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Assessing the Potential Influence of Supplier Development**



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The Performance of Procurement Functions in Public Universities in Kenya: Assessing the Potential Influence of Supplier Development

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Abstract

Purpose: This study investigates the influence of supplier development initiatives on the performance of procurement functions in public universities in Kenya, focusing on critical dimensions such as process integration, strategic collaboration, supplier capability enhancement, and innovation.

Methodology: The study adopted a post-positivist epistemology and employed a causal-comparative design. Data were collected using structured questionnaires from 93 procurement professionals across various Kenyan public universities.

Findings: The results revealed that supplier development accounted for 30.8% of the variance in procurement function performance, affirming its moderate but statistically significant explanatory power. Specifically, process integration and supplier capability enhancement emerged as significant predictors of procurement efficiency, aligning with prior findings that emphasize the role of strategic supplier partnerships in institutional procurement.

Unique Contribution to Theory, Policy and Practice: Contextualized within the evolving Kenyan higher education landscape—marked by a new funding model requiring cost transparency and fiscal accountability. This research highlights the urgent need for public universities to institutionalize continuous supplier engagement, implement supplier innovation programs, and cultivate mutually beneficial partnerships. These strategies are essential not only for improving procurement performance but also for ensuring institutional sustainability and compliance with public accountability requirements.

Keywords: *Supplier Development, Procurement Function Performance, Public Universities, Resource-Based View, Dynamic Capability Theory, Longitudinal Studies*

Introduction

Public universities in Kenya operate within a complex framework, relying significantly on efficient procurement processes to acquire goods and services. The evaluation of procurement function performance has become pivotal within these institutions, given its known direct impact on operational efficacy and resource optimization (Mumo 2020). Indeed, resource optimization in Kenya public universities is garnering a lot of interest following the introduction of a new funding model. The model requires universities to declare and publicize the actual cost of their academic programmes and no public university should increase tuition fees, or levy additional charges without the approval of the Universities Funding Board (Kigotho, 2023). In this context, the influence of supplier development emerges as a critical factor in enhancing procurement function performance.

In today's sophisticated and integrated supply chain systems, the relationship between customers and suppliers holds heightened significance. Procurement teams actively engage with multiple suppliers to enhance their performance, fostering business growth and mutual profitability for both the buyer and the seller. The refinement and utilization of a supplier's specific expertise in alignment with a company's overarching business objectives stand as pivotal facets of supplier development (Leena, 2022). Supplier development encompasses multifaceted strategies involving process integration, collaboration, capability enhancement, and innovation aimed at strengthening the relationship between the university and its suppliers (Leena, 2022). Understanding and leveraging the potential impact of supplier development initiatives on procurement performance is crucial to optimizing the operational efficiency of these academic institutions.

Problem Statement:

Investments in education quality and access directly boost GDP per capita in sub-Saharan Africa, highlighting higher education as a critical catalyst for socioeconomic development.” (Osei-Kusi, Wu & Tetteh, 2024) In Kenyan state corporations, procurement expenditures account for 50–70% of total budgets, underscoring the significant portion of revenues allocated to stocks and supplier services (Waci, Kariuki & Mwirigi, 2024) However, suppliers in Public Universities are not meeting their buyer expectations.

Public universities are still grappling with poor performance in their supply chains most of which are attributed to non-responsiveness of their suppliers evidenced by the failure by suppliers to meet deadlines, increasing lead times, substandard products, breach of contracts sometime leading to litigation, departure from order specification and lack of social responsibility. Various studies have been carried out on the influence of supplier performance on organizational performance. Baily, (2013) on his study on determinants of suppliers performance in organizations, opines that, the extent to which the suppliers are able to meet their contractual obligations largely depend on their abilities to overcome the barriers they face and leverage on their competitive advantages. One of

the barriers identified by the study was lack of proper communication channels,. The study provides an insightful approach to supplier performance influences but largely focused on barriers.

Musau and Namusonge (2020) sought to, reviewed the determinants of supply chain on organizational performance under moderation of background characteristics. The study concluded that the determinants had influence on organizational performance irrespective of the moderators. The study was however limited to textile industries in Kenya.

