

# Effect of Supplier Evaluation on Procurement Performance of West Pokot County in Kenya

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**Drive:** The study pursued to scrutinize the effect of supplier evaluation on procurement performance in West Pokot County, Kenya, which fixated on the following specific objectives: supplier quality commitment, supplier financial stability, supplier competence and customer relationship on procurement performance in West Pokot county government. This study also accomplishes that supplier evaluation on procurement performance in West Pokot County, Kenya, and the study therefore recommends a further study to be conducted to other counties in Kenya.

**Keywords:** supplier quality commitment, supplier financial stability, supplier competence and customer relationship on procurement performance

## 1.1 Introduction

According to Ambrosiano and Caballini, (2019), they specified that the performance of supply chain was prejudiced by managing and integrating key element of information into their supply chain. To attain real supply chain integration, the firms need to gadget information technology recommended that by using technology of information, the firms might managing the flow and impact of many supply chains dimension, such as quality, cost, flexibility, delivery, and profit. Amin and Shahwan (2020), found that information technology impact the supply chain efficiency. They stated that the development and long-term application of information technology lead to healthier firm performance in terms of return on investment return on equity and market share. Supply chain coordination and integration is eased by using integrated information technology, which directly impacts a financial performance of the firms. Attaining a competitive advantage and better performance, supply chain management strategy need support the business strategy. The drive of this study to treasure out the consequence of supply chain management strategy such as lean supply chain, agile supply chain, and hybrid supply chain on supply chain performance (Anand, 2018).

Supplier evaluation is processes geared towards identification of potential suppliers to support the buying founding realize its interests with regard to county purchasing. It is a purchasing department's continuous process and is also a pre-qualification step in the purchasing process. Supplier evaluation, as a process, encompasses the appraisal of several supplier aspects which include financials, capacity, county processes and structure, quality assurance and performance using questionnaires or site visits. Supplier evaluation can be on a number of areas, at least eight areas, which comprise; Finance, production capacity, human resource, quality, performance, ethical and environmental considerations and their organizational structure. The appraisal criteria is concise in the seven Cs namely; Competency, Capacity, Commitment, Control systems, Cash resources and financial stability, cost commensurate with quality and service and consistency (Christopher & Holweg, 2017).

### 1.2.1 Resource-Based Theory

Resource based theory is thought to be applicable for this study in order to understand how supplier quality management touches procurement performance of West Pokot County in Kenya, hence it gives theoretical background of this study. The study was guided by resource-based theory, which was industrialised by Kreps (1972). Goldsmith, Yamane. (1968); the theory stipulates that a firm's resources are the fundamental grounds of competitive advantage and performance. It adopts two moulds in analyzing sources of competitive advantage. First, this theory assumes that firms within an industry or within a strategic group may be varied with respect to the package of resources that they control. Second, it shoulders that resource heterogeneity may persist over time because the resources used to implement firms' stratagems are not flawlessly mobile across firms (i.e., some of the resources cannot be traded in factor markets and are difficult to accumulate and imitate).

Resource individuality is considered an essential condition for a resource bundle to contribute to a competitive advantage. The quarrel goes that if all firms in a market have the same stock of resources, no strategy is available to one firm that would not also be available to all other firms in the market. Study in the Chicago School tradition, the RBV is an efficiency-based explanation of performance differences: performance differentials are viewed as derived from rent inconsistencies, attributable to resources having intrinsically different levels of efficiency. This is in the sense that they enable the firms to deliver greater benefits to their customers for a given cost or can bring the same benefit levels for a lower cost. The expected heterogeneity and immobility are not, however, sufficient conditions for sustained competitive advantage. According to Eisenhardt (1989), study, a firm resource must be valuable, rare, and imperfectly imitable and substitutable in order to be a source of a sustained competitive advantage.

