

Knowledge Application and Organizational Competence of Commercial Banks in Nairobi County, Kenya

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Accepted: 31 July 2026 || Published: 08 August 2026

Abstract

Commercial banks contribute significantly to financial intermediation, credit creation, savings mobilization, payment facilitation, investment, and economic development. Despite their importance, many banks struggle to convert available knowledge into organizational competence because of fragmented information systems, departmental barriers, weak knowledge-use mechanisms, and limited integration of institutional learning into decision-making. Knowledge application is increasingly recognized as an important knowledge-management practice because it enables banks to use acquired, stored, and shared knowledge to strengthen innovation, operational efficiency, customer responsiveness, regulatory compliance, risk management, and strategic adaptation. This study examined the effect of knowledge application on the organizational competence of commercial banks in Nairobi County, Kenya. The study was anchored on Competence-Based Theory and adopted descriptive and correlational research designs. The target population comprised 585 senior and middle-level managers working across 39 licensed commercial banks. A stratified random sample of 238 managers was selected. Data were collected using structured questionnaires and analysed through descriptive statistics, Pearson Product Moment Correlation, and simple linear regression. The study obtained 180 usable questionnaires, representing a response rate of 75.6%. The findings established that knowledge application had a positive and statistically significant effect on organizational competence ($\beta = 0.714$, $p < 0.001$). Knowledge application explained 51.0% of the variation in organizational competence ($R^2 = 0.510$). The study concluded that applying available knowledge strengthened innovation, operational efficiency, customer responsiveness, regulatory compliance, risk management, and strategic adaptability. The study recommends integrating organizational knowledge into decision support, customer relationship management, risk management, compliance, product development, service improvement, and process improvement systems. Commercial banks should establish institutional mechanisms for translating customer information, regulatory updates, employee expertise, operational experience, and lessons learned into consistent decisions and measurable organizational improvements.

Keywords: *knowledge application; organizational competence; commercial banks; decision-making; risk management; Kenya*

How to Cite: Mugambi, K. M., Chesigor, F., & Mutea, F. (2026). Knowledge Application and Organizational Competence of Commercial Banks in Nairobi County, Kenya. *Journal of Strategic Management*, 6(3), 13-28.

1. Introduction

Commercial banks operate in knowledge-intensive environments where effective performance depends on the continuous acquisition, interpretation, and application of customer, operational, technological, and regulatory knowledge (Alavi & Leidner, 2001; Ngai, 2024). Their ability to innovate, manage risk, comply with regulatory requirements and respond to changing customer needs is influenced not only by the amount of information available but also by how effectively employees and organizational systems use that information in decision-making (Grant, 1996; Ode & Ayavoo, 2020). Knowledge application refers to the practical use of acquired, stored, and shared knowledge to solve problems, improve processes, develop products, manage risks, and guide strategic and operational decisions (Alavi & Leidner, 2001; Ode & Ayavoo, 2020). It therefore represents the stage at which organizational knowledge is converted into observable institutional capabilities (Grant, 1996; Sanchez, 2004).

The distinction between possessing knowledge and applying it is particularly important in commercial banking. Banks generate substantial information from customer transactions, credit histories, digital platforms, internal audits, market intelligence, employee experience and regulatory communication (Nderitu, 2023; Ngai, 2024). However, these knowledge resources strengthen organizational competence only when they are applied in credit assessment, fraud detection, customer-service improvement, regulatory compliance and operational decision-making (Ongongo & Mang'ana, 2022; Nderitu, 2023). Knowledge-management literature similarly maintains that knowledge creates organizational value through purposeful integration, coordination and application rather than through accumulation alone (Kogut & Zander, 1992; Grant, 1996).