In their research on the influences of supplier development on Kenya Ports Authority's procurement performance, Kibwana and Kavale (2019) discovered that financial assistance from suppliers in the form of prompt payment, advance payment, and credit guarantee has a significant impact on procurement performance. Financial aid has been proven to strengthen suppliers' capacity to deliver on time, boost price competitiveness, and save money. The study was however limited to the strategic impact of suppliers on green procurement performance. Kibwana and Kavale (2019) found that prompt payment, along with other financial support mechanisms like advance payment and credit guarantees, directly enhances supplier performance by improving delivery timeliness, price competitiveness, and cost efficiency

Omondi and Wachiuri (2022) on their research on the effect of Supply Chain Integration on Performance of Metal and Allied Sector Manufacturing Firms in Nairobi City County, Kenya” found that supply chain integration exerts a positive and significant influence on firm performance in metal & allied manufacturing firms. The research emphasized the need for enhanced supplier links—like information exchange, coordinated ordering, and collaboration—to reduce delays and inefficiencies. However the research was only limited to metal and allied firms manufacturing firms. When a supplier continually fails, buyers too often deal with problems passively; firefighting, excusing the supplier or perhaps curing the provider's incompetence during internal meetings but never directly dealing with problems related to poor supplier performance (Musyoka, 2024). Chebichii, Bartoo, Namusonge and Makokha (2023) identified a positive and significant effect of supplier development on organizational performance in Kenyan food and beverage manufacturers. However, this study was limited to food processing and beverage firms in Kenya. Despite the recognition and appreciation of the above insights by researchers in attempt to look at various elements of supplier performance and their effects on performance, there is no evidence of any literature on effect of determinants of supplier performance, emphasizing on its effect on supply chains in Public Universities. This study will seek to bring out the effects of supplier development on procurement function performance in Public Universities in Kenya

2. Literature Review

2.1 Theoretical Framework

2.1.1 Resource-Based View (RBV) Theory:

The Resource-Based View (RBV) was introduced by Birger Wernerfelt in 1984 and later expanded by Jay Barney in the 1990s. RBV proposes that sustained competitive advantage arises from a firm's internal resources and capabilities, rather than external factors. It emphasizes that resources which are valuable, rare, inimitable, and non-substitutable (VRIN) can lead to competitive advantage. In the context of procurement functions in public universities, RBV suggests that supplier development initiatives such as training, integration, and collaboration constitute valuable resources. These initiatives can enhance the capabilities of the universities' procurement functions by providing unique and non-substitutable competencies, contributing to competitive advantage (Ghadge et al., 2019).

Although critics of RBV argue that the theory doesn't adequately address how firms can acquire or develop resources and capabilities, and criticizing it for being more descriptive than prescriptive and for not offering clear guidance on how to identify, acquire, or develop the resources that lead to competitive advantage (Kraaijenbrink et al., 2019), it was ideal for this study. RBV offers a suitable framework for understanding the performance of procurement functions in public universities regarding supplier development. It provides a lens through which the internal resources (supplier development initiatives) within universities can be evaluated for their contribution to competitive advantage in procurement. RBV's emphasis on the value, rarity, inimitability, and non-substitutability of resources aligns with the notion that supplier development initiatives, if unique and valuable, can significantly enhance the capabilities and performance of procurement functions in public universities.

2.1.2 Dynamic Capability Theory:

Dynamic Capability Theory was introduced by David J. Teece in the late 1990s. The theory posits that sustained competitive advantage arises from an organization's capacity to adapt, reconfigure, and innovate its resources and capabilities in response to changing environments (Ferreira et al., 2020). It emphasizes the ability to sense environmental changes, seize opportunities, and reconfigure internal resources and processes accordingly (Salvato & Vassolo, 2018). In the context of procurement functions in public universities, Dynamic Capability Theory suggests that supplier development initiatives such as continuous training, innovation, and adaptation contribute to the development of dynamic capabilities. These initiatives enable universities to effectively respond and adapt to evolving procurement standards, technologies, and market dynamics.

However, critics argue that while the theory is influential, it faces challenges in offering concrete guidance on how to develop and measure dynamic capabilities (Collis & Anand, 2019). Some critics suggest that the theory lacks specificity in defining what constitutes a "dynamic capability" and how it can be systematically developed or managed (Bleady et al., 2018). Nevertheless, Dynamic Capability Theory provides a relevant framework for understanding how supplier development initiatives impact procurement functions in public universities. It aligns well with the dynamic and rapidly evolving nature of the higher education sector, where procurement processes

must constantly adapt to changing standards, regulations, and technological advancements. This theory's emphasis on the adaptability, learning, and innovation of organizations is particularly pertinent in elucidating how supplier development initiatives foster the necessary capabilities within universities' procurement functions to effectively respond to environmental changes.