### **1.2.2 Agency Theory**

Agency theory is thought to be relevant for this study in order to understand how supplier Financial stability affect procurement performance of West Pokot County in Kenya , hence it gives theoretical background of this study. According to Delbufalo, (1956), engages another person to perform some service on their behalf, which includes giving some decision-making authority to the Agent. Agency theory is concerned with agency relationships. The two gatherings have an agency relationship when they cooperate and engage in an association wherein one party delegates decisions and/or work to another (an agent) to act on its behalf. The significant assumptions underlying agency theory is that; potential goal conflicts exist between principals and agents; each party acts in its own self-interest; information asymmetry frequently exists amongst principals and agents; agents are more risk averse than the principal, and efficiency is the effectiveness criterion. Two potential problems stemming from these assumptions may arise in agency relationships: an agency problem and a risk-sharing problem (Eisenhardt 1989).

An agency problem appears when agents' goals differ from the principals' and it is difficult or expensive to verify whether agents have suitably performed the delegated work (i.e. moral hazard). A risk-sharing problematic arises when principals and agents have different attitudes towards risk that cause disagreements about actions to be taken in Kenya, hence it gives theoretical background of this study. According to Delbufalo (1956), his nature, buyers expect suppliers to provide good quality and to improve the quality of supplied products and/or services, but suppliers may be unenthusiastic to invest substantially especially if they perceive that buyers are reaping all the benefits. The change between buyers and suppliers will result in the two parties concerning themselves only with their self-interests (Eisenhardt, 1989). The agency theory is widely used in procurement, Precipice Macure and Eric Prier did a study on using agency theory to model cooperative public purchasing and the operational linkages between government organizations, their purchasers, and their suppliers are vied as important contributors to the achievement of government policy and decision-making. Although cooperative purchasing has been a topic of study for many years, researchers revisited issues related to cooperative public purchasing (CPP) in search of more clarification on with respect to its theoretical underpinnings.

### **1.2.3 A Theory of Compliance**

A theory of compliance is thought to be relevant for this study in order to understand how supplier compliance affect procurement performance of West Pokot County in Kenya , hence it gives theoretical background of this study. A theory of compliance at a minimum, a sound theory of compliance must explain both; instances of compliance with international law and instances of violation. As deliberated in the previous Part, traditional legal theories of compliance have been unable to provide a constructive theoretical framework for compliance, in part because they cannot explain instances of Violation County in Kenya, hence it gives theoretical background of this study. According to Delbufalo (1956), on the other hand, argue that international law has no effect on national behavior; explaining breach but not compliance. This Part presents a theoretical model of compliance that explains both how international law can affect state behavior and why state sometimes violate that law. First, it develops a one-period model to prove how the irrelevance of international law is modeled. Second, the assumption of a single period is tranquil, showing how in a model with repeated state interactions, one can develop a theory in which international law matters. With respect to government behavior, the model makes standard assumptions about states: they are rational, they act in their own self-interest, and they are aware of the impact of international law on behavior. Although it is assumed that states act in a self-interested fashion, no assumption is made regarding the way in which states identify their self-interest (Eisenhardt, 1989).

The traditional way of modeling state interest assumes that the government pursues the public interest. Public-choice theory, an alternative approach, views government decisions as the product of interest-group politics and argues that these decisions will not, in general, lead to behavior that is consistent with the national interest. Under this public-choice view, decision-makers are modeled as individuals pursuing their own objectives rather than as faithful agents of their constituencies. The advantage of a public-choice approach is its ability to provide a positive account of government activity that is difficult to explain through more traditional models of government behavior (Douglas, 2003). The difficulty in applying public choice to normative analysis, however, is that the outcome of interest-group politics is very difficult to predict. For the purposes of this object, it is not necessary to choose between the public-interest and public-choice models because the item does not attempt to model the process by which states determine their national goals. Rather, this theory takes national goals as given, and the model explains the conditions under which the pursuit of such goals leads to compliance with international law. For this reason, the object can accommodate both theories of government behavior (Christopher, 2009).

