

## Supplier Development and Performance of State Agencies in the Ministry of Education in Kenya

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### Abstract

State agencies under the Ministry of Education play a pivotal role in delivering effective educational services, which are essential for a country's economic development and citizens' quality of life. However, persistent poor performance in service delivery among these agencies has been reported. This study investigated the impact of supplier development on the performance of state agencies in Kenya's Ministry of Education, guided by the Social Exchange Theory. Employing a descriptive-correlational research design, the study targeted 3,678 staff across eight state agencies under the Ministry, selecting a sample of 212 respondents using Nassiuma's Formula and purposive stratified sampling. Primary data was collected using structured questionnaires, and the analysis involved descriptive and inferential statistical methods for quantitative data, while thematic analysis was used for qualitative insights. The findings revealed inadequate implementation of supplier development practices in the state agencies, contributing to suboptimal performance in service delivery, cost efficiency, and customer satisfaction. The study concluded that supplier development significantly influences the performance of state agencies. Recommendations include prioritizing supplier development initiatives, such as capacity building and training, to align supplier capabilities with agency needs for improved service delivery.

**Keywords:** Supplier Development, State Agencies, Performance, Ministry of Education, Kenya

### A. INTRODUCTION

In today's interconnected world, the supply chain is a critical driver of organizational success across both developed and developing nations. As highlighted by (Ducrot, 2021), a supply chain encompasses the network of processes, individuals, technologies, organizations, resources, and practices involved in moving a product or service from its origin to final consumption. Effective supply chain management (SCM) ensures the seamless flow of goods and services while maintaining quality, a key factor in meeting consumer expectations and organizational goals (Nguyen et al., 2020). Within the broader SCM framework, supply chain quality management emerges as a pivotal area, focusing on maintaining and improving the quality of products and services throughout the entire supply chain network (Zaid & Baig, 2020). Among the practices that underpin supply chain quality management, supplier development plays a fundamental role in aligning suppliers' capabilities with organizational needs and consumer demands.

Supplier development involves deliberate efforts to enhance the capabilities and performance of suppliers to foster improved service delivery, quality, and efficiency (Katsaliaki & Kumar, 2021). This strategic approach includes supplier evaluation, certification, and capacity-building initiatives tailored to specific organizational requirements (Humphreys et al., 2016). Through these measures, organizations achieve superior performance, reduced operational costs, and a competitive edge in their markets (Benton et al., 2020). For instance, supplier evaluation ensures that suppliers meet quality and delivery standards, while on-site assistance accelerates the implementation of new capabilities and aligns supplier practices with organizational policies (Mwesigwa, 2018).

In the public sector, the role of supply chain management, particularly supplier development, is increasingly critical due to the growing pressure to improve service delivery and optimize resource utilization (Lampety, 2017). Public institutions, including state agencies, must meet the expectations of multiple stakeholders—governments, citizens, employees, suppliers, and regulatory bodies—through efficiency, effectiveness, affordability, accessibility, and equity in their services (Casadesus & Castro, 2015). Supply chain quality management, therefore, becomes instrumental in addressing these demands.

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In Kenya, the Government has established eight state agencies under the Ministry of Education to implement various educational goals, including the Commission for University Education (CUE), Kenya National Examination Council (KNEC), Teachers Service Commission (TSC), and Kenya Institute of Curriculum Development (KICD), among others (Ministry of Education, 2017). These agencies play a critical role in ensuring the quality, accessibility, and effectiveness of the education sector. However, despite their importance, these agencies have faced significant challenges in performance, as evidenced by declining service delivery standards, escalating operational costs, and reduced customer satisfaction (Public Service Commission, 2019; Meru & Kinoti, 2022).

For instance, reports indicate that efficiency in service delivery among state agencies in the Ministry of Education dropped from 62% in 2018 to 46% in 2019, while customer satisfaction fell from 76% to 64% during the same period (Public Service Commission, 2019). Furthermore, misappropriation of resources, overpricing of supplies, and substandard educational outcomes have raised questions about these agencies' effectiveness in fulfilling their mandates (Auditor General, 2019; UNESCO, 2020). Given the significant influence of supply chain management practices, particularly supplier development, on organizational performance (Maundu, 2018), there is a pressing need to explore its impact on these agencies.

This study aims to address the gap in empirical research by examining the role of supplier development as a supply chain quality management practice on the performance of state agencies under Kenya's Ministry of Education. It investigates the status of supplier development, evaluates agency performance, and assesses the relationship between supplier development and performance outcomes within this context. By doing so, the study contributes to a deeper understanding of how supplier development can enhance the operational efficiency and service delivery of public sector organizations.