2.2 Procurement Function Performance

2.2.1 The Concept

Procurement performance represents the process of guaranteeing that the acquired goods or services align with the organization's needs and expectations (Kakwezi & Nyeko, 2019). It stands as a vital component within an organization's operations, ensuring judicious resource utilization and timely acquisition of essential items (Vela, 2023). The dimensions of procurement performance encompass three pivotal areas: procurement planning, procurement execution, and post-procurement management.

Procurement planning involves a comprehensive understanding of the organization's requisites and objectives, coupled with the identification of potential supply sources. It entails strategizing the acquisition process, gauging needs, and outlining potential supply avenues to meet organizational demands effectively (Alaruri, 2022). Procurement execution encompasses the contracting phase with suppliers to procure desired goods or services. This phase also involves continual monitoring and management of supplier performance to ensure adherence to stipulated standards and fulfillment of organizational requirements (de Araújo et al., 2017). Post-procurement management involves addressing any issues that surfaced during the procurement process. This phase also includes diligent financial tracking to ascertain appropriate expenditure and necessitates adjustments to policies or procedures if deemed essential based on the insights derived from the procurement proceedings (Kakwezi & Nyeko, 2019)

The effectiveness of the procurement function stands as a pivotal element influencing organizational success, encompassing cost-efficiency, quality maintenance, risk management, and overall competitiveness. Existing literature extensively underscores the multifaceted nature of procurement, emphasizing the critical need to appraise and optimize its performance in alignment with strategic objectives (Alhammedi et al., 2023; Philippart, 2016). Scholarly investigations underscore the importance of efficient procurement practices aimed at cost reduction without compromising quality (Wanja & Achuora, 2020).

2.2.2 Procurement in Public Universities in Kenya

Kenya's Public Universities are mandated to adhere to the regulations outlined in the Public Procurement and Disposal Act of 2015, coupled with the Public Procurement Regulations of 2016. Despite the well-established procurement procedures, these institutions encounter several challenges in ensuring the timely delivery of goods and services according to specified standards. This situation is further compounded by financial constraints affecting various government bodies, including universities. Efforts to enhance supplier performance within public universities have

been initiated through practices like early supplier involvement and appraisal, as observed in Moki's study (2011).

The National Treasury's annual public debt management report in 2018 indicated that supplier credit constituted 0.7 of the total external and local debt. However, despite this indicator of supplier development, the report highlighted that a significant 80% of suppliers faced delayed payments due to financial constraints (ROK, 2019). Although regulations stipulate that procurement processes should commence only upon confirmation of available funds, certain universities have resorted to leveraging their reputation to obtain goods and services on credit. This approach has led to accumulating debts for some public universities, leaving limited means to raise the necessary finances and settle the outstanding amounts. Miller and Wongsaroj (2017) contend that delayed or unpaid payments severely impact suppliers, hindering their ability to sustain their workforce or fulfill other projects due to cash flow challenges.

2.3 Supplier Development

Supplier development, introduced by Leeds (1996), refers to the buyer's efforts aimed at expanding the pool of dependable vendors (Sillanpää et al., 2020). It involves intentional actions to enhance a supplier's capacity and responsiveness in catering to the buyer's needs (Leena, 2022). Specifically, Sillanpää et al. (2020) define supplier development as the deliberate endeavors undertaken by a buyer to bolster the capabilities of their supply base, aligning with the buyer's short-term or long-term supply requirements. This includes initiatives such as offering training on statistical process monitoring, enhancing technical quality, and implementing just-in-time delivery systems, all essential aspects contributing to improved supplier performance. However, buyers may not fully control the swift technological advancements that affect supplier development, necessitating suppliers to seek specialized training on their own (Huang et al., 2023).

