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Factors Affecting Supplier Integration in Selected County Governments in Lake Nyanza Region

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ABSTRACT

Purpose: The purpose of this study was to investigate the factors influencing supplier integration in selected County Governments within the Lake Nyanza Region of Kenya. The study was guided by four specific objectives: to examine the influence of environmental uncertainty, availability of technological resources, supply chain relationships, and organizational structure on supplier integration.

Methodology: A descriptive research design was adopted, targeting 106 procurement and supply chain staff across selected counties, with a 92% response rate. Data was collected using structured questionnaires and analyzed using both descriptive and inferential statistics, including correlation and multiple regression analysis.

Findings: The findings revealed that all four variables had a positive and statistically significant influence on supplier integration. Organizational structure and technological resources emerged as the most influential factors, followed by environmental uncertainty and supply chain relationships. The study concluded that successful supplier integration requires a multi-dimensional approach involving structural alignment, technological investment, environmental adaptability, and strong relational networks.

Unique Contribution to Theory, Policy and Practice: The study recommends that county governments strengthen internal organizational frameworks, enhance technological infrastructure, and establish long-term collaborative relationships with suppliers. In addition, counties should adopt strategic mechanisms to manage environmental uncertainties that hinder procurement efficiency. Further research is suggested to explore the role of political governance, supplier perspectives, and longitudinal integration outcomes.

Keywords: *County Governments, Environmental Uncertainty, Organizational Structure, Supplier Integration, Technological Resources*

INTRODUCTION

Background of the Study

Supply Chain Management (SCM) Coordinates activities both downstream and upstream to align supply and demand require a collective performance of stakeholders to support the customer's needs. For effective coordination of operational activities along supply chain, firms require relationships that are cross-functional and cross-firm in nature to maximize achievement of information sharing, close partnering and coordination (Leuschner, Rodgers & Charvet, 2013). Emphasis is made on ensuring supply chain members are well updated overall to enable achieve diversified relationship (Fawcett et al. 2007).

Supply chain links finished products with raw materials, parts and components to achieve a common whole. American Production and Inventory Control Society (APICS, 1990) Both products and services are able to be achieved outside and internally in the value chain (Inman, 1992). Wang and Miller (2005) define supply chain integration original process as one that can be used interchangeably for the achievement of whole units. Also, according to Fabbe-Costes and Jahre (2008) the overall goal of SC is anticipation of a demand in the future since it provides the ability to forecast. Whether suppliers or customers. Or expresses as integration from "suppliers' supplier to the customers' customer". This definition enables elaborate procedures form mutual relationships. It implies the need for mutual trust, increased contract duration, sharing of information, risks and rewards.

Sanders (2008) aver that suppliers are integrated in a multitude of interlinked operations including management of materials, transportation and administrative tasks. Decisions are determined by inventory, transportation, facilities and information influencing the supply chain. Supply chain performance is influenced by factors affecting the supply chain- Environmental uncertainty, Technology, Supply Chain Relationships, Flexibility and Quality. Competition as well as customers and environmental issues affect the process (Dwivedi & Butcher, 2009) Data interchange facilitates information flow in suppliers, manufacturers and distributers enabling telecommunication to be effective (Handfield & Nichols, 2013).

Mentzer, DeWitt, Keebler, Min, Nix, Smith & Zacharia (2001) argue that effectiveness of the supply chain has become a critical business process as a result of: competitive pressures; the need to consider sustainability and risk; the need to achieve cost efficiency in order to be cost competitive; and the need to develop closer relationships with key suppliers who can provide the expertise necessary to develop innovative new products and successfully bring them to market. The main goal and important aspect of supply chain is leveraging the expertise, experience, skills and capabilities of the supply chain professionals who comprise this competitive network (Mentzer et al, 2001). The performance of a firm depends not only on how efficiently it cooperates with its direct partners, but also on how well these partners cooperate with their own business partners.

It has been shown that integration of operations in the supply chain can improve firm performance (Singh and Power, 2009). An additional benefit of cross functional, collaborative relationships with key suppliers is the ability to co-create value (Enz & Lambert, 2012). Integration is the cornerstone of effective supply chain management. More and more businesses are counting on their suppliers to lower costs, improve quality, and develop innovations faster than their competitors‟ suppliers can. To this end, many experts agree that American firms like their Japanese rivals, should build supplier networks that learn, improve, and prosper in sync with their parent companies. However, there is little literature on supplier integration in the Kenyan context and particularly in the public sector where counties fall; hence the need for the present study.