#### *Literature review*

This study is anchored on Social Exchange Theory (Homans, 1958), which posits that social behaviour arises from an exchange process where individuals aim to maximize benefits and minimize costs in their interactions. The theory argues that relationships are sustained when benefits outweigh risks or costs; otherwise, individuals abandon unprofitable relationships (Humphreys et al., 2016). Homans emphasized that relationships yielding higher benefits relative to costs are deemed worthwhile, even if some costs are inevitable. Conversely, relationships with costs exceeding benefits lead to dissatisfaction and dissolution, as decisions are guided by evaluations of alternatives (Hassana & Cross, 2020).

In this study, the Social Exchange Theory provides a lens for understanding the dynamics of supplier development. The core objective of supplier development is to foster mutually beneficial relationships between purchasing organizations and suppliers, characterized by reduced costs and maximized benefits (Serenko & Bontis, 2016). State agencies under the Ministry of Education aim to enhance service quality, minimize costs, and improve customer satisfaction, which can be achieved through collaborative interactions with suppliers. By developing suppliers to meet specific needs, these agencies strengthen relationships that ultimately drive improved performance. Thus, the Social Exchange Theory effectively supports the study's focus on the influence of supplier development on the performance of state agencies in Kenya.

(Benton et al., 2020) conducted a study on the impact of supplier development programs on supplier performance using primary data from 141 first-tier North American automotive suppliers. The findings, analyzed through structural equation modelling, demonstrated that supplier development significantly improves performance through enhanced communication, cooperation, and commitment between buyers and suppliers. These relational factors mediated the impact of supplier development on performance outcomes.

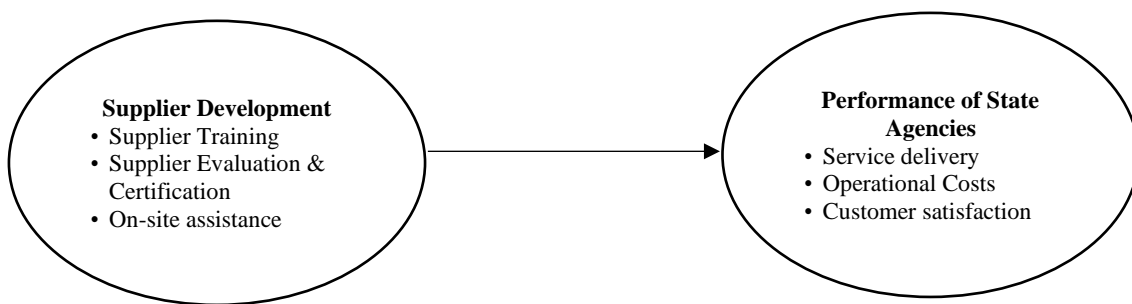
In Nigeria, (Hassana and Cross, 2020) examined the effect of supplier development on the operational performance of manufacturing firms, specifically focusing on Dangote Sugar Refinery Plc. Using survey data, the study revealed that supplier technical support, early supplier involvement, audits, and certification had a statistically significant effect on customer service delivery. Similarly, (Humphreys et al., 2016) explored the influence of supplier development on buyer-supplier performance within 142 electronic manufacturing firms in Hong Kong. The study identified transaction-specific supplier development initiatives, including training, standardization, financial support, and communication, as critical factors driving improved buyer-supplier performance outcomes.

In Kenya, (Oromo, 2017) investigated supplier development's influence on procurement performance within the public sector, focusing on Kenya Electricity Generating Company Limited (KenGen). Using a descriptive research design and survey data from 160 staff, the study found that supplier incentives, capacity

building, and continuous improvement initiatives positively impacted procurement performance. Notably, supplier incentives, such as preferred supplier status, fostered commitment to quality improvement. (Mwesigwa, 2018) analyzed the relationship between supplier development and procurement performance at the World Food Programme (WFP) in Kenya. Through descriptive survey research, the study established that joint sourcing, supplier training, and financial assistance significantly enhanced procurement performance. The "drop and pick" data collection method yielded findings supporting supplier development as a key driver of procurement success.