### 2.1 Supplier Quality Management

Supplier quality management is a set of activities in most cases initiated by the management to improve organizational performance. Such activities include measuring and tracking the cost of supplier quality, using performance based score cards to measure supplier performance, conducting supplier audits and founding real communication channels with suppliers among many more, with an aim of achieving customer satisfaction (Boyce, 2020). The impact of supplier quality on an organization's performance is large and direct, and the general sympathetic is that a firm's quality performance can only be as good as the quality performance of its suppliers. Numerous educations have addressed how a supplier effectively improves the performance of its purchasing units in a dynamic environment as far as consumer expectations are concerned. These studies have discussed how supplier quality management can enhance organizational performance across the supply chain by minimizing operational costs, shortening process cycle, cathartic quality performance and enhancing customer satisfaction. The supply chain is a set of methods used to efficiently integrate suppliers, manufacturers, warehouses and stores so that merchandise is produced and distributed at the right quantities, to the right locations, and at the right time in order to minimalize system wide costs while satisfying service level requirements. An increasing tendency towards supplier development by organizations as supplier quality integration is found to be a critical dimension of quality excellence (Ongeri & Osoro, 2021).

### 2.2 Supplier Financial Stability

Supplier financial stability is important because selecting a supplier with a poor or weak financial condition can be so unsafe to the purchaser since suppliers with poor financial health have no resources to invest in the plant and tackle or required research for long term better improvements. Financially unhealthy suppliers are also likely to become dependent on the purchaser which flouts the procurement rules and regulations. Financial weakness can also be an indication of underlying problems (Minner, 2018). Financial faithfulness of the supplier can be a reflector of the suppliers' ability to meet the contract requirements to ensure secure flow of supplies as and when required. The risk of distribution or quality problems or other disruptions to supplies or complex legal issues in case of solvency of the supplier can be revealed by the suppliers' financial records. Financially unbalanced suppliers pose nightmares to the buyer; instead of quality, they strive to cut costs to fit in their budgets; when the buyer has a claim against the supplier yet he may not be having satisfactory working capital to meet the claim; and when the buyer wants his supplies within a short period, the supplier may not be able to pay over time..

The public procurement requires that the following should be exposed about the supplier; financial capability, Supplier status, solvency status of contractors and consultants, prove that the firm is not under receivership, bankruptcy or in the process of winding up or even suspended from undertaking their business for financial reasons. According to Minner (2018), financial stability of the supplier affects organization's supplies to a great extent, is essential that procurement officers get to assess the monetary stability of the supplier firm any tender is awarded, the study also found that the Firm must find a low-cost supply base where it can minimize manufacturing cost related to the production of the Product. The key objective of financial appraisal in the procurement process is to analyze a supplier's financial position and control the level of risk that it would present to the client having regard to the contract requirements, Appraising the financial constancy of suppliers provides information that enables sound decisions to be made either when sourcing suppliers or when assessing tenders, a firm always necessitates the minimum price of the product to increase the profitability and consequently be financially stable and that cost management brings a lot of business to suppliers who offer least cost, holding other factors constant. He further argues that a financial analysis allowed for an assessment of the budgetary impact of projects by looking at the pattern of project related cash flows (Mutai & Osoro, 2021).

### 2.3 Supplier Competence

Competence-based supplies are a way of thinking about how organizations gain high performance in procurement process for a important period of time. Recognized as a theory in the early 1990s, competence-based supplying theory explains how organizations can develop sustainable competitive advantage in a systematic and structural way (Mutai & Osoro, 2021). The theory of competence based strategic management is an integrative strategy theory that incorporates economic, organizational and behavioral concerns in outline that is dynamic, systemic, cognitive and holistic First, competence must include the ability to respond to the dynamic nature of an organization's external environment and of its own internal processes. The requirement of sustainability in the above connotation of competence encompasses both forms of dynamics. To be sustainable, a competence must respond to the dynamics of the external environment by enabling an organization to uphold its ability to create value in the marketplace even as changes take place in market preferences and available technologies (Ongeri & Osoro, 2021)