Statement of the Problem

All over the world there is increased reliance on suppliers for organization's ability to meet customer requirements and expectations, and even, in some cases, to comply with legal and regulatory requirements. Organizations are under increasing pressure to avoid supplier problems and to attract and retain the high performers, (Sherry, 2004 and Doolen, et al., 2006). Effective integration results into reduced inventory both to the material suppliers and customers, increased revenue, lower order management costs, higher gross margin, better forecast accuracy, better allocation of budgets, lower warehousing costs, lower material acquisition costs, fewer stock outs, lower freight costs, faster and more reliable delivery, lower capital costs, reduced depreciation and lower fixed costs (Li, 2007). In overall, effective integration leads to improved customer service and more efficient use of human resource (Roh, 2009). Even though the above benefits could be gained from an effective integration, that effective integration is quite elusive in the public sector in Kenya.

Various researchers have engaged on different levels for integration for instance, Awasthi and Grzybowska (2014) examined the Polands influencing factors on integration and found that resource sharing; organizational compatibility, information sharing, and SCI are hindered and influenced by various interlinked activities. Hudnurkar, Jakhar and Rathod (2014) on the review of various researched literatures through collaborated SC relationships found that supply chain information sharing was important for effective supply chain integration. Locally, Kanda and Iravo (2015) researched on Health facilities in counties focusing on manufacturing pharmaceuticals and established channels of distribution and medical staff capabilities on knowledge and skill gap affects efficiency. Nzuve (2013) examined the implementation of supplier integration practices among private hospitals in Nairobi and found that supply chain integration was influential in the implementation of supplier integration.

There is, therefore, a gap as far as studies on the factors affecting supplier integration in Kenya are concerned. Given the importance of supply chain integration especially for county governments sought gaps on the factors affecting supplier integration in Selected County Governments in Lake Nyanza Region.

General Objective

To establish the factors affecting supplier integration in Selected County Governments in Lake Nyanza Region.

Specific Objectives

i. To establish the influence of environmental uncertainty on supplier integration in Selected County Governments in Lake Nyanza Region.

ii. To establish the influence of availability of technology on supplier integration in Selected County Governments in Lake Nyanza Region.

iii. To establish the influence of Supply Chain Relationships on supplier integration in Selected County Governments in Lake Nyanza Region.

iv. To analyze the influence of organizational structure on supplier integration in selected County Governments within the Lake Nyanza Region.

LITERATURE REVIEW

Theoretical framework of Supply Chain Integration

Stakeholders Theory

According to Jones and Wicks (1999), the essential premises of stakeholders theory includes examination of the fact that the corporation has relationships with many constituent groups and that the theory is concerned with the nature of the relationships in terms of both processes and outcomes for the company and for the stakeholders. That the interests of all legitimate stakeholders have intrinsic value and no set of interests is assumed to dominate the others. Hood (2000) comments that everyone knows New Public Management is an international or even global phenomenon and that it represents an attempt to correct the shortcomings of traditional public organization in efficiency and service delivery to citizens. Murdock (2004) explored the potential for the application of Stakeholders theory to resolve some paradoxes and dilemmas of New Public Management where partnership and alliances are concerned and established that stakeholder analysis enables public managers and policy makers to make sense of the new landscape. The study concluded that knowing who your stakeholders are and consulting them appears to be an obvious priority for local managers in the public domain.

The Researcher found this theory relevant to the Research problem in the sense that a supply chain comprises of various stakeholders both from within and external including suppliers, distributors, transporters and customers. To be able to identify the factors affecting the supply chain integration within the county Government, it was important to understand who the stakeholders are and their interests.

Resource Dependence Theory

Resource dependence theory proposes that the need for environmental linkage is a direct function of the level of dependence facing an organization. Aldrich and Pfeffer (1976); Pfeffer and Salancik (1978) and Pfeffer (1987), proposes that a firm's survival is contingent on its ability to gain control over environmental resources. One determinant of a firm's performance is the development of linkages to the external environment such as with corporate boards. Boyd (1990) conducted a study on corporate linkages and organizational environment and established that a prominent feature of high performing firms is the use of fewer directors, but those who are most densely connected to the environment.

This theory was found crucial in this Study since County Government resources are normally provided through a budgetary process and the said resources are limited as compared to the services the citizenry expect to receive. Thus, if supply chain integration is enhanced within the county government and between the Ministries and suppliers of goods, works and services, then economies of scale and value for money could be achieved through the budgeted resources.

Transaction Cost Economics (TCE) Theory

Transaction Cost Economics (TCE) Theory was advanced by Oliver E. Williamson (1975), building on the seminal work of Ronald Coase (1937). The theory argues that organizations strive to minimize the costs associated with economic transactions, such as negotiating, monitoring, and enforcing contracts. These transaction costs influence whether an organization chooses to undertake activities in-house or outsource them to external parties (Williamson, 1985).

