1.0605
Through processing time on manufacturing firms' in Nairobi city county, Kenya	3.931	.9202
Waiting time has contribution to performance of Manufacturing firms in Nairobi City County	3.902	.9005
Waiting time has contribution to performance of Manufacturing firms in Nairobi City County	3.902	.9005
inspection time through good lead time on manufacturing firms in Nairobi city county, Kenya	4.159	.8251
The management of Lead time on manufacturing firms in Nairobi city county, Kenya	3.838	1.2018
Lead time enhances performance of Manufacturing firms at Nairobi City County	3.664	.8015

Supplier Collaboration

The statements regarding to supplier collaboration on performance of Manufacturing firms in Nairobi city county, Kenya are presented in Table 2. The respondents agreed that: The Nairobi City considers joint problem solving on manufacturing firms in Nairobi city county, Kenya ((M=3.749, SD=.8310); A supplier collaboration is likely to deliver on performance of Manufacturing firms in Nairobi City (M=4.1031, SD=.7204); Early joint process improvement on performance of Manufacturing firms Nairobi City County (M=4.139, SD=.8300); Through join innovation can enhance performance of Manufacturing firms in Nairobi City County (M=4.209, SD=.7115); proper supplier collaboration can enhance performance of Manufacturing firms Nairobi City County (M=4.192, SD=.8003); Joint coordination enhances performance of Manufacturing firms in Nairobi City County, Kenya (M=4.350 SD=.8163) . This result is in agreement with the findings of Ongeri and Osoro (2021) that the goal of supplier collaboration is to ensure performance of Manufacturing firms in Nairobi City County, Kenya. Effective Supplier collaboration minimizes or eliminates problems and agile procurement disputes. This agrees with the finding of Omide et al. (2022). It is essential for supplier collaboration to understand the provisions of the supplier evaluation, have the ability to perform to all parties involved, and maintain control over the performance of manufacturing firms in Nairobi City County, Kenya.

Table 2: Supplier Collaboration

Statement	Mean	Std. Dev.
Our firm considers supplier collaboration on performance of Manufacturing firms in Nairobi City County	3.949	.8310
Joint problem solving enables performance of Manufacturing firms in Nairobi City County	4.131	.7204
Joint coordination enhances Performance of Manufacturing firms Nairobi City County	4.139	.8300
joint process improvement enhances performance of preference in Nairobi City County	4.209	.7115
Joint innovation enhances procurement performance of Manufacturing firms Nairobi City County	4.192	.8003
supplier collaboration can boast procurement performance of Manufacturing firms Nairobi City County	4.350	.8163

Performance Of Manufacturing Firms In Nairobi City County, Kenya

Respondents gave their level of agreement on various statements relating with performance of Manufacturing firms in Nairobi City County, Kenya. The results were as presented in Table 3. The respondents were in agreement that performance of Manufacturing firms in Nairobi City , Kenya is being affect by market shares management, they gave 53.1%; when asked about profitability of firms and its effect on procurement performance in Nairobi City , Kenya they gave 69.1 %; When the respondents were asked to show their level of agreement on customer satisfaction affects performance of Manufacturing firms in Nairobi City , Kenya they gave 8%; When also the respondents were asked to show their level of agreement on growth of the county manufacturing on performance of Manufacturing firms in Nairobi City , Kenya they gave 49.8%; Alternative dispute resolution process contributes to Order fulfilment on performance of Manufacturing firms in Nairobi City , Kenya they gave 42.6% and through well management, operational performance measured by quality, flexibility, Order fulfilment on procurement performance in Nairobi City , Kenya they gave 84.3%. The findings is in line with the findings of Mutai and Osoro (2021) they observed that some of the factors that contribute to inefficiency in public procurement as corruption, delayed payments, poor planning, statutory amendments, insufficient use supplier

evaluation low public participation, and improper payment procedures negatively affects performance of Manufacturing firms in Nairobi City County, Kenya.

Table 3: Performance of Manufacturing firms

Statements	Yes (%)	No (%)
Customer Satisfaction can affect performance of Manufacturing firms in Nairobi City, Kenya	53.1	46.9
Profitability can affect performance of Manufacturing firms in Nairobi City, Kenya	68.9	31.1
customer satisfaction can affect performance of Manufacturing firms in Nairobi City, Kenya	58.2	41.8
Reduction on complaints can affect performance of Manufacturing firms in Nairobi City, Kenya	69.8	31.2
Quality of goods can affect performance of of Nairobi City, Kenya	22.6	77.4
Production schedule on performance of manufacturing firms of Nairobi City, Kenya	74.3	25.7

Inferential Analysis

Correlation Analysis

The results in Table 4 show that a positive correlation is seen between each variable and performance. Supplier collaboration and performance in Nairobi City County were found to be strongly and positively correlating with performance of Manufacturing firms in Nairobi City County correlation coefficient of 0.307 and 0.413 respectively. This is tandem with the findings of Ongeri and Osoro (2021), who observed that all independent variables were found to have a statistically significant association with the dependent variable at over 0.05 level of confidence.