Kenya's commercial banking sector provides an appropriate context for examining the relationship between knowledge application and organizational competence. The sector operates within a highly regulated, competitive and technologically dynamic environment characterized by digital-banking expansion, financial-technology innovation, cybersecurity risks, changing customer expectations and increasing credit-risk exposure (Central Bank of Kenya [CBK], 2024; PricewaterhouseCoopers Kenya, 2024). Nairobi County hosts the headquarters or principal operations of the 39 commercial banks licensed by the CBK, making it the centre of strategic, technological, operational and regulatory banking activities in Kenya (CBK, 2024). According to CBK (2024), the banking sector held assets exceeding KSh 7.7 trillion, customer deposits above KSh 5.7 trillion and gross loans of more than KSh 4.1 trillion. The same report indicated that non-performing loans had reached approximately KSh 651.8 billion, while the non-performing-loan ratio had risen to 15.5%, highlighting continuing challenges in credit assessment, loan monitoring and risk-management decisions (CBK, 2024).

Commercial banks have invested substantially in data warehouses, digital platforms and information-management systems to strengthen decision-making and service delivery (Kenya Bankers Association, 2024; PricewaterhouseCoopers Kenya, 2024). Nevertheless, formal organization-wide mechanisms for applying institutional knowledge remain underdeveloped in some banks, while departmental barriers continue to restrict the timely movement of customer and operational information across organizational functions (Kenya Bankers Association, 2024; PricewaterhouseCoopers Kenya, 2024). Such limitations may weaken coordination, delay decisions and reduce the contribution of available knowledge to innovation, customer service, compliance and risk management (Alavi & Leidner, 2001; Ngai, 2024).

Previous Kenyan studies have connected technology adoption, credit-information sharing and general knowledge-management practices with banking performance (Ongongo & Mang'ana, 2022; Nderitu, 2023; Ngai, 2024). However, limited empirical attention has been given to knowledge application as the specific mechanism through which available knowledge is transformed into organizational competence. Organizational competence reflects a bank's collective capacity to innovate, operate efficiently, respond to customers, comply with regulatory requirements, manage risks, and adapt to strategic changes (Sanchez, 2004; Ngai, 2024). This article therefore examined the effect of knowledge application on the organizational competence of commercial banks in Nairobi County, Kenya. It tested the null hypothesis that knowledge application has no statistically significant effect on organizational competence.

1.1 Problem Statement

Commercial banks are expected to transform customer, operational, technological, and regulatory knowledge into improved innovation, operational efficiency, customer responsiveness, regulatory compliance, risk management, and strategic adaptability (Grant, 1996; Sanchez, 2004). This expectation is particularly important in Kenya, where commercial banks operate in a highly regulated, competitive and technology-driven environment requiring timely and evidence-based decisions (Central Bank of Kenya [CBK], 2024; PricewaterhouseCoopers Kenya, 2024). Effective knowledge application should enable banks to use customer information, credit histories, regulatory updates, employee expertise and operational experience to improve service delivery, manage risks and strengthen institutional capability (Nderitu, 2023; Ngai, 2024).

Despite substantial investment in digital platforms, data warehouses and information-management systems, some commercial banks continue to experience difficulties in translating available knowledge into coordinated organizational action (Kenya Bankers Association, 2024; PricewaterhouseCoopers Kenya, 2024). Departmental barriers, fragmented information systems and weak organization-wide knowledge-use mechanisms may restrict the timely application of customer and operational information in decision-making (Kenya Bankers Association, 2024). These limitations may weaken credit assessment, fraud prevention, customer-service improvement, regulatory compliance and operational responsiveness (Nderitu, 2023; Ngai, 2024).

The problem is reflected in continuing competence-related challenges within the banking sector. Non-performing loans reached approximately KSh 651.8 billion, while the non-performing-loan ratio increased to 15.5%, indicating persistent concerns regarding credit assessment, loan monitoring, and risk-management decisions (CBK, 2024). Although previous Kenyan studies have examined technology adoption, credit-information sharing, and general knowledge-management practices, limited attention has been given to knowledge application as a specific predictor of organizational competence (Ongongo & Mang'ana, 2022; Nderitu, 2023; Ngai, 2024). Consequently, insufficient evidence existed on how applying organizational knowledge influenced innovation, operational efficiency, customer responsiveness, compliance, risk management, and strategic adaptability among commercial banks in Nairobi County. This study addressed that gap.

1.2 Research Objective

To examine the effect of knowledge application on the organizational competence of commercial banks in Nairobi County, Kenya.