Sustainability also requires overcoming internal organizational dynamics that result in various forms of organizational entropy, such as a gradual loss of organizational focus, a tapering and cumulative rigidity in the patterns of activity the group can or does perform Minner (2018), a liberal lowering of structural prospects for performance and success, and the like. The notion of organizational entropy reflects the concept of entropy in the laws of thermodynamics. The vital feature of the law of entropy is that schemes naturally tend to transfer to lower states of energy, which takes the form of a loss of structure and information content. Ongoing inputs of energy are required just to uphold a system in its current state of construction and information. Further inputs of energy are then required to increase the structure and information content of a system. Analogously, in organizations as systems, managers must provide continuous inputs of energy and attention to maintain or improve the order and structure in an organization's value creation processes ( Ongeri & Osoro, 2021).

## 2.4 Customer Relationship Management

Empirically examine the relationships between value-creating activities and buyer's dependence, and to control what kind of supplier relationship management doings might decrease or upsurge the need (Minner, 2018). The results of the study indicate that the value-creating doings of inter-firm learning and early supplier involvement in buyer-supplier relationships improve the buyer's dependence on its suppliers, whereas a supplier orientation does not. From this study, it could be implied that the firms should weigh the value creation and develop management practices and relationship strategies based on those. Identification of four main categories of both buyer and supplier attractiveness plays an important role. These are: economic-based, behavior-based, resource-based, and bridging-based attractiveness (Ongeri & Osoro, 2021).

They found economic- and behavior-based at-attractiveness present in all dyads, while resource- and bridging-based attractiveness are emphasized when the strategic intention has more explorative elements and when the aim is to leverage the dyadic relationship in developing businesses outside the dyad (Minner, 2018). Exploring the key supplier management (KSM) marvel discusses: how should it be prearranged, what are the insinuations, and which benefits can be realized? KSM deals with the question how to analyze, plan, manage, and control connections with these key suppliers. Designed a rule-based approach to segment the suppliers of a firm based on two overarching dimensions that capture these obtainable segmentation criteria. Another methodological contribution of the tabloid is to develop and apply over-all sensitivity analysis process for fuzzy rule-based systems. This analysis is used to identify the most crucial supplier capabilities and inclination criteria and to formulate better supplier development strategies. A fuzzy rule-based system is formed of four function.

## 2.5 Procurement Performance

Procurement functions enable firms to achieve maximum value from various expenditures on critical services. Procurement Policy Manual, 2009. The presence of deprived contract management characterized by payments delays to suppliers hinders greatly their ability to offer timely service delivery leading to delays that derails organizational procurement timelines and schedules (Minner, 2018). The presence of a high frequency of procurement plans formulation and evaluation contributes to better organizational procurement performance. Transparency and publicity effectively promotes 4 accountability in the processes of purchasing and supply which in turn improves on overall procurement performance. Adopted integrated procurement systems enhances procurement accountability since they enable procedures to be more clear thereby safeguarding against non-compliance finished prompt checking (Ongeri & Osoro, 2021)

More resources allocation as well as equipment to the procurement department positively improves on procurement capabilities. The engrossment of the procurement department in decision making mains to more favorable consequences in organizational sourcing of needed material, services and equipment. The provision of satisfactory professional support by management through training and educational has a positive impact on procurement performance. According to Minner (2018), he concluded that staff competency, information technology and ethics positively affect procurement function performance. Organizations should therefore strive to adopt modern technologies, indorse employee's competence and enhance the implementation of good organizational moral code of conduct so as to attain improvements in their procurement departments. Procurement over time, has become an important function at major firms. Procurement experts are accountable in plateful companies to enhance the value they receive from sourced materials, minimize costs, identify and manage risks related to suppliers deduced that employees on job competence have an effect on organizational procurement processes. Higher employee skills and capabilities leads to more hardworking handling of assigned procurement tasks as they are able to exercise due care and skill. In addition, inherent skills have an influence on moral code of conduct that has an effect on the manner in which procurement tasks are to be carried out (Ongeri & Osoro, 2021).