Recognizing the significance of supplier performance in establishing and sustaining competitive advantages, firms prioritize evaluating suppliers' capabilities to effectively handle their needs (Taherdoost & Brard, 2019). The supplier's ability to promptly respond to market fluctuations and customer demands is pivotal in ensuring customer satisfaction and overall business success (Asamoah et al., 2021). Williams (2020) had hitherto emphasized that a product's performance significantly influences end-user profitability and reputation, underscoring the critical role suppliers' play in the overall value chain.

2.4 Empirical Literature

2.4.1 Process Integration and Collaboration, and Procurement Function Performance

The study by Patrucco et al. (2019) explored buyer–supplier relationships, focusing on the role of customer attractiveness in fostering collaboration and performance within supply networks. They found a positive link between customer attractiveness and improved innovation and cost performance by suppliers. Factors contributing to customer attractiveness included characteristics

of the buying firm's procurement department and aspects related to supplier collaboration and visibility within supply chain relationships. However, the study did not focus on the interplay between the process integration and collaboration and procurement function performance. Despite this limitation, the research highlighted the importance of supplier collaboration and the procurement department's role in managing these relationships.

The study conducted by Kepher et al. (2015) explored the influence of supplier management on procurement performance, focusing on East African Breweries (EABL) in the manufacturing sector. The research aimed to assess how supplier management practices, such as integration, quality management, collaboration, and training, impacted procurement outcomes. Using a descriptive design and a sample involving employees of EABL and their suppliers, the study found that approximately 81% of procurement performance variance in EABL could be attributed to four primary variables: buyer-supplier integration, supplier quality management, collaboration, and training. The research underscored the significant role of effective supplier management in influencing procurement performance. While EABL demonstrated robust collaborative ties and invested in supplier training, the findings from a study conducted in 2015 may not reflect today's business environment. Moreover, findings from EABL may not be replicable to other sectors.

Njagi and Shalle (2019) scrutinized the impact of supplier relationship management on procurement performance within Kenya's manufacturing sector, with a focus on East African Breweries Ltd. Employing a descriptive research design, the investigation encompassed 450 employees from diverse departments involved in managing manufacturing activities, with a sample size of 80 respondents chosen through stratified sampling. Results indicated a positive relationship between several predictive factors (including lead time management, organizational policy, ICT integration, and supplier integration) and procurement performance. Despite giving positive insights regarding supplier organization, the findings were limited to East African Breweries Ltd and may not reflect current supplier organization practices in sectors such as higher education.

Kimario and Kira (2023) conducted a study aiming to establish the cause-effect relationship between determinants of trust in buyer-supplier integration and procurement performance in large manufacturing firms in Tanzania. Employing an explanatory design, the research surveyed 52 firms in Temeke Municipality, Tanzania, gathering responses from 104 participants, including procurement and stores managers. Utilizing binary logistic regression to test null hypotheses, the study found that mutual goals, geographical vicinity among partners, and supplier reliability significantly influenced procurement performance in the manufacturing firms. The study's contribution lay in revealing the root cause of procurement performance in Tanzanian manufacturing firms within the context of buyer-supplier integration, emphasizing trust as a resource advantage in this integration. However, the study was not clear on the direct effect of process integration and collaboration on procurement function performance pointing to a need for

such a study. The study findings were limited to the Tanzanian municipality context which differs from a public university context in Kenya. In view of the highlighted contextual, variable, and time-related gaps, the researchers postulated thus:

H₀₁: process integration and collaboration have no significant influence on procurement function performance in public universities in Kenya.

2.4.2 Capability Enhancement and Innovation, and Procurement Function Performance

The study by Oromo and Mwangangi (2017) aimed to ascertain the impact of supplier development on procurement performance within the public sector in Kenya, focusing on Kenya Electricity Generating Company Limited (KenGen). Employing a descriptive research design, the study involved all 160 staff members from KenGen who were provided with questionnaires, constituting a sample size census. Both open-ended and closed-ended questions were utilized to collect data, which was analyzed using SPSS V.22. The analysis involved descriptive statistics, inferential statistics (including correlation analysis, regression analysis, analysis of variance (ANOVA), and coefficient analysis), and qualitative analysis. The findings highlighted that creating incentives for suppliers was an effective strategy to ensure their commitment to quality improvement initiatives, suggesting that incentives, such as a preferred supplier category with associated rewards, were influential factors in supplier commitment to quality enhancement strategies. However, the study was limited the KenGen context. Moreover, the narrow measures for supplier development highlighted the need for future studies using diverse measures.