1.3 Research Hypothesis

H₀₁: Knowledge application has no statistically significant effect on the organizational competence of commercial banks in Nairobi County, Kenya.

2. Literature Review

2.1 Theoretical Review

The study was guided by Competence-Based Theory, which is principally associated with Prahalad and Hamel (1990), Sanchez and Heene (1997), and Sanchez (2004). The theory conceptualizes organizational competence as the capacity to coordinate and apply knowledge, skills, technologies, resources, and managerial processes to achieve strategic objectives (Sanchez & Heene, 1997). Prahalad and Hamel (1990) argued that core competence develops when an organization integrates different forms of expertise into distinctive capabilities that create customer value and strengthen competitiveness. The theory assumes that possessing valuable resources does not automatically generate superior outcomes because resources must be purposefully deployed through decisions, processes and organizational routines (Sanchez, 2004). Competence must therefore be continuously developed, applied and renewed as organizational and environmental conditions change (Sanchez, 2004).

Competence-Based Theory is relevant to knowledge application because commercial banks depend on the coordinated use of customer, credit, technological, operational and regulatory knowledge. Customer knowledge supports service design and customer-relationship management, while credit information strengthens borrower assessment, risk pricing and loan monitoring (Nderitu, 2023). Technological knowledge supports digital service delivery and operational efficiency, whereas regulatory knowledge guides compliance decisions, reporting, and internal controls (Ongongo & Mang'ana, 2022; Ngai, 2024). Operational experience also enables employees to identify service weaknesses, solve problems, and improve internal processes (Ngai, 2024). Applying these forms of knowledge can therefore improve individual decisions while strengthening coordination, service quality, risk management, and organizational responsiveness.

The theory further proposes that the coordinated application of resources strengthens productive capacity and supports the development of organizational routines (Helfat & Peteraf, 2003). In this study, knowledge applied through decision-support systems was expected to improve managerial judgment and evidence-based decision-making (Alavi & Leidner, 2001). Customer and market knowledge was expected to guide product innovation and service improvement, while stored credit information was expected to strengthen risk assessment and loan-portfolio management (Nderitu, 2023; Ngai, 2024). Lessons obtained from audits, operational incidents and employee experience were expected to support process improvement and organizational learning (Alavi & Leidner, 2001). Regulatory knowledge was expected to strengthen compliance reporting, internal controls and responsiveness to supervisory requirements (Ngai, 2024).

A major strength of Competence-Based Theory is its direct connection between resource application and improvements in institutional capability (Sanchez, 2004). However, competence may overlap conceptually with resources, routines, capabilities, and organizational performance, making it difficult to define and measure precisely (Sanchez, 2004). The theory may also underestimate external conditions such as regulatory changes, economic instability, technological disruption, cybersecurity threats and competitive pressure (Helfat & Peteraf, 2003). Commercial banks may possess strong knowledge-application capabilities but still

experience constraints arising from adverse economic conditions or systemic financial risks (Central Bank of Kenya [CBK], 2024). Nevertheless, Competence-Based Theory provided an appropriate basis for examining how knowledge application influenced organizational competence among commercial banks in Nairobi County.

2.2 Empirical Review

2.2.1 Knowledge Application and Organizational Competence

Knowledge application refers to the practical use of acquired, stored, and shared knowledge in organizational decisions, products, services, processes, and problem-solving activities (Alavi & Leidner, 2001). It enables organizations to translate information and expertise into actions that improve decision quality, innovation, and institutional capability (Ode & Ayavoo, 2020). In commercial banking, knowledge can be applied in customer analytics, product development, service improvement, credit assessment, fraud detection, regulatory compliance and process redesign (Nderitu, 2023; Ngai, 2024). Knowledge application can therefore strengthen organizational competence by improving innovation, operational efficiency, customer responsiveness, compliance, risk management and strategic adaptability.