Table 4: Summary of Pearson's Correlations

		Performance	Lead time	Supplier collaboration
Performance	Pearson Correlation	1		
	Sig. (2-tailed)			
Lead time	Pearson Correlation	.871*	1	
	N.	188*		
	Sig. (2-tailed)	.000		
Supplier Collab.	Pearson Correlation	.754**	.264	1
	N	188	188	
	Sig. (2-tailed)	.002	.078	

Regression Analysis

Table 5 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.765	0.786	0.731	0.065

Table 6 Analysis of Variance

	Sum of Squares	d.f	Mean Square	F	Sig.
Regression	4.156	1	1.059	0.441	.001[b]
Residual	6.466	187	0.531		
Total	**10.612**	188			

Table 7 Regression of Beta Coefficient and Significance

Unstandardized Coefficients		Standardized Coefficients	T	Sig.
B	Std. Error	Beta		
(Constant)	-.137 .060	-1.144	.004	.004
Lead time.	.471 .132	.838	5.471	.002
Supplier collab	.205 .068	.162	2.471	.003

The results showed a correlation value (R) of 0.765 which depicts that there is a good linear dependence between the independent and dependent variables. This finding is in line with the findings of Ongeri and Osoro (2021). They observed that this also to depict the significance of the regression analysis done at 95% confidence level. This implies that the regression model is significant and can thus be used to evaluate the association between the dependent and independent variables. This finding is in line with the findings of Titman (2018), who observed that analysis of variance statistics examines the differences between group means and their associated procedures.

From the results in 6, analysis of variance statistics was conducted to determine the differences in the means of the dependent and independent variables to show whether a relationship exists between the two. The P-value of 0.005 implies that organizational performance of telecommunications sector has a significant relationship with contract planning, contract administration, contract evaluation and dispute resolution which is significant at 5 % level of significance.

From the result shown in Table 7, it's clear that when all the independent variables are regressed against the dependent variable the constant gives a negative result meaning there is a strong relationship and how each predictor has an effect on the dependent variable. A unit change in Lead time would thus lead to a .471 effect on performance of Manufacturing firms in Nairobi City County sector ceteris paribus; while a unit change in supplier collaboration would have an effect of .205 change in performance of Manufacturing firms in Nairobi City County. This finding is in line with the findings of Ongeri and Osoro (2021).

Conclusion

The study concludes that there is a positive relationship between lead time and Performance of Manufacturing firms. Speciation identification, periodic design assessment, continues improvement and proactive assessment are among the lead time factors that significantly influenced the performance of Manufacturing firms in Nairobi City County, Kenya. The study further concludes that by implementing lead time has enhanced performance of Manufacturing firms in Nairobi City County, Kenya, leading to operational increase in efficiency and effectiveness. Therefore, the study concludes Nairobi City County has significantly increased their suppliers' quality management in the County government in the supply chain practices.

The study concludes that supplier collaboration influences performance of Manufacturing firms in Nairobi City County. The supplier during evaluation was through adherence to the set criterion in the bid documentation during the advertisement focusing on supplier collaboration. A well-integrated internal supply chain should provide excellence in supplier collaboration on performance of manufacturing firms in Nairobi City County, Kenya. Nairobi City County, through embracing supplier collaboration has benefited from facilitated manufacturing work, resource allocation and fulfilment of set goals between complementary functions. This has made it easy for the county to ensure increased Service delivery to the community. Therefore, the study concludes that Nairobi City has experienced significant increase in growth, through supplier collaboration in the supply chain practices in supply chain.

Recommendations of the Study

The study recommend that lead time formalizes relations between parties within a robust legal framework, but is much more besides; it is an opportunity to define the arrangements that encompass every aspect of what outcomes the Nairobi City wants from the supplier and how it wants the relationship to work. This means that the county needs to take an active role in the development of the quality mechanism early on; it should not be left as a supplementary activity post negotiation. At preparation of every quality management can contribute to supplier evaluation on performance of Manufacturing firms in Nairobi City County, Kenya. Proper lead time can result to high procurement in Nairobi City County.

This study recommends that supplier collaboration had a good relationship with performance of Manufacturing firms in Nairobi City, Kenya. Hence effective supplier collaboration can minimize or eliminates problems and potential claims towards performance of manufacturing firms in the County perspective. A key factor in successful supplier collaboration is being capable to give credit to customers.

REFERENCES

Adams, C. A. Muir, S. & Hoque, Z. (2014). Measurement of sustainability performance in the public sector. *Sustain. Acc. Manag. Policy J*., 5, 46–67.

Amtzen, B. C., Brown G. G., Harrison T. P. & Trafton L. L. (2015). Global supply chain management at digital equipment corporation. *Interfaces*, Vol.25.

Chan, F. T. S., Kumar, N., Tiwari, M. K., Lau, H. C. V., & Choy, K. L. (2014). Global supplier selection: a fuzzy-AHP approach. *International Journal of Production Research*, 46 (14), 3825–3857.

Bode C. and Wagner S. M. (2015). Structural drivers of upstream supply chain complexity and the frequency of supply chain disruptions. Journal of Operation Management Vol. 36 pp. 215-228

Cope, D. G. (2014). Methods and meanings: credibility and trustworthiness of qualitative research. In Oncology nursing forum (Vol. 41, No. 1).