(Kinyua, 2017) investigated supplier development strategies and procurement performance in Kenya's county governments. Focusing on procurement staff across 47 counties, the study revealed that supplier identification, training, financial capability enhancement, and evaluation significantly influenced procurement performance. Workshops, seminars, and field training were identified as effective strategies for supplier development, leading to improved cost management and operational efficiency. These empirical findings underscore the critical role of supplier development in enhancing performance outcomes across various sectors. While studies like those of (Benton et al., 2020; Humphreys et al., 2016) provide insights into supplier-buyer dynamics in developed contexts, limited research exists on supplier development in public sector settings, particularly in Kenya's Ministry of Education. This gap motivates the present study to explore how supplier development practices influence the performance of state agencies in Kenya.

The conceptual framework illustrates the relationship between supplier development and performance outcomes of state agencies in the Ministry of Education.



**Figure 1: Conceptual Framework**

## **B. RESEARCH METHODS**

The study adopted a descriptive-correlational research design, combining elements of descriptive and correlational approaches to address the research objectives comprehensively. The descriptive design enabled the collection, organization, and tabulation of data related to the context, events, and individuals involved, providing an in-depth understanding of the situation under study. By facilitating both qualitative and quantitative analysis, this design allowed the researcher to answer research questions effectively and propose actionable solutions. The correlational design, on the other hand, focused on identifying and quantifying relationships between variables, using techniques such as multiple regression, linear regression, and correlation analysis to explore potential causal links. Together, these designs provided a robust framework for addressing the study problem, allowing for a rich description of findings and an exploration of relationships between supplier development and the performance of state agencies under the Ministry of Education in Kenya.

The study targeted the eight state agencies under the Ministry of Education, Kenya, which play a strategic role in implementing the Ministry's mandate and fostering quality education in the country. The units of observation were the 3,678 staff members working in various departments within these agencies, as they are directly involved in supply chain operations, including supply chain quality management processes (Ministry of Education, 2023).

The study employed a stratified purposive sampling technique to ensure representation across all eight agencies. The sample size was determined using the (Nassiuma, 2000) formula as follows:

$$n = \frac{Nc^2}{c^2 + (N - 1)e^2}$$

Where:

$n$  = sample size

$N$  = target population (3,678)

$c$  = coefficient of variation (0.3)

$e$  = standard error (0.02)

Substituting the values:

$$n = \frac{3678 * 0.3^2}{0.3^2 + (3678 - 1)0.02^2}$$

$$n = 212.08$$

A sample size of 212 respondents was computed. Stratified random sampling was used to allocate respondents proportionally across the eight agencies (strata). From each agency, only senior staff with demonstrated knowledge of supply chain processes, particularly supply chain quality management, were purposively selected due to their direct involvement in these processes.

The study relied on primary data collected using a structured questionnaire. The questionnaire comprised both close-ended questions for quantitative analysis and open-ended questions for qualitative insights. To enhance response rates and ensure clarity, the questionnaires were administered via a drop-and-pick method with the assistance of trained research assistants.

Data analysis in this study employed both quantitative and qualitative techniques to ensure a comprehensive understanding of the findings. Quantitative data was analyzed using descriptive statistics such as means, standard deviations, and frequencies to summarize key metrics, while inferential statistics, including correlation and regression analysis, were utilized to examine the relationships between supplier development and performance variables. All statistical analyses were conducted using SPSS version 27, which ensured the precision and reliability of the results. On the other hand, qualitative data from open-ended responses was analyzed using thematic content analysis, where recurring themes and patterns were identified and interpreted. The qualitative findings were then presented in a narrative format, complementing the quantitative results to provide a well-rounded perspective on the impact of supplier development on the performance of state agencies under the Ministry of Education.

## C. RESULTS AND DISCUSSION

### *Response Rate*

Out of the 212 distributed questionnaires, 179 were duly filled and returned, representing a response rate of 84.4%. According to Saunders (2019), a response rate exceeding 60% is considered sufficient for representing the sampled population. Therefore, the response rate achieved in this study was deemed adequate for comprehensive analysis and reliable interpretation of findings.

### *Supplier Development in State Agencies in the Ministry of Education*

The first objective of the study was to assess the status of supplier development within state agencies in the Ministry of Education in Kenya. The findings, summarized in Table 1, reveal that most respondents expressed dissatisfaction with the implementation of supplier development in their respective agencies. The overall mean score of 2.58 indicates that the majority of respondents disagreed with statements supporting effective supplier development practices. Specifically, regular appraisal of suppliers to identify training needs was not consistently conducted (Mean = 2.69; SD = 1.09), and frequent training aimed at enhancing supplier competency was infrequent (Mean = 2.74; SD = 1.34). Remote training practices were also limited, with 57.8% of respondents disagreeing (Mean = 2.95; SD = 1.25), and 60.7% disagreed with the assertion that suppliers were assessed post-training to verify skill mastery. Furthermore, 69.3% of respondents reported that suppliers were rarely evaluated for delivery capabilities (Mean = 2.22; SD = 1.09), and the criteria for supplier evaluations were seldom updated (Mean = 2.34; SD = 1.02). Certification and other forms of support for suppliers were also found to be minimal.