Internationally, Ode and Ayavoo (2020) examined the mediating role of knowledge application in the relationship between knowledge-management practices and firm innovation. The study established that knowledge application enabled firms to transform accumulated and shared knowledge into new products, services and processes (Ode & Ayavoo, 2020). The findings showed that acquiring, storing and sharing knowledge produced limited organizational value unless the available knowledge was incorporated into practical decisions and activities. However, the study focused on firm innovation rather than the broader dimensions of organizational competence, including operational efficiency, customer responsiveness, compliance, risk management and strategic adaptability.

Mahboub and Ghanem (2024) examined artificial intelligence, knowledge-management practices and organizational performance in banks. The study found that knowledge generated through artificial-intelligence systems contributed to banking performance when applied in customer analytics, credit scoring, and operational decisions (Mahboub & Ghanem, 2024). The findings demonstrated that technological investment strengthens organizational outcomes when generated insights are integrated into managerial and operational processes. Nevertheless, the study concentrated on artificial-intelligence-generated knowledge and provided limited evidence on the application of employee experience, regulatory updates, customer information, and lessons learned.

Evidence from developed banking markets also indicates that digitally enabled knowledge application can support innovation and risk management. Zachariadis (2020) found that banks required well-governed data-sharing systems to transform open-banking information into improved products, services and risk-management capabilities. Tarenzi (2024) similarly reported that knowledge obtained through financial-technology partnerships, customer analytics and market intelligence supported digital-product development and service delivery in North American banks. However, these studies were conducted in developed financial systems whose technological infrastructure and regulatory environments differ from those of Kenyan commercial banks.

In Kenya, Ngai (2024) examined knowledge-management practices and organizational performance among commercial banks. The study established that knowledge application enhanced innovation, service quality, decision-making, and organizational performance (Ngai, 2024). The findings demonstrated that banks benefited when employees applied acquired, stored, and shared knowledge to operational and strategic challenges. However, the study emphasized organizational performance rather than competence as a multidimensional institutional capability reflected through innovation, efficiency, customer responsiveness, compliance, risk management, and adaptability.

Nderitu (2023) examined credit-information sharing and non-performing loans among Kenyan commercial banks. The study found that applying shared credit information improved borrower assessment, risk pricing, loan monitoring and portfolio management (Nderitu, 2023). These findings demonstrate that knowledge application can strengthen banking competence through informed and timely credit decisions. Nevertheless, the study focused specifically on credit information and loan performance and did not examine the wider application of customer, operational, technological and regulatory knowledge.

Ongongo and Mang'ana (2022) investigated technology adoption and the performance of commercial banks in Kenya. Their findings indicated that technology-enabled banking systems improved operational efficiency, service delivery and competitiveness (Ongongo & Mang'ana, 2022). Although technology facilitates information acquisition, processing and access, its contribution depends on whether employees and managers apply the generated knowledge in organizational decisions (Alavi & Leidner, 2001). The study therefore provided evidence on technological capability but did not isolate knowledge application as an independent predictor of organizational competence.

The literature revealed conceptual, methodological, and contextual gaps. Previous studies examined innovation, organizational performance, technology adoption, and credit-information sharing rather than organizational competence as a multidimensional construct (Ode & Ayavoo, 2020; Ongongo & Mang'ana, 2022; Nderitu, 2023). Some studies focused on specific technologies or information categories rather than the broader application of acquired, stored, and shared knowledge (Mahboub & Ghanem, 2024; Nderitu, 2023). Other studies were conducted outside Kenya and could not adequately reflect the country's banking, technological, and regulatory environment (Zachariadis, 2020; Tarenzi, 2024). This study addressed these gaps by measuring knowledge application through decision support, product innovation, service improvement, risk assessment, process improvement, and compliance decisions and testing its effect on the organizational competence of commercial banks in Nairobi County.

2.3 Conceptual Framework

The conceptual framework illustrates the proposed relationship between the independent and dependent variables, as presented in Figure 1.