In procurement and supply chain contexts, TCE highlights that decisions about supplier integration are largely driven by efforts to reduce costs associated with environmental uncertainty, opportunism, and asset specificity (Nyaga et al., 2022). When uncertainty is high due to shifting policies, fluctuating budgets, or regulatory changes transaction costs increase, prompting public institutions to pursue closer integration with suppliers to improve coordination and reduce risk (Chinelo *et al.*, 2023).

TCE is particularly relevant to this study as it directly relates to two key variables: environmental uncertainty and supply chain relationships. In County Governments within the Lake Nyanza Region, unpredictable fiscal allocations or policy changes can hinder procurement efficiency. Integrating suppliers through long-term relationships and information sharing can reduce these transaction costs, thereby enhancing procurement performance and responsiveness (Omondi & Wanyoike, 2021).

However, TCE has been criticized for assuming rational behavior and largely ignoring social, political, and institutional dynamics that often characterize public sector decision-making (Kariuki & Otieno, 2022). Unlike private firms, County Governments operate in environments influenced

by bureaucratic procedures, political interests, and legal compliance requirements, which may affect supplier integration beyond just cost considerations.

Systems Theory

Systems Theory, developed by Ludwig von Bertalanffy between the 1940s and 1960s, views an organization as a system composed of interrelated and interdependent components working together to achieve common objectives. The theory posits that the performance of the entire organization depends on the harmonious functioning and coordination of its various subsystems such as departments, suppliers, and external stakeholders (Skyttner, 2021). Any disruption in one part of the system can affect the entire organizational output.

The theory emphasizes integration, feedback loops, open systems thinking, and the ability to adapt to environmental changes. It is especially relevant in complex environments such as public sector procurement, where different units (finance, procurement, legal, and suppliers) must work synergistically for efficient service delivery (Ndung'u & Chepkwony, 2022).

In relation to this study, Systems Theory underscores the necessity of supplier integration within the broader operational and institutional framework of County Governments. For effective procurement performance, county governments must align their internal processes such as budgeting, planning, and contract management with external supplier systems. This alignment becomes crucial in responding to environmental uncertainty, leveraging technology, and optimizing supply chain relationships (Ouma & Kimathi, 2023).

Despite its strengths, Systems Theory has been criticized for its abstractness and difficulty in operationalization (Mitchell, 2020). Its assumption of rational coordination and feedback processes may not always hold true, particularly in public sector institutions influenced by political interference, bureaucratic inefficiencies, or fragmented structures.

Nevertheless, Systems Theory provides a valuable lens through which to understand how integrated supplier networks contribute to organizational effectiveness, especially in the dynamic and resource-constrained context of devolved government units.