Tarigan et al. (2020) investigated the impact of supplier trust, supplier innovation, and buyer-supplier relationship on enhancing supplier performance within death service companies in Surabaya, Indonesia. Questionnaires were distributed to 52 service suppliers in Surabaya, and the data were analyzed using Partial Least Square (PLS) software. The findings supported all hypotheses, revealing a positive influence of supplier trust on supplier innovation and the buyer-supplier relationship. This study provided valuable insights into the role supplier innovation plays supply chain management. However, having been conducted in Indonesian service companies, there was need for a similar study in the Kenyan public university context.

Duhaylongsod and De Giovanni (2019) explored the relationship between supplier integration (SI) and operational performance (OP) and investigate whether specific innovation strategies and an array of innovations enhance this relationship. Conducting a study involving 173 firms across nine different industries in ten European countries, the authors found that incremental product innovation strategy augmented the relationship between internal and external OP and enhanced effective SI, whereas other types of innovations did not exhibit similar effects. The study also revealed that an expanded innovation portfolio does not strengthen the influence of SI on OP. Being among the few studies concentrating on supplier innovation, the study provided a framework to base similar studies on. Yet, the lack of direct effects of supplier innovation on

procurement function performance, and relying on European countries were limitations requiring addressing.

The empirical review on capability enhancement and innovation, and procurement function performance revealed a dearth of studies targeting such direct interaction. The few studies reviewed highlighted contextual gaps either within sectors or country-wise. Therefore, we questioned the viability of such an interplay and posited that

H₀₂: Capability enhancement and innovation have no significant influence on procurement function performance

3. Methodology

This study adopted a post-positivist research philosophy to investigate the correlation between supplier development practices and the performance of procurement functions within Kenyan public universities. This philosophical approach, grounded in critical realism, recognizes an objective reality but acknowledges the limitations in fully comprehending it due to human subjectivity and contextual interpretations. Embracing this perspective enabled the researchers to navigate the complexities inherent in studying within the context of dynamic socio-economic environments, such as Kenyan public universities, where various cultural, economic, and organizational factors significantly influence supply chain dynamics (adapted from Patel et al., 2020).

Employing a causal-comparative design, known as ex-post facto design, the study aimed to explore causality by analyzing pre-existing differences between groups in a non-experimental setting (Azalea, 2022). The research targeted 93 key individuals involved in the procurement function across Kenyan public universities, encompassing roles such as finance officers, central stores managers, and senior procurement officers. This selection was based on their central involvement in procurement activities within the university context. The sampling strategy involved a census, encompassing all 93 officers engaged in procurement functions. Data collection employed structured questionnaires to gather quantitative information specifically related to Supplier development (process integration and collaboration, and capability enhancement and innovation), and procurement function performance. Quantitative data collected from the procurement officers were analyzed using regression analysis to identify potential predictive factors linking supplier development practices to the performance of procurement functions.

Results

Response Rate

The response rate for this study was approximately 86%, reflecting a relatively high level of engagement and participation in the research. Given the specific focus on procurement functions in public universities in Kenya, a response rate of 86% was generally robust. Achieving a high

response rate, especially in a targeted group of professionals such as procurement officers, suggests a substantial level of engagement and interest in the research topic. It indicates that a significant portion of the intended participants was willing to contribute their insights and experiences to the study, which enhanced the reliability and representativeness of the findings.

Respondents Background Characteristics

The respondents were mostly male, constituting 65% of the sample, while females accounted for 35% (Table 1). This gender distribution indicates a notable imbalance in representation, potentially suggesting a gender skew in procurement roles within public universities in Kenya. A significant majority of the respondents were over 45 years old, comprising 67.5% of the sample. The remaining proportions were distributed across the age groups of 36-45 years (27.5%) and 26-35 years (5%). This distribution indicates that a considerable portion of the participants was experienced professionals likely contributing to the study from a wealth of practical knowledge. The educational qualifications of the respondents varied, with the majority holding Bachelor's degrees (63.8%), followed by Postgraduate qualifications (25%) and a smaller percentage with Secondary education (11.3%). This distribution suggests that most participants possessed the academic qualifications necessary for roles in procurement within higher education institutions. The distribution of work experience revealed that a substantial proportion of respondents had over 5 years of experience (70%), followed by those with 4-5 years of experience (23.8%) and 1-3 years of experience (6.3%). The majority of participants being seasoned professionals suggests a wealth of practical experience and knowledge in procurement functions.