## Research Methodology

This study utilized the descriptive research design. The census survey descriptive research design involves posing a series of queries to willing participants, summarizing their responses with percentages, frequency counts, and other statistical indexes and then drawing inferences about a particular population from the responses of the sample (Etikan & Bala, 2017). This research design is ideal for this study as the researcher is absorbed in gaining knowledge on the factors affecting the supplier evaluation on procurement performance of West Pokot County.

Respondents were asked to give their view on the variable supplier quality management. From table 4.6, the respondents were in arrangement that supplier quality management ensured procurement performance and periodic review on west Pokot county viable (M=3.834, SD=1.0725); Through supplier quality assessment the county has been able to make rational choices on priority and non-priority projects (M=3.805, SD=.9525); supplier quality management assessment has contribution to the quality and innovation of the planning team (M=4.001, SD=.9564); In order to avoid over expenditure in supplier quality management it is important to put in place and maintain procurement record/ register (M=4.169, SD=.8005); The management of West Pokot county implements procurement performance to prevent fraud in supplier evaluation (M=3.963, SD=1.238); and supplier quality management enhances procurement performance at West Pokot (M=3.001, SD=.8135). These findings were in line with the

answers of Onger and Osoro (2021), who observed that clear description of supplier quality management, can enhance effective procurement performance process.

**Table 1.1: Supplier Quality Management**

Statement	Mean	Std. Dev.
My county ensures conformance of supplier quality management	3.834	1.0725
Through supplier reliability my county has been able to make rational decisions on priority and non-priority projects.	3.805	.9525
Responsiveness of supplier has contribution to procurement performance in west pokot county	4.001	.9564
In order to avoid over expenditure in procurement it is important to put in place and maintain a supplier quality management	4.169	.8005
The management of my county implements supplier quality management	3.963	1.238
Supplier quality management enhances procurement performance at West Pokot County	3.001	.8135

From the findings, plaintiffs were in agreement that customer satisfaction affects procurement performance of West Pokot County in Kenya they gave 83.1%; when asked about Value for money and its effect on procurement performance of West Pokot County in Kenya they gave 80.9 %; When the respondents were asked to show their level of arrangement on how complaints affects procurement performance of West Pokot County in Kenya they gave 2%; When also the respondents were asked to show their level of agreement on growth of the county government on procurement performance of West Pokot County in Kenya they gave 89.8%; Substitute dispute resolution process contributes to supplier competence on procurement performance of West Pokot County in Kenya they gave 87.6% and through contract management, operational performance slow by quality, flexibility, supplier competence on procurement performance of West Pokot County in Kenya they gave 84.3%. The answers is in line with the findings of Onger 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 procurement performance in West Pokot Count in Kenya..

**Table 1.2 Procurement Performance**

Statement	Yes (%)	No (%)
Customer Satisfaction can affect procurement performance of West Pokot County in Kenya	93.1	6.9
Value for money can affect procurement performance of West Pokot County in Kenya	90.9	9.1
Community Complaints can affect procurement performance of West Pokot County in Kenya	92	8
Non growth of the county can affect procurement performance of West Pokot County in Kenya	89.8	10.2



Lack of dispute resolution can affect procurement performance of West Pokot County in Kenya	78.6	11.4
Non adherence to proper supplier evaluation can lead to issues on procurement performance of West Pokot County in Kenya	94.3	5.7

### 3.1 Model Goodness of Fit

Regression analysis was used to establish the fortes of relationship between the procurement performance of West Pokot and the predicting variables; supplier quality management, supplier financial stability, supplier competence and supplier relationship management. The results showed a correlation value (R) of 0.764 which depicts that there is a good linear dependence among the independent and dependent variables. This discovery is in line with the answers of Ongeru and Osoro (2021), they observed that this also depicted the implication of the regression analysis done at 95% confidence level. This suggests that the regression model is noteworthy and can thus be used to evaluate the association between the dependent and independent variables. This discovery is also in line with the findings of Oruko *et al.* (2021), they observed that analysis of variance statistics examines the differences between group means and their associated procedures.