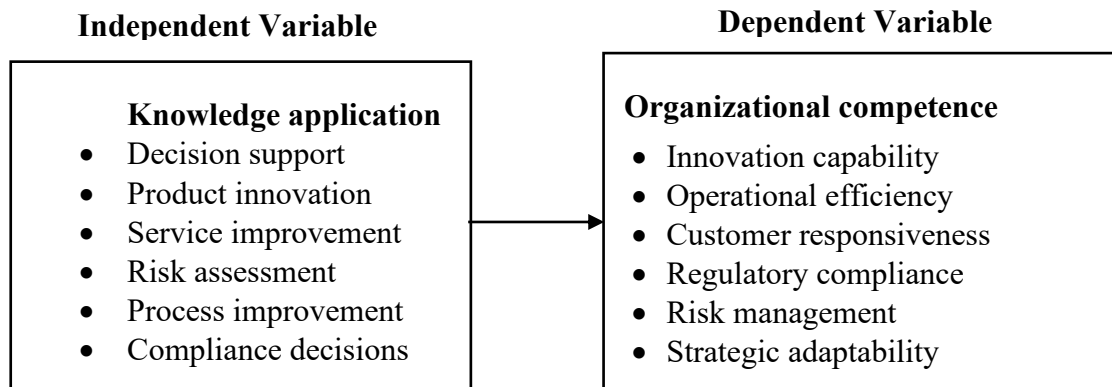


Figure 1: Conceptual Framework

3. Methodology

The study adopted descriptive and correlational research designs. The descriptive design summarized knowledge-application practices and organizational-competence outcomes, while the correlational design established the relationship between knowledge application and organizational competence. The study was conducted among the 39 commercial banks licensed by the Central Bank of Kenya and operating in Nairobi County.

The target population comprised 585 senior and middle-level managers working in strategy, information technology, operations, risk and compliance, and retail or corporate banking. A sample of 238 managers was selected. Stratified random sampling distributed the sample across bank tiers and functional departments, while all 39 banks were included at the institutional level.

Quantitative data were collected using a structured questionnaire. Knowledge application was measured using six five-point Likert-scale statements covering decision support, product innovation, service improvement, risk assessment, process improvement and compliance decisions. Organizational competence was assessed through innovation capability, operational efficiency, customer responsiveness, regulatory compliance, risk-management capability and strategic adaptability.

The questionnaire was piloted outside the main study population. Expert review established content validity, while construct suitability was assessed using the Kaiser–Meyer–Olkin measure and Bartlett’s test of sphericity. Reliability was determined using Cronbach’s alpha at a minimum threshold of .70. Research authorization, informed consent, confidentiality, anonymity, and voluntary participation were observed.

Of the 238 questionnaires distributed, 180 were returned and found usable, representing a response rate of 75.6%. Means and standard deviations summarized the variables. Pearson Product-Moment Correlation established their relationship, while simple linear regression tested the hypothesis at the 5% significance level. Diagnostic tests confirmed normality, linearity, homoscedasticity, and independence of errors.

4. Results and Discussion

4.1 Response Rate

The study targeted 238 senior and middle-level managers drawn from strategy, information technology, operations, risk and compliance, and retail or corporate banking functions across 39 licensed commercial banks operating in Nairobi County. Of the 238 questionnaires distributed, 180 were completed and found suitable for analysis, representing a response rate of 75.6%. The remaining 58 questionnaires were either not returned or were incomplete, accounting for 24.4% of the administered questionnaires.

Table 1: Response Rate

Response Category	Frequency	Percentage (%)
Usable questionnaires	180	75.6
Unreturned or unusable questionnaires	58	24.4
Total distributed	238	100.0

All 180 usable questionnaires were included in the statistical analysis. The responses were obtained from managers working in functions that routinely acquire, interpret, share, and apply customer, operational, technological, strategic, credit-risk, and regulatory knowledge. The response rate provided sufficient observations for the planned descriptive, correlation, and regression analyses of knowledge application and organizational competence.

4.2 Descriptive Analysis of Knowledge Application

The study assessed knowledge application using six indicators: the use of organizational knowledge in decision-support systems, product innovation, service improvement, risk assessment, process improvement, and regulatory-compliance decisions. As presented in Table 2, knowledge application recorded an aggregate mean of 4.01 and a standard deviation of 0.710. The results indicate a high level of agreement that commercial banks applied available knowledge in their decisions and operational activities. Nevertheless, knowledge application was more strongly established in compliance and risk management than in process improvement and decision-support systems.