The qualitative findings supported these quantitative results. Respondents emphasized that supplier development was recognized as critical for the success of state agencies but noted that it was poorly articulated and implemented. One respondent highlighted:

*“...While I agree that developing suppliers through training and site visits would be essential in enabling the suppliers to meet our specifications, we have not been effectively committed to*

*developing suppliers. This, to me, has seen the agency receive sub-standard works, goods or services, which I feel we should repurpose and find a better way of helping suppliers meet our quality standards....”*

These findings underscore a significant gap in the effective execution of supplier development strategies. Although the agencies recognize the importance of supplier development in enhancing their performance, the lack of commitment to and investment in these practices has led to substandard outputs. The assumption that suppliers would meet organizational expectations without proper assistance was a recurring theme, as respondents noted that this shortcoming contributed to inconsistent quality in goods, services, and works. This aligns with existing literature emphasizing the critical role of supplier development in optimizing performance and improving supply chain quality. Properly executed supplier development initiatives, such as training, certification, and regular evaluations, are instrumental in achieving operational excellence. However, the findings of this study reveal that such initiatives remain underutilized in state agencies under the Ministry of Education, depriving them of potential performance improvements and higher service quality.

**Table 1. Supplier Development in the State Agencies**

Statements	Mean	Std. Dev.
The suppliers are frequently appraised to establish their training needs	2.69	1.09
The agency upholds frequent training of the suppliers to enhance their competency	2.74	1.34
We have embraced remote training of suppliers to ensure effective training	2.95	1.25
The suppliers are assessed after training to establish their mastery of the trained skills	2.66	1.17
The suppliers are frequently evaluated to establish the capability to deliver the agency’s expectations	2.22	1.09
The evaluation criteria are frequently reviewed and updated to adopt emerging changes	2.34	1.02
There are certifications given to the successfully evaluated suppliers	2.40	1.10
The certification of the suppliers enables our organization to retain the most competent suppliers	2.40	1.00
Suppliers in our organization are offered assistance when rendering services/supplying the agency	2.51	1.04
The agency has a set framework for assisting the engaged suppliers to meet the expected output	2.72	1.69
We have incidences where suppliers have recorded superior results upon assistance from our organization’s staff	2.82	1.53
<b>Overall Mean and Std. Dev.</b>	<b>2.58</b>	<b>1.21</b>

Source: Research data, 2024

#### *Performance of State Agencies in the Ministry of Education*

The second objective of the study sought to assess the performance of state agencies under the Ministry of Education in Kenya, focusing on service delivery, cost of operations, and customer satisfaction. Respondents’ opinions were gathered using a Likert scale, and the results are summarized in Table 2. The findings revealed an overall mean score of 2.42, indicating that the majority of respondents disagreed with statements suggesting strong performance, thus signifying inadequate performance by the agencies. Regarding service delivery, most respondents disagreed that there had been improvements over the past five years (Mean = 2.52; SD = 1.47) or that management demonstrated commitment to enhancing service quality (Mean = 2.26; SD = 1.35). Timeliness in service delivery was also found lacking (Mean = 2.23; SD = 1.23), with respondents indicating that waiting times had not decreased (Mean = 2.37; SD = 1.28). Additionally, service delivery processes were perceived as unclear and complex (Mean = 2.29; SD = 1.22). In terms of cost efficiency, respondents reported no significant reductions in costs (Mean = 2.61; SD = 1.24), with many expressing the view that the public was not receiving value for money from these agencies (Mean = 2.61; SD = 1.32). Cost monitoring was deemed inadequate (Mean = 2.66; SD = 1.33), further indicating poor financial management practices. Customer satisfaction, another key measure of performance, was similarly reported as lacking. The majority of respondents noted that customer satisfaction assessments were infrequent (Mean = 2.33; SD = 1.32) and complaints were common (Mean = 2.35; SD = 1.33).