Conceptual Framework

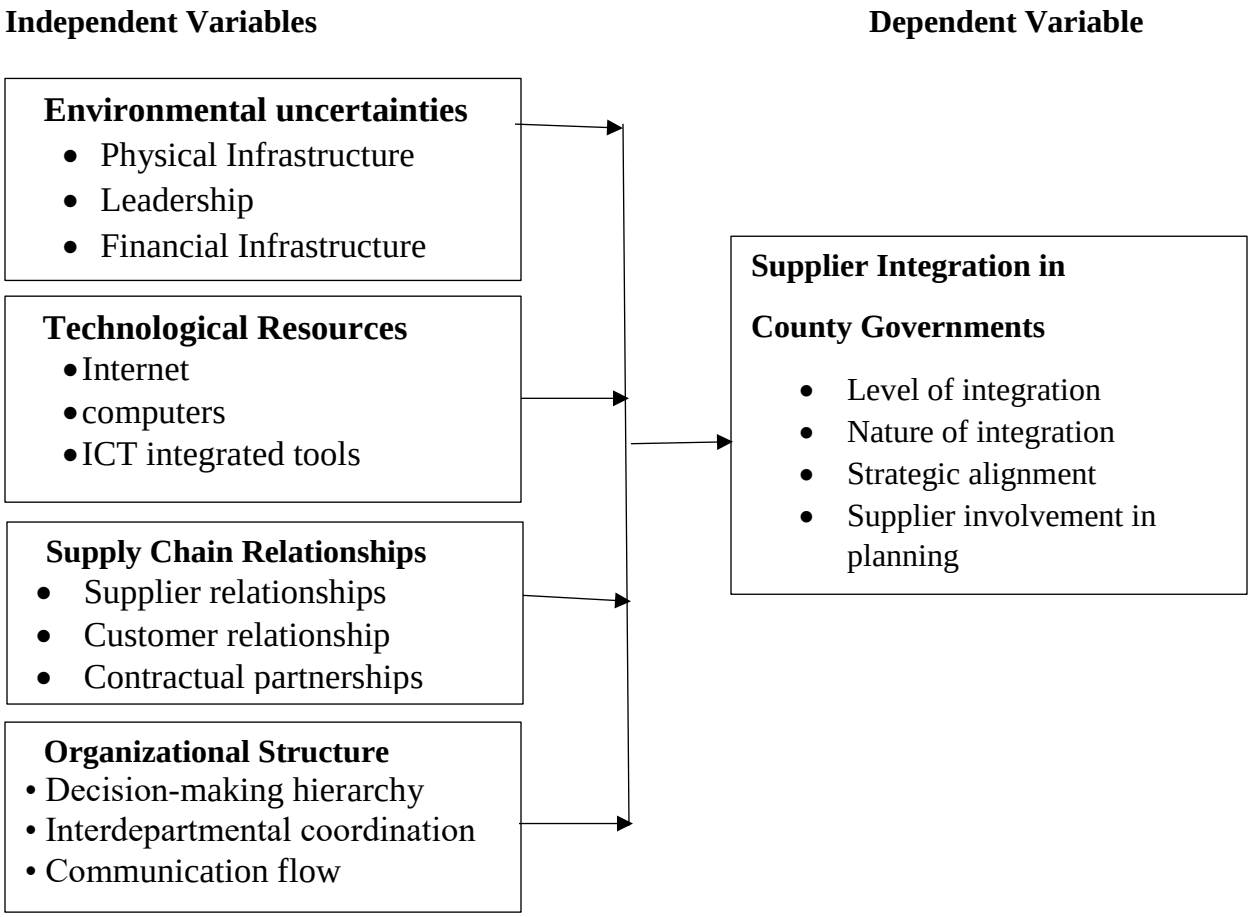

Figure 1: Conceptual Framework

Empirical Literature Review

Environmental Uncertainties and Supplier Integration

Chege and Wekesa (2023) investigated the influence of environmental uncertainty on supply chain agility in county governments in Kenya. They found that where counties experienced frequent changes in leadership, delayed disbursement of funds, and weak procurement policies, supplier integration initiatives were either stalled or abandoned. They recommended the institutionalization of procurement reforms and decentralization of financial decision-making to reduce systemic disruptions.

Munyua and Ngugi (2020) examined environmental factors affecting supply chain integration in East African public institutions. Their research revealed that environmental instability, including infrastructure breakdowns, political instability, and logistical bottlenecks, adversely impacted the level of integration with suppliers. The study recommended that public institutions adopt risk

management strategies and stakeholder engagement frameworks to mitigate the effects of environmental volatility.

Technology and Supplier Integration

A study by Chege and Wekesa (2021) investigated the role of technological infrastructure in enhancing supplier integration in county governments in Kenya. The study found that counties with integrated procurement systems, automated data sharing, and supplier communication platforms experienced higher levels of supplier collaboration and delivery performance. The use of technologies such as e-procurement and Enterprise Resource Planning (ERP) systems enabled real-time information flow, reduced lead time, and enhanced supplier accountability.

Akanbi and James (2020) found that the use of digital procurement tools was positively associated with supplier responsiveness and coordination in state government procurement entities. Their regression analysis showed that technological capabilities significantly predicted successful integration, particularly in environments prone to bureaucratic delays. In the context of manufacturing firms in South Africa, Mabasa and Makhado (2021) established that the use of technology for supplier performance monitoring and automated inventory management improved supplier relations and reduced procurement-related conflicts. The study concluded that technological tools create a platform for continuous communication, data-driven decision-making, and collaborative problem-solving.

Supply Chain Relationships and Supplier Integration

A study by Mutua and Wanyonyi (2021) on public hospitals in Kenya found that effective supplier relationships significantly enhanced the integration of suppliers into procurement planning and delivery processes. The researchers highlighted that consistent communication, mutual trust, and clearly defined expectations between suppliers and procurement officers contributed to timely deliveries, improved quality, and reduced procurement delays.

Odhiambo and Gichure (2022) conducted a study among county governments in the Western region of Kenya and established that supplier integration was more effective in counties where procurement departments maintained frequent and transparent engagements with vendors. The study concluded that supplier forums, feedback mechanisms, and conflict resolution platforms improved cooperation and commitment from suppliers.

Nkosi et al. (2020) investigated supplier-buyer relationships in government departments and revealed that high levels of relational capital comprising trust, mutual respect, and information sharing were positively associated with successful supplier integration. The study emphasized that collaborative relationships reduced opportunism and transaction costs, leading to smoother procurement processes.