Craig, N., Dehoratius, N., Jiang, Y., & Klabjan, D. (2015). Execution quality: An analysis of fulfillment errors at a retail distribution center. Journal Of Operations Management, 38, 25-40.

Ekman, P., Thilenius, P. and Windahl, T. (2014). Extending the ERP system: considering the business relationship portfolio. Business Process Management Journal 20, pp. 480-501.

Humphreys, P. K. (2013). Integrating environmental criteria into supplier selection process; Journal of Materials processing technology (138), 349-356.

Iraldo, F., Testa, F. & Frey, M., (2013). Is an environmental management system able to influence environmental and competitive? The case of the eco-management and audit scheme (EMAS) in the European Union. Journal of Cleaner Production 17, 1444–1452.

Janné, Mats, and A. Fredriksson. 2019. "Construction logistics governing guidelines in urban development projects." Construction Innovation 19:89-109.

Khan, Khurram Iqbal Ahmad, Roger Flanagan, and Shu-Ling Lu. 2016. "Managing information complexity using system dynamics on construction projects." Construction Management and Economics 34 (3):192-204.

Ko, Hoo Sang, Marcelo Azambuja, and H Felix Lee. 2016. "Cloud-based materials tracking system prototype integrated with radio frequency identification tagging technology." Automation in Construction 63:144-54.

Kagwiria, H. (2014). *Qualitative research: Good decision making through understanding people, cultures and markets*. London: Kogan Page.

Kariuki, M. (2015). Reconceptualising the Right to Clean and Healthy Environment in Kenya-6.

Kim, M. & Chai, S. (2017). Implementing Environmental Practices for Accomplishing Sustainable Green Supply Chain Management. Sustainability, 9, 1192.

Kombo, D. K. & Tromp, L. A. (2011). *Proposal and Thesis Writing: An introduction.* Nairobi: Pauline's Publication of Africa.

Kombo, D.K. & Tromp, D.L. A. (2013). *Proposal and Thesis Writing*. Nairobi: Pauline Publications.

Kothari, C. R. (2014). *Research Methodology: Methods & Techniques* (2nd ed.). Delhi: New Age International Ltd.

Mugenda, O., & Mugenda, A., (2009). *Qualitative and Quantitative Approaches to Research Methods:* Nairobi: African Centre of Technology Studies

Muttimos, A. E. (2014). Association concerning practices of reverse logistics and performance of organizations among manufacturing firms in Kenya (*Doctoral dissertation*).

Razmi, J. and Haghighi, D. (2014). Identifying Buyer-Supplier Conflict in Collaborative Process New Product Development. International Journal of Research in Industrial Engineering, Vol.3, No. 2. pp. 12-23.

Stank, Theodore P, Daniel A Pellathy, Joonhwan In, Diane A Mollenkopf, and John E Bell. 2017. "New frontiers in logistics research: theorizing at the middle range." Journal of Business Logistics 38 (1):6-17

Suddaby, R. (2006). What grounded theory is not. Academy of Management Journal. 49(4).

Sundquist, V., L. E. Gadde, and K. Hulthen. 2018. "Reorganizing construction logistics for improved performance." Construction Management and Economics 36:49-65.

Shaiq M., Shaikh R. and Ahmed A. (2015). Conflict Resolutions in Supply Chain Collaboration a Perspective of Supply Chain Managers, Journal of Business Strategies, Vol.9, No.1, pp. 17–30.

Thunberg, M., and Anna Fredriksson. 2018. "Bringing planning back into the picture – How can supply chain planning aid in dealing with supply chain-related problems in construction?" Construction Management and Economics 36 (8):425-42. doi: 10.1080/01446193.2017.1394579.

Thunberg, Micael. 2016. "Developing a Framework for Supply Chain Planning in Construction." Doctoral, Linköping University.

Thunberg, Micael, and Fredrik Persson. 2014. "Using the SCOR model's performance measurements to improve construction logistics." Production Planning and Control 25 (13-14):1065-78.

Titus, Silas, and Jan Bröchner. 2005. "Managing information flow in construction supply chains." Construction Innovation: Information, Process, Management 5 (2):71-82.

Wacker, J. G. 1998. "A definition of theory: research guidelines for different theory-building research methods in operations management." Journal of Operations Management 16 (4):361-85.

Wells, Peter, and Paul Nieuwenhuis. 2017. "Operationalizing Deep Structural Sustainability in Business: Longitudinal Immersion as Extensive Engaged Scholarship." British Journal of Management 28 (1):45-63.

Wang, X. Persson, G. and Huemer, L. (2014). Logistics Service Providers and Value Creation Through Collaboration: A Case Study. Long Range Planning.

Ying, Fei, John Tookey, and Jeff Seadon. 2018. "Measuring the invisible: A key performance indicator for managing construction logistics performance." Benchmarking: An International Journal 25 (6):1921-34.

Zhu, Q., Sarkis, J., & Geng, Y. (2015). China's management of green supply chain: practices, pressures and performance, *International Journal of Operations & Production Management*, Vol.25, pp. 449-68.