Table 1. Respondents Background Characteristics

Background Characteristic	Category	Frequency	Percentage
Gender	Male	52	65.0
	Female	28	35.0
Age	26-35 years	4	5.0
	36-45 years	22	27.5
	over 45 years	54	67.5
Education	Secondary	9	11.3
	Bachelors	51	63.8
	Postgraduate	20	25.0
Experience	1-3 years	5	6.3
	4-5 years	19	23.8
	over 5 years	56	70.0
Total		80	100.0

*Descriptive Statistics**Process Integration and Collaboration*

The assessment of process integration and collaboration statements pertaining to supplier development within public universities in Kenya revealed valuable insights (Table 2). Regarding early supplier involvement in procurement processes, the average score was 3.76, suggesting a general inclination towards agreement among respondents. However, there was some variability in opinions regarding the extent of supplier involvement as highlighted by a standard deviation score of 1.352. Similarly, on leveraging information for effective supplier integration, the mean score of 3.91 indicated a trend towards agreement among participants. Nonetheless, there was notable variability in the degree of agreement or disagreement among respondents (Std. Dev. = 1.361). Furthermore, the statement concerning the integration of suppliers into the work plan obtained an average response score of 3.75, indicating an agreement among respondents. However, the standard deviation score of 1.227 suggests a relatively lower variability in opinions compared to other statements. Lastly, the average rating for conducting supplier seminars on responsibilities and expectations was 3.72, demonstrating a leaning towards agreement among respondents. Yet, there remained moderate variability in the responses (Std. Dev. = 1.359), signifying differing perspectives on this aspect of supplier development practices.

Table 2. Process Integration and Collaboration

Process integration and collaboration statements	SD	D	N	A	SA	Mean	Std.Dev.
	%	%	%	%	%		
1. We prioritize early supplier involvement in all our procurement process.	10.0	12.5	7.5	31.3	38.8	3.76	1.352
2. We leverage Information to ensure effective supplier integration	10.0	8.8	10.0	22.5	48.8	3.91	1.361
3. We integrate our suppliers to our work plan	5.0	16.3	11.3	33.8	33.8	3.75	1.227
3. We conduct supplier seminars on supplier responsibilities and expectations	11.3	13.8	0.0	41.3	33.8	3.72	1.359

The statistics indicate a general inclination towards agreement on integrating suppliers early in procurement processes, leveraging information for effective supplier integration, incorporating suppliers into the work plan, and conducting seminars on supplier responsibilities. However, there was variability in the level of agreement among respondents for each statement, suggesting differing perceptions or practices regarding supplier development through process integration and collaboration within public universities in Kenya.

Capacity Enhancement and Innovation

The average score of 3.55 (Table 3) suggests a moderate level of agreement among respondents regarding conducting regular training for suppliers on emerging procurement processes. However, the relatively high standard deviation of 1.377 indicates substantial variability in opinions among participants. With a mean score of 3.74, there was an inclination towards agreement that supplier development positively impacts procurement function performance and user satisfaction. Nonetheless, the standard deviation of 1.319 indicates variability in the level of agreement among respondents.

The average response of 3.96 indicated a higher agreement with the practice of developing suppliers to innovate products or services catering to buyer-specific needs. However, the relatively lower standard deviation of 1.130 suggests less variability in responses compared to the other statements. The average score of 3.55 indicated a moderate level of agreement among respondents in encouraging suppliers to undergo comprehensive training for green procurement practices. Similar to the first statement, there was considerable variability in opinions among participants, reflected in the relatively high standard deviation of 1.377.