Table 2: Descriptive Analysis of Knowledge Application

Statement	Mean	SD
Decision-support systems use available organizational knowledge	3.88	0.762
Product innovation is guided by acquired knowledge	3.95	0.718
Service improvement uses customer and operational knowledge	4.07	0.684
Risk assessment applies stored knowledge	4.12	0.661
Process improvement is supported by lessons learned	3.84	0.795
Compliance decisions are guided by regulatory knowledge	4.18	0.637
Aggregate mean/SD	4.01	0.710

The use of regulatory knowledge in compliance decisions recorded the highest mean score ($M = 4.18$, $SD = 0.637$). This result indicates that managers strongly agreed that regulatory requirements, supervisory guidelines, and compliance information were incorporated into banking decisions. Commercial banks operate in a tightly regulated environment in which regulatory knowledge is essential for maintaining internal controls, meeting reporting requirements, and limiting legal, financial, and reputational exposure (Central Bank of Kenya, 2024). The result therefore demonstrates that regulatory knowledge was not merely stored or communicated but was actively incorporated into compliance decisions.

The application of stored knowledge in risk assessment ranked second ($M = 4.12$, $SD = 0.661$). This finding suggests that banks used customer histories, credit records, audit findings, previous risk events, and accumulated institutional experience when evaluating and managing risk. The finding is consistent with Nderitu (2023), who established that the use of shared credit information strengthened credit-risk assessment, risk pricing, and loan-portfolio management among Kenyan commercial banks. The relatively low standard deviation indicates that this practice was applied consistently across the participating banks.

The use of customer and operational knowledge in service improvement recorded a mean of 4.07 and a standard deviation of 0.684. Respondents therefore agreed that banks used customer feedback, transaction information, service records, and operational experience to improve service delivery. Customer knowledge allows banks to identify service gaps, understand changing preferences, personalize products, and improve interactions across physical and digital service channels (Ngai, 2024). Its strong assessment indicates that knowledge application extended beyond internal control activities to customer-facing operations.

Product innovation guided by acquired knowledge recorded a mean of 3.95 and a standard deviation of 0.718. This result shows that the participating banks generally used knowledge obtained from customers, employees, competitors, market research, and technological developments when designing or modifying products. The finding agrees with Ode and Ayavoo (2020), who established that knowledge application enabled firms to convert knowledge-management practices into innovation outcomes. Knowledge application can therefore help banks align new products with customer requirements, market opportunities, emerging technologies, and regulatory expectations.

The use of available organizational knowledge in decision-support systems recorded a mean of 3.88 and a standard deviation of 0.762. Although the score remained high, it was lower than those for compliance, risk assessment, service improvement, and product innovation. This pattern suggests that some banks had not fully integrated organizational knowledge into formal analytical and decision-support platforms. Decision-support systems generate greater organizational value when they combine current information, historical records, employee expertise, and institutional experience to support managerial judgment (Alavi & Leidner, 2001).

Process improvement supported by lessons learned received the lowest mean score ($M = 3.84$, $SD = 0.795$). The result remained within the high category but indicates that banks were comparatively less consistent in translating lessons from completed projects, operational incidents, customer complaints, audits, and previous decisions into systematic process improvements. The higher standard deviation also points to greater variation among the participating institutions. Overall, knowledge application was strongly established, although commercial banks could improve the formal use of lessons learned and integrate available knowledge more consistently into decision-support and process-redesign systems.

4.3 Descriptive Analysis of Organizational Competence

Organizational competence was assessed through innovation capability, operational efficiency, responsiveness to customer needs, regulatory compliance, risk-management capability, and strategic adaptability. As shown in Table 3, organizational competence recorded a composite mean of 3.99 and a standard deviation of 0.710. The findings indicate that respondents generally considered their banks competent across the six dimensions. However, regulatory compliance and risk-management capability were more strongly established than operational efficiency and strategic adaptability.