Overall, these findings indicate that the state agencies under the Ministry of Education are performing poorly in critical areas. The lack of timely and efficient service delivery, absence of cost reductions, and failure to prioritize customer satisfaction highlight significant gaps in the operational effectiveness of these agencies. These results align with previous studies and reports, such as the Public Service Commission (2019), which also identified inefficiencies and declining performance in similar public-sector organizations. Addressing these shortcomings requires improved management commitment, streamlined processes, and enhanced monitoring mechanisms to drive performance improvements.

**Table 2. Descriptive Results on Performance of the State Agencies**

Statements	Mean	Std. Dev.
The delivery of service in our organization has been enhanced over the past five years	2.52	1.47
The organizational management has been committed to enhancing the quality of services	2.26	1.35
Timely delivery of services has been a key focus of our organization	2.23	1.23
The waiting time for the delivery of services in our organization has been reduced over the years	2.37	1.28
The process of service delivery in our organization is clear and simple	2.29	1.22
We have reduced the cost of operations in our company for the past five years	2.61	1.24
The organization ensures that the public gets value for money	2.61	1.32
Cost monitoring is done to ensure the cost of operations in our organization is within the market range	2.66	1.33
The organization carries out frequent assessments to establish the level of customer satisfaction	2.33	1.32
There have been minimal customer complaints in our organization for the past five years	2.35	1.33
The customer satisfaction index in our organization has been increasing over the past five years	2.49	1.28
The customers have expressed their satisfaction with the responsiveness of our services	2.36	1.33
<b>Overall Mean and Std. Dev.</b>	<b>2.42</b>	<b>1.31</b>

Source: Research data, 2024

*Relationship between Supplier Development and Performance of State Agencies*

The third objective of the study was to assess the relationship between supplier development and the performance of state agencies under the Ministry of Education in Kenya. To determine this relationship, a simple regression model analysis was performed. The model summary results, presented in Table 3, revealed an R-square (R<sup>2</sup>) value of 0.414, indicating that 41.4% of the variation in performance of state agencies in the Ministry of Education was explained by supplier development. This demonstrates that supplier development is a substantial determinant of agency performance. The ANOVA results further supported the model's validity, with an F-statistic of 125.098 significant at a P-value of 0.000 (<0.05). This confirmed that the regression model was statistically significant in predicting the relationship between supplier development and the performance of the state agencies.

Additionally, the regression coefficients revealed a Beta coefficient ( $\beta$ ) of 0.895 for supplier development, significant at P = 0.000 (<0.05). These findings suggest that a unit increase in supplier development would result in an 89.5% improvement in the performance of state agencies. The significant P-value further implies that supplier development has a strong and meaningful influence on the performance of state agencies under the Ministry of Education. These results align with the findings of (Abubakar et al., 2019), who demonstrated the pivotal role of supplier development in achieving operational efficiency and effectiveness in modern organizations. The findings emphasize the importance of integrating supplier development practices, such as supplier training, evaluation, and capacity building, to enhance the performance outcomes of public-sector organizations. By strengthening supplier relationships and capabilities, state agencies can achieve better service delivery, cost management, and customer satisfaction, ultimately improving their overall effectiveness.

**Table 3: Regression Model Results on the Relationship between Supplier Development and Performance of State Agencies Under The Ministry Of Education**

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.644 <sup>a</sup>	.414	.411	.72580		
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	65.899	1	65.899	125.098	.000 <sup>b</sup>
	Residual	93.241	177	.527		
	Total	159.140	178			
Regression Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.466	.226		2.057	.041
	Supplier Development	.895	.080	.644	11.185	.000

a. Dependent Variable: Performance of state agencies under the Ministry of Education

Source: Research data, 2024

## CONCLUSION

To address the identified challenges and improve performance, state agencies under the Ministry of Education should prioritize supplier development as a core strategy for enhancing supply chain quality. This involves integrating practices such as regular supplier training, evaluations, and certification into their operational frameworks to ensure consistency and alignment with organizational goals. Supply chain departments, under the leadership of supply chain managers, should spearhead targeted training programs designed to improve supplier competency, foster innovation, and ensure compliance with quality standards. Additionally, agencies should establish mechanisms for continuous engagement with suppliers, such as regular feedback sessions and collaborative planning, to build stronger partnerships and support suppliers in meeting organizational objectives. Streamlining supply chain processes through effective supplier development would result in smoother operations, improved customer satisfaction, greater cost efficiency, and enhanced overall performance. Achieving this requires a commitment from agency leadership to allocate sufficient resources and maintain regular progress monitoring. By implementing these measures, state agencies can significantly optimize their supply chain processes and deliver better services to their stakeholders.

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