Table 3. Capability Enhancement and Innovation

Capability enhancement and innovation statements	SD	D	N	A	SA	Mean	Std.Dev
	%	%	%	%	%		
1. We conduct regular supplier training on emerging procurement processes	12.5	15.0	6.3	37.5	28.8	3.55	1.377
2. We believe that supplier development improves procurement function performance and user satisfaction.	10.0	12.5	5.0	38.8	33.8	3.74	1.319
3. We develop suppliers to innovate products or services to meet buyer's specific needs	6.3	6.3	8.8	42.5	36.3	3.96	1.130
4. We encourage thorough training of our suppliers to embrace green procurement	12.5	15.0	6.3	37.5	28.8	3.55	1.377

These findings suggest a varying degree of alignment among respondents regarding capability enhancement and innovation practices within supplier development. While there is general agreement in certain aspects, such as encouraging innovation among suppliers, there are diverse perspectives and room for improvement in other areas, such as training on emerging procurement processes and green procurement initiatives.

Regression findings

The model summary for the regression analysis (Table 4) indicates that The R Square value was 0.308 suggesting that approximately 30.8% of the variation in procurement function performance within Kenyan public universities could be explained by supplier development through the predictors included in the model specifically, capability enhancement and innovation and process integration and collaboration. The model suggests a moderate explanatory power.

Table 4. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.555 ^a	.308	.290	.48302

a. Predictors: (Constant), Capability Enhancement and Innovation, Process Integration and Collaboration

The regression analysis results (Table 5) suggests that supplier development influences procurement function performance positively and significantly, since both Capability Enhancement and Innovation ($\beta = 0.302$, $p = 0.000$) and Process Integration and Collaboration ($\beta = 0.168$, $p = 0.041$) had a positive and significant influence on Procurement Function Performance within Kenyan public universities. In retrospect, a one-unit increase in capability enhancement and innovation or process integration and collaboration could be associated with increases in procurement function performance by 0.302 units and 0.168 units respectively. This highlights the importance of both aspects, enhancing capabilities and integrating processes and collaborations as measures of supplier development that positively impact procurement function performance within the context of public universities in Kenya.

Table 5. Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	1.703	.319		5.341	.000
Process Integration and Collaboration	.168	.081	.216	2.077	.041
Capability Enhancement and Innovation	.302	.073	.429	4.125	.000

a. Dependent Variable: Procurement Function Performance

Discussions

The findings from this study align with previous research highlighting the importance of supplier collaboration and development in influencing procurement function performance. By showing the significant effect of supplier development (process integration and collaboration, and capability enhancement and innovation) on procurement function performance, this study strengthens the findings by Patrucco et al. (2019) acknowledging the importance of supplier collaboration and visibility within supply chain relationships for improved innovation and performance. However, this study adds new knowledge by targeting the specific procurement function in public universities.

The finding that process integration and collaboration influence procurement performance resonates with the finding by Kepher et al. (2015) who emphasized that supplier management practices, including integration, quality management, collaboration, and training, impact procurement outcomes. However, the contribution this research makes is to show that this positive effect does not only happen in the manufacturing sector as was the case in the study by Kepher et al. (2015), but can also be replicated in other sectors like the public university context. Moreover, this study contributes to the knowledge that the influence of supplier development is robust enough to remain consistent over time.

The study through the findings showcases the array of variables that can be used as proxy measures for supplier development in supply chain management. The study delineates process integration, collaboration, capacity enhancement, and innovation as key proxies for supplier development. In doing so, the study broadens the measures employed by Njagi and Shalle (2016). Suffice it to say, Njagi and Shalle highlighted the positive relationship between various factors (like lead time management, organizational policy, ICT integration, and supplier integration) and procurement performance. This expansion in the variables used to measure supplier development implies a more comprehensive approach to evaluating and understanding the impact of supplier-related factors on procurement function performance. By recognizing process integration, collaboration, capacity enhancement, and innovation as vital elements of supplier development, this study offers a broader framework for assessing and improving supplier-related practices within the context of public universities in Kenya.

The finding that supplier integration influences procurement function performance positively and significantly contradicts the finding reported by Duhaylongsod and De Giovanni (2019). These scholars emphasized innovation strategies' effect on the relationship between supplier integration and operational performance, not procurement function performance directly. This contrast highlights the complexity and multifaceted nature of supplier-related dynamics and their direct impact on procurement function performance. It indicates the need for more targeted and focused studies specifically assessing the relationship between supplier integration and procurement

function performance, particularly within the context of different industries or organizational settings.

Additionally, this contradiction emphasizes the significance of context-specific analyses when exploring the effects of supplier-related variables on performance metrics. It prompts the necessity for researchers to carefully consider the particularities of the studied sectors or environments as these nuances might yield divergent outcomes. Therefore, this discrepancy underscores the importance of refining research methodologies and considering various contextual factors when investigating the relationship between supplier integration and procurement function performance.