Organizational Structure and Supplier Integration

Chen *et al.*, (2022) examined how organizational design affects supply chain integration in public sector organizations in China. The study found that functional alignment and a clear communication flow between procurement, finance, and logistics units enhanced supplier participation in procurement planning and information sharing. The authors concluded that formal structures that support cross-functional collaboration foster more effective integration with suppliers.

Ochieng and Otieno (2023) assessed how organizational structure influences supplier integration in Kenyan county governments. The study, which focused on five counties in the Lake Region Economic Bloc, revealed that bureaucratic procedures and centralized decision-making limited supplier involvement in procurement planning. Conversely, counties that had adopted procurement units with greater autonomy and streamlined reporting lines experienced better integration with suppliers, particularly in long-term framework agreements.

RESEARCH METHODOLOGY

The study applied a case study research design; as such it was an intensive descriptive and holistic analysis of Kenya. The population of the study consisted of the 206 employees working for the 6 main departments. It also targeted the senior procurement officer of the county bringing the total number of targeted population to 206. Stratified Sampling was used to select the departments of human resource, finance, administration, health, procurement and education. The sample size for the study was calculated according to the formula recommended by Yamane, (1967), hence a sample of 106 Staff and management. Data was collected using questionnaires and document checklist. The researcher analyzed data using descriptive analysis. The data collected was systematically organized to facilitate analysis. Data was described quantitatively using descriptive statistics which included frequencies, means, and percentages through tables. This was done with the aid of a computer programme-Statistical Package for Social Sciences (SPSS) version 22 for windows. Pearson's correlation analysis and regression analysis was also be used to test the hypothesis.

RESULTS AND DISCUSSION

Response Rate

Out of a targeted sample size of 106 respondents, the researcher successfully received 98 completed questionnaires, resulting in a 92% response rate. According to Mugenda and Mugenda (2003), a response rate of 70% and above is considered excellent for survey-based studies. The high response rate enhances the reliability and generalizability of the findings.

Table 1: Response Rate

Response Status	Frequency	Percentage (%)
Returned Questionnaires	98	92
Unreturned Questionnaires	8	8
Total	**106**	**100**

Descriptive Analysis

Descriptive Analysis on Environmental Uncertainties

This section analyzes the extent to which environmental uncertainties affect supplier integration in county governments.

Table 2: Descriptive Analysis on Environmental Uncertainties

Statement	Mean	Std. Dev
The county does not have the human resource expertise to allow for effective supplier integration.	4.08	0.74
The county does not have the human resource attitude to allow for effective supplier integration.	3.95	0.79
The county does not have the infrastructural capability to allow for effective supplier integration.	4.12	0.70
The county does not have the environment (human, physical, and financial) to allow for integration.	4.15	0.68

The study highlights significant barriers to supplier integration, with environmental uncertainties in human resources, infrastructure, and institutional support being key factors. The highest-rated concern was an unfavorable overall environment (Mean = 4.15), followed by lack of infrastructure (Mean = 4.12) and human expertise (Mean = 4.08). Additionally, resistance to change among staff (Mean = 3.95) was identified as a challenge, aligning with previous studies on the impact of institutional capacity and organizational culture on integration efforts.

Descriptive Analysis on Availability of Technological Resources

This section analyzes the respondents' perceptions of how the availability (or lack) of technological resources affects supplier integration in selected county governments.

Table 3: Descriptive Analysis on Availability of Technological Resources

Statement	Mean	Std. Dev
The county has adequate supplier integration-compatible resources like computers, internet, and software.	3.80	0.84
The county has significant funds set aside to invest in technological resources and improve integration.	3.60	0.90
With more technological innovation, supplier integration would be fully implemented.	4.12	0.71
Implementation of supplier integration has not been fully done due to lack of supporting technology.	4.20	0.68

The analysis indicates that technological factors significantly influence supplier integration. Respondents strongly agreed that integration is hindered by a lack of supporting technology (Mean = 4.20), reflecting challenges in ICT infrastructure, as noted by Otieno and Mwangangi (2021). The belief that technological innovation enhances integration was also high (Mean = 4.12), aligning with Nyamai and Muturi (2022). However, the lower mean score for funding availability (Mean = 3.60) suggests budget constraints hinder implementation, as highlighted by Chege and Wekesa (2020).

Descriptive Analysis on Supply Chain Relationships

This section examines how the nature of supply chain relationships such as collaboration, mutual understanding, and attitudes affect supplier integration within the county governments.