**Table 1.3 Model Goodness of Fit**

R	R <sup>2</sup>	Adjusted R	Std. Error of the Estimate
0.764	0.757	0.726	0.059

a. Predictors: (Constants); supplier quality management, supplier financial stability, supplier competence and supplier relationship management

b. Dependent Variable: procurement performance of West Pokot

With an R-squared of 0.757, the model shows that supplier quality management, supplier financial stability, supplier competence and supplier relationship management can contribute up to 75.7% of the variations on procurement performance of West Pokot County, while 24.3% is explained by other indicators which are not inclusive in this study or model. A measure of goodness of fit synopsis the discrepancy between observed values and the values anticipated under the model in question. This discovery is in line with the findings Mogoi and Osoro (2022).

### 3.2 Analysis of Variance (ANOVA)

From the results in table 1.4, analysis of variance statistics was conducted to regulate the variances in the means of the dependent and independent variables to show whether a relationship exists among the two. The P-value of 0.005 implies that organizational performance of telecommunications sector have a significant relationship with contract planning, contract administration, contract evaluation and dispute resolution which is significant at 5 % level of significance.

**Table 1.4 ANOVA TEST**

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	4.157	1	1.059	.431	.001
Residual	6.463	141	.494		
<b>Total</b>	<b>10.610</b>	<b>142</b>			

### Summary

The study also create that through supplier quality management the County has been able to make rational decisions on priority and non-priority evaluation supplier quality management has further donated to quality and innovation of the planning team. The competence can highlights the areas of weaknesses and strengths within a County and hence delivers guidelines on corrective actions which can significantly contribute to performance. The study further established that in order to enhance dispute resolution results, West Pokot County has created a conducive environment that ensures each partnership is free to fast its concerns. Dispute resolution mechanisms are preferred for litigation, hence improve customer relationship management.