Conclusions

Robust process integration and collaboration strategies are strategic supplier development practices that positively influence procurement function performance in the context of public universities in Kenya. This robustness is achieved through several practices, including integrating suppliers into procurement processes early, leveraging information for effective supplier integration, incorporating suppliers into work plans, and conducting supplier seminars on expected responsibilities, which in turn contribute to enhancing procurement function performance in these institutions. Moreover, enhancing capabilities and fostering innovation among suppliers significantly impact and improve procurement function performance within public universities in Kenya. A positive and significant association between capability enhancement and innovation practices and procurement function performance depends on several factors which encompasses conducting regular training for suppliers on emerging procurement processes, fostering beliefs in the positive impact of supplier development on procurement outcomes and user satisfaction, promoting supplier innovation to meet specific buyer needs, and encouraging thorough training for green procurement practices.

Recommendations

Institutions should prioritize the creation of a comprehensive collaboration framework that extends beyond sporadic interactions, focusing on consistent engagement and exchange between procurement officers and suppliers. Establishing regular meetings, interactive digital platforms, or structured workshops represents just the initial step towards fostering a robust and continuous relationship. These platforms should encourage not only the sharing of information but also the collective planning of strategies, troubleshooting potential challenges, and co-creating solutions. By nurturing a dynamic and ongoing dialogue between procurement professionals and suppliers, universities can ensure a more agile and adaptive procurement ecosystem.

In order to embed a culture of continuous innovation within supplier practices, public universities should devise comprehensive and enduring innovation initiatives. These programs should not only offer regular training sessions but also focus on ideation workshops and problem-solving forums designed to spur innovation. Incentives such as awards or recognition can further motivate

suppliers to actively engage in these programs. Additionally, establishing a structured system of continuous education exclusively dedicated to green procurement practices will enable suppliers to stay updated with the latest sustainable methodologies and technologies.

Limitations

Despite being insightful on supplier development and procurement performance, the study had some limitations. The first limitation pertains to limited scope of data collection. The study's focus solely on quantitative data collection via structured questionnaires limited the depth of understanding and overlooked qualitative views. Qualitative data elucidates the "why" behind numerical trends, offering a richer understanding of the underlying reasons for certain responses. The second limitation lay in representativeness of the sample. The sample predominantly comprised experienced professionals, potentially skewing insights towards experienced perspectives, possibly missing younger or less experienced officers' views and introducing the risk of perspective bias. The absence of younger or less experienced officers' perspectives may lead to a bias in favor of established viewpoints, potentially disregarding fresh, innovative ideas, or contemporary challenges faced by newcomers in the procurement domain.

Limited time frame and contextual constraints also emerges as a potential limitation. The study was cross-sectional in nature and may not have captured dynamic changes or variations in supplier development practices over time and may not reflect current practices. The study's snapshot approach might provide insights limited to a specific period, potentially missing the ongoing evolution of supplier development practices. It fails to account for changes or advancements in practices occurring before or after data collection, restricting a comprehensive understanding of the trajectory of supplier development initiatives.

Future Research

Future research endeavors should consider adopting a mixed-methods approach that integrates qualitative methodologies like interviews or focus groups alongside quantitative surveys. This combination would offer a more comprehensive understanding of the nuances surrounding supplier development practices and their impact on procurement function performance within public universities. Similarly, Future research should consider adopting a stratified sampling methodology that encompasses a broad spectrum of experience levels among procurement officers in public universities. By stratifying the sample based on different levels of experience, researchers can obtain a more diverse and comprehensive range of perspectives. Moreover, Longitudinal studies or periodic assessments would be beneficial for future research endeavors to track the evolution and changes in supplier development practices within public universities in Kenya. These studies can offer insights into how these practices shift or evolve over time, providing a clearer understanding of the dynamic nature of supplier development strategies. Conducting such longitudinal assessments would enable researchers to capture trends and adaptations in supplier

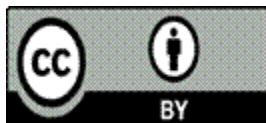
practices, thereby offering a more comprehensive view of the evolving landscape of procurement function performance within these institutions.

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