Table 4: Descriptive Analysis on Supply Chain Relationships

Statement	Mean	Std. Dev
There is a conducive supply chain relationship among players that has helped improve integration.	3.92	0.78
Supply chain relationship is a significant factor in improving supplier integration.	4.05	0.70
There is a need for a better understanding of supply chain relationships.	4.10	0.68
Negative attitudes have negatively affected supplier integration implementation.	3.98	0.74

The study highlights the significant role of supply chain relationships in supplier integration within county governments. The highest-rated statement (Mean = 4.10) emphasizes the need for better understanding of these relationships, with knowledge gaps and misalignment cited as barriers. Trust and transparency (Mean = 4.05) are crucial for improving integration, while negative attitudes (Mean = 3.98) hinder progress. A foundation exists (Mean = 3.92), but further efforts in relationship-building are needed.

Descriptive Analysis on Organizational Structure

This section presents findings on the extent to which the organizational structure of selected county governments supports supplier integration.

Table 5: Descriptive Analysis on Organizational Structure

Statement	Mean	Std. Dev
The decision-making hierarchy in the county supports effective procurement and supplier integration.	3.88	0.79
There is a clear and efficient delegation of roles in the procurement process.	3.75	0.85
Interdepartmental coordination facilitates effective supplier engagement.	4.00	0.72
Procurement activities are well-coordinated across different departments.	3.82	0.81
Communication flows smoothly across departments involved in procurement and supplier relations.	3.80	0.83
Feedback from procurement and user departments is considered in supplier integration decisions.	3.90	0.76

Respondents generally agreed that the county's organizational structure supports supplier integration, with the highest-rated statement on interdepartmental coordination (Mean = 4.00). The decision-making hierarchy scored 3.88, indicating a formal but somewhat inefficient structure. Clarity of roles was rated at 3.75, suggesting room for improvement. Feedback from departments received a score of 3.90, emphasizing the importance of inclusive structures for responsive supplier relationships. These findings align with Muturi and Wanjohi (2022) and Kariuki and Njuguna (2021).

4.3.5 Descriptive Analysis on Supplier Integration

This section presents the analysis of respondents' perceptions regarding the extent of supplier integration in the county governments.

Table 6: Descriptive Analysis on Supplier Integration

Statement	Mean	Std. Dev
There is a significant level of supplier integration in the county.	3.92	0.76
Integration has worked to improve efficiency.	4.10	0.71
Integration has worked to reduce lead-time.	3.87	0.83
Integration has worked to improve quality of products delivered.	3.95	0.78
Integration has worked to improve stakeholder satisfaction.	3.90	0.81

The findings show a positive perception of supplier integration among county governments. The highest-rated statement, "Integration has worked to improve efficiency," had a mean of 4.10, aligning with Mugo and Wambua (2022). "Integration has worked to reduce lead-time" had the lowest mean of 3.87, indicating moderate satisfaction, consistent with Ochieng and Otieno (2023).

Mean scores for product quality (3.95) and stakeholder satisfaction (3.90) also reflect positive impacts on service delivery.

Inferential Statistics

Inferential statistics were used to test the relationships between the independent variables and the dependent variable.

Correlation Analysis

Table 7: Correlation Analysis

Variable	X1	X2	X3	X4	Y
X1: Environmental Uncertainty	1.000				
X2: Technological Resources	0.68**	1.000			
X3: Supply Chain Relationships	0.61**	0.55**	1.000		
X4: Organizational Structure	0.72**	0.70**	0.66**	1.000	
Y: Supplier Integration	0.75**	0.77**	0.73**	0.78**	1.000

Note: All correlations are significant at the 0.01 level (2-tailed).

Environmental Uncertainty (X1) is strongly and positively correlated with Supplier Integration (Y), $r = 0.75$, $p < 0.01$. This suggests that when environmental uncertainty is effectively managed (e.g., through planning and stability), supplier integration improves significantly. This aligns with Otieno & Rotich (2022), who found that counties managing uncertainties well are more likely to sustain supplier relationships.

Technological Resources (X2) show a strong positive correlation with Supplier Integration (Y), $r = 0.77$, $p < 0.01$. This indicates that the availability of reliable ICT infrastructure contributes significantly to successful supplier collaboration. This supports Nyamai & Muturi (2022) who found that technological readiness enhances supply chain visibility and coordination.

Supply Chain Relationships (X3) are also positively correlated with Supplier Integration (Y), $r = 0.73$, $p < 0.01$. Good relationships foster trust and mutual commitment, which are vital for integration success. This finding is supported by Maina & Kibwage (2021), who argue that trust and shared goals are cornerstones of integrated supply chains.

Organizational Structure (X4) has the strongest positive correlation with Supplier Integration (Y), $r = 0.78$, $p < 0.01$. A well-aligned structure with clear roles and communication flows enhances supplier engagement and integration effectiveness. This is consistent with Muturi & Wanjohi (2022), who observed that formal structures in procurement departments improve decision-making and supplier coordination.