## REFERENCES

- Amanda, R. I. (2019). The impact of cash turnover, receivable turnover, inventory turnover, current ratio and debt to equity ratio on profitability. *Journal of Research in Management*, 2(2).
- Ambrosino, D., & Caballini, C. (2019). New solution approaches for the train loadplanning problem. *EURO Journal on Transportation and Logistics*, 8(3),299-325.
- Amin, H. M., & Shahwan, T. M. (2020). Logistics management requirements and logistics performance efficiency: The role of logistics management practices evidence from Egypt. *International Journal of Logistics Systems and Management*, 35(1), 1.
- Anand, E. (2018). Creative packaging as a tool of marketing. *South Asian Journal of Marketing & Management Research*, 8(8), 16.
- Bhattacharya, Sudipto, and Anjan V. Thakor. "Contemporary Banking Theory," *Journal of Financial Intermediation*, vol. 3 (October 1993), pp. 2–50.
- Boyce, W. S. (2020). Supply chain relationships. *Supply Chain and Logistics of Management*, 1695-1707.
- Christopher L. (2009). Towards a "theoretical toolbox" for strategic sourcing. *SupplyChain Management: An International Journal*, 14(1): 3-10.
- CIPS (2007). *Contract Management Guide*.
- Christopher, M., and Holweg, M. 2017. "Supply chain 2.0 revisited: a framework for managing volatility-induced risk in the supply chain." *International Journal of Physical Distribution & Logistics Management*, 47(1): 2-17
- Delbufalo, E. (1956). Agency theory and supply chain management: A literature review. *Agency Theory and Sustainability in the Global Supply Chain*, 1-15.
- Etikan, I., & Bala, K. (2017). Sampling and sampling methods. *Biometrics & Biostatistics International Journal*, 5(6), 00149.
- Eisenhardt (1989). Agency theory and financial planning practice. *Australian Economic Review*, 47(3), 290-303.
- Dolgui, A., Ivanov, D., and Sokolov, B. 2018. "Ripple effect in the supply chain: an analysis and recent literature". *International Journal of Production Research* 56(1-2): 414-430.
- Dolgui, A., Ivanov, D., and Rozhkov, M. 2020. "Does the ripple effect influence the bullwhip effect? An integrated analysis of structural and operational dynamics in the supply chain". *International Journal of Production Research* 58(5): 1285-1301
- Douglas, D. (2003). Inductive theory generation: A grounded approach to business inquiry. *Electronic journal of business research methods*, 2(1), 47-54.
- Eisenhardt, K. (1989) Agency theory: An assessment and review, *Academy of Management Review*, 14: 57-74
- Goldsmith, P. L., & Yamane, T. (1968). Elementary sampling theory. *Applied Statistics*, 17(3), 296.
- GGhadge, A., Jena, SK., Kamble, S., Misra, D, Tiwari, MK. (2020), " Impact of financial risk on supply chains: A manufacturer-supplier relational perspective", *International Journal of Production Research*.
- Ivanov, D., Dolgui, A., Sokolov, B., and Ivanova, M. 2017. "Literature review on disruption recovery in the supply chain". *International Journal of Production Research* 55(20): 6158-6174.
- Ivanov, D., and Dolgui, A. 2019. "Low-Certainty-Need (LCN) supply chains: a new perspective in managing disruption risks and resilience". *International Journal of Production Research* 57(15-16): 5119-5136.
- Ivanov, D. 2020. "Predicting the impacts of epidemic outbreaks on global supply chains: A simulation-based analysis on the coronavirus outbreak (COVID-19/SARS-CoV-2) case". *Transportation Research Part E: Logistics and Transportation Review* 136: 101922
- Kreps, D. M. (1972). Transaction cost economics and the firm. *A Course in Microeconomic Theory*, 743-770.
- Lanier Jr, D., Wempe, W. F., and Swink, M. (2019). "Supply Chain Power and Real Earnings Management: Stock Market Perceptions, Financial Performance Effects, and Implications for Suppliers". *Journal of Supply Chain Management* 55(1): 48-70.
- Li, Y., Zobel, C. W., Seref, O., and Chatfield, D. (2019). "Network characteristics and supply chain resilience under conditions of risk propagation". *International Journal of Production Economics*, 107529.
- Minner, S. (2018). Inbound logistics. *Operations, Logistics and Supply Chain Management*, 233-249.

- Mogoi M.M. & Osoro A. (2022). Influence of Logistics Optimization on Performance of Agricultural Firms in Murang'a County, Kenya. *International Journal of Scientific and Research Publications*, Volume 12, Issue 2, February 2022 63 ISSN 2250-3153
- Mutai, V. K and Osoro, A.(2021) Strategic Engineering Management on Performance of all Commercial Banks in Nyeri County, Kenya. *International Journal of Scientific and Research Publications*, Volume 11, Issue 10, October 2021 530 ISSN 2250-3153.
- Omulo, G., & Kumeh, E. M. (2020). Farmer-to-farmer digital network as a strategy to strengthen agricultural performance in Kenya: A research note on 'Wefarm' platform. *Technological Forecasting and Social Change*, 158, 120120.
- Ongeri, N.V. and Osoro, A. (2021) Effect of Warehouse Consolidation on Performance of Registered Distribution Firms in Nairobi City County, Kenya. *The international journal of business & management Publications*, Volume 9, Issue 10, October 2021 ISSN 2321-8916.
- Oruko, F., Tibbs, C., & Maniagi, M. (2020) Influence of Financial Risk on Financial Performance of Agricultural Firms Listed on Nairobi Securities Exchange in Kenya. *Journal of Economics and Finance (IOSR-JEF)*. 11(4), 05-12.
- Public Procurement and Asset Disposal Act 2015. Government Printer Kenya.