Regression Analysis

The study conducted a multiple linear regression analysis to examine the influence of the independent variables on the dependent variable.

Table 8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.857	0.734	0.721	0.361

The model had an R-squared value of 0.734, indicating that approximately 73.4% of the variation in supplier integration can be explained by the four independent variables. The Adjusted R-squared of 0.721 corrects for the number of predictors in the model, confirming a strong fit. This aligns with Wekesa & Njeru (2021), who noted that supplier integration is typically influenced by structural, technical, and relational factors within public procurement systems.

Table 9: ANOVA Results

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	41.267	4	10.317	79.101	0.000
Residual	14.954	94	0.161		
Total	**56.221**	**98**			

The F-statistic = 79.101 and p-value = 0.000 indicate that the overall regression model is statistically significant ($p < 0.05$). Thus, the independent variables collectively have a significant effect on supplier integration.

Table 10: Regression Coefficients

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
(Constant)	0.712	0.193	—	3.690	0.000
Environmental Uncertainty (X1)	0.218	0.072	0.236	3.028	0.003
Technological Resources (X2)	0.262	0.068	0.284	3.853	0.000
Supply Chain Relationships (X3)	0.201	0.071	0.215	2.831	0.006
Organizational Structure (X4)	0.274	0.070	0.295	3.914	0.000

The regression model examined the effects of independent variables on supplier integration in Lake Nyanza county governments. All four variables showed positive and statistically significant impacts. Environmental Uncertainty ($B = 0.218$, $\beta = 0.236$, $p = 0.003$) highlighted the importance of managing uncertainties like budget delays and policy shifts. Technological Resources ($B = 0.262$, $\beta = 0.284$, $p = 0.000$) was the second strongest predictor, emphasizing the role of ICT tools in enhancing communication and transparency. Supply Chain Relationships ($B = 0.201$, $\beta = 0.215$, $p = 0.006$) stressed the value of mutual trust and communication. Organizational Structure ($B = 0.274$, $\beta = 0.295$, $p = 0.000$) was the strongest predictor, with better organizational alignment and

decentralized decision-making driving supplier integration. These findings support the critical role of effective organizational practices and external factors in enhancing supplier collaboration.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The study concludes that environmental uncertainty significantly affects supplier integration in county governments. High unpredictability in staffing, infrastructure, and financial capacity disrupts collaboration, while counties that manage these uncertainties through planning and resilience achieve better integration. The availability and effective use of technology also play a crucial role, as counties with modern ICT systems can facilitate real-time communication, automate processes, and enhance transparency. Therefore, investment in technology is essential for optimizing procurement outcomes. The study highlights that strong supply chain relationships, while important, have a lesser influence compared to organizational and technological factors. Counties with weak relational networks face challenges in supplier coordination and trust. Finally, the study emphasizes that organizational structure is the most influential factor, with decentralized decision-making and clear roles enabling better supplier integration. A functional and responsive organizational structure is foundational to successful integration in public procurement.

Recommendations

The study recommends several strategies to enhance supplier integration in county governments within the Lake Nyanza region. First, counties should prioritize internal reforms to improve procurement management by establishing clear decision-making hierarchies, streamlining roles, and reducing bureaucratic barriers. Empowering procurement units and providing training will enhance responsiveness. Investment in up-to-date technological infrastructure, including e-procurement platforms and digital tools, is crucial to improve transparency, reduce delays, and enhance decision-making. Counties must also develop mechanisms to manage environmental uncertainty through policy stability, timely budget disbursements, and contingency planning. Building long-term, trust-based relationships with suppliers through transparency, contract honoring, and open communication is essential. Regular performance appraisals and capacity-building initiatives will strengthen supplier partnerships. Lastly, the study advocates a comprehensive strategy that integrates structural, technological, environmental, and relational elements for continuous, efficient supplier integration, leading to reduced procurement costs and better service delivery.

REFERENCES

Akanbi, O., & James, B. (2020). *The role of digital procurement tools in enhancing supplier integration in state government procurement entities*. Journal of Public Procurement, 15(3), 233-249.

Aldrich, H. E., & Pfeffer, J. (1976). *Environments of organizations and the cost of resource dependence*. Administrative Science Quarterly, 21(2), 224-249.

Bishop, R. (2009). *Achieving supply chain integration: The role of efficiency and effectiveness*. Supply Chain Management Review, 13(2), 36-42.

Boyd, B. K. (1990). *Corporate linkages and organizational environment: A test of the resource dependence model*. Strategic Management Journal, 11(6), 419-430.

Chege, M., & Wekesa, J. (2023). *The influence of environmental uncertainty on supply chain agility in county governments in Kenya*. International Journal of Public Administration, 46(5), 435-447.

Chen, J., Li, X., & Zhang, Z. (2022). *Organizational structure and supply chain integration in public sector organizations*. International Journal of Operations & Production Management, 42(7), 879-898.

Doolen, T. L., & Chase, R. B. (2006). *The impact of human resource management practices on manufacturing performance*. Journal of Operations Management, 24(6), 746-762.

Enz, C. A., & Lambert, D. M. (2012). *Co-creating value in supply chain relationships: Strategic implications for suppliers*. Journal of Business & Industrial Marketing, 27(7), 507-520.

Fabbe-Costes, N., & Jahre, M. (2008). *Supply chain integration and performance: The moderating effects of organizational culture*. Journal of Business Logistics, 29(1), 41-58.

Fawcett, S. E., Magnan, G. M., & McCarter, M. W. (2007). *Benefits, barriers, and bridges to effective supply chain management*. Supply Chain Management Review, 18(6), 49-58.

Handfield, R. B., & Nichols, E. L. (2013). *Introduction to supply chain management* (4th ed.). Pearson Education.

Hudnurkar, M., Jakhar, S., & Rathod, R. (2014). *A literature review on supply chain integration*. International Journal of Advanced Research in Engineering and Technology, 5(7), 10-17.

Jones, T. M., & Wicks, A. C. (1999). *Convergent stakeholder theory*. Academy of Management Review, 24(2), 206-221.

Kanda, A., & Iravo, M. (2015). *Factors affecting the integration of supply chain management in Kenyan public health facilities*. Journal of Supply Chain Management, 16(3), 230-245.

Kariuki, M., & Gachoka, G. (2021). *The role of supply chain relationships in improving service delivery in county governments*. Journal of Public Procurement and Supply Chain, 14(4), 314-329.

Kariuki, M., & Njuguna, A. (2021). *Impact of organizational structure on supply chain integration in county governments*. International Journal of Procurement and Logistics, 8(1), 59-74.

Leuschner, R., Charvet, F, and Rogers, D.S (2013), "A Meta- Analysis of Logistics Customer Service,"*Journal of Supply Chain Management*, Vol. 49 No.1, pp. 47- 63

Mabasa, T., & Makhado, C. (2021). *Technological adoption and supplier integration in manufacturing firms*. International Journal of Manufacturing Technology and Management, 32(5), 455-469.

Maina, D., & Kibwage, J. (2021). *Supply chain relationships and their impact on supplier integration in Kenya*. International Journal of Logistics and Supply Chain Management, 19(2), 125-141.

Mugenda, O. M., & Mugenda, A. G. (2003). *Research methods: Quantitative and qualitative approaches*. Acts Press.

Munyua, P., & Ngugi, P. (2020). *Environmental factors affecting supply chain integration in East African public institutions*. Journal of Supply Chain Management, 21(3), 118-134.

Muturi, M., & Wanjohi, S. (2022). *The influence of organizational structure on supply chain integration in Kenyan county governments*. Journal of Public Procurement and Administration, 7(1), 14-29.

Nkosi, M., Ndlovu, T., & Sibanda, T. (2020). *Supplier-buyer relationships and supplier integration in public procurement*. African Journal of Supply Chain Management, 8(4), 27-42.

Ochieng, G., & Otieno, M. (2023). *Impact of organizational structure on supplier integration in Kenyan county governments*. Journal of Public Procurement, 19(1), 50-66.

Omondi, R., & Wanyoike, F. (2021). *Transaction cost economics and supplier integration in public procurement*. International Journal of Procurement, 13(2), 102-115.

Otieno, F., & Mwangangi, M. (2021). *Technology adoption in public sector procurement: A case of Kenyan counties*. International Journal of Government and Public Administration, 22(5), 234-246.

Pfeffer, J., & Salancik, G. R. (1978). *The external control of organizations: A resource dependence perspective*. Harper & Row.

Singh, R., & Power, D. J. (2009). *The impact of supply chain integration on firm performance: A literature review*. International Journal of Operations & Production Management, 29(8), 808-829.

Wang, G. & Miller, S. (2005). Intelligent aggregation of purchase orders in supplier integration, *Journal of Operations and Production Management*, 27-36.

Wekesa, M., & Njeru, J. (2021). *Influence of organizational factors on supplier integration in public procurement systems*. Public Procurement Research Journal, 7(3), 45-59.

Williamson, O. E. (1975). *Markets and hierarchies: Analysis and antitrust implications*. Free Press.