Table 3: Descriptive Analysis of Organizational Competence

Statement	Mean	SD
The bank demonstrates strong innovation capability	3.94	0.724
The bank maintains a high level of operational efficiency	3.89	0.756
The bank responds effectively to customer needs	4.02	0.681
The bank demonstrates strong regulatory compliance	4.15	0.642
The bank demonstrates effective risk-management capability	4.08	0.667
The bank adapts its strategies to changing conditions	3.86	0.791
Composite mean/SD	3.99	0.710

Regulatory compliance recorded the highest mean score ($M = 4.15$, $SD = 0.642$). This result corresponds with the strong application of regulatory knowledge reported in Table 2. The consistency between the two results suggests that incorporating regulatory knowledge into decisions supported the banks' ability to meet supervisory and compliance requirements. Competence-Based Theory proposes that organizational resources create value when they are coordinated and applied through institutional systems and routines (Sanchez & Heene, 1997). In this case, the application of regulatory knowledge was reflected in a strong compliance capability.

Risk-management capability ranked second ($M = 4.08$, $SD = 0.667$). The result demonstrates that respondents generally perceived their banks as capable of identifying, evaluating, monitoring, and responding to banking risks. The finding also aligns with the strong assessment of knowledge application in risk evaluation. Applying stored knowledge from credit histories, previous incidents, audits, and market developments can strengthen risk assessment and portfolio monitoring (Nderitu, 2023).

Responsiveness to customer needs recorded a mean of 4.02 and a standard deviation of 0.681. This result indicates that the banks were generally capable of identifying and responding to changing customer expectations. The finding is consistent with the high rating assigned to the use of customer and operational knowledge in service improvement. Applying customer information allows banks to identify service problems, respond to complaints, personalize services, and adjust delivery channels to customer requirements (Ngai, 2024).

Innovation capability recorded a mean of 3.94 and a standard deviation of 0.724. The result indicates that respondents generally considered their banks capable of introducing or improving products, services, technologies, and operational processes. Applying knowledge obtained from customers, employees, competitors, and technology partners can strengthen the identification and implementation of innovation opportunities (Ode & Ayavoo, 2020).

Operational efficiency recorded a mean of 3.89 and a standard deviation of 0.756. Although the result was high, it was lower than the ratings for regulatory compliance, risk management, and customer responsiveness. This suggests that some banks still experienced differences in how effectively they transformed available knowledge into faster processes, better coordination, reduced errors, and improved resource utilization.

Strategic adaptability received the lowest mean score ($M = 3.86$, $SD = 0.791$). The result indicates that the participating banks were generally able to adjust their strategies to changing conditions, although this capability was less strongly developed than compliance and risk management. Strategic adaptability requires banks to interpret technological developments, regulatory changes, competitive pressures, and evolving customer expectations before translating the resulting knowledge into strategic action (Sanchez, 2004). Overall, organizational competence was highly assessed, but strategic adaptability and operational efficiency remained areas for improvement.

4.4 Pearson Correlation Analysis

Pearson product-moment correlation analysis was conducted to determine the direction and magnitude of the relationship between knowledge application and organizational competence. The results are presented in Table 4.

Table 4: Pearson Correlation Between Knowledge Application and Organizational Competence

Variable	Knowledge Application	Organizational Competence
Knowledge application: Pearson correlation	1	0.714**
Sig. (two-tailed)	—	< 0.001
Organizational competence: Pearson correlation	0.714**	1
Sig. (two-tailed)	< 0.001	—
N	180	180

*Note. *Correlation is significant at the 0.01 level (two-tailed).

Knowledge application had a strong, positive, and statistically significant relationship with organizational competence ($r = 0.714$, $p < 0.001$). This means that banks that more consistently applied knowledge in decision support, product innovation, service improvement, risk assessment, process improvement, and compliance decisions tended to report stronger

innovation, operational efficiency, customer responsiveness, compliance, risk management, and strategic adaptability.

The finding is consistent with Competence-Based Theory because it demonstrates that organizational competence is associated with the coordinated application of knowledge, skills, technologies, and managerial processes (Prahalad & Hamel, 1990; Sanchez & Heene, 1997). The result also supports Ode and Ayavoo (2020), who found that knowledge application translated knowledge-management practices into innovation outcomes. It further agrees with Ngai (2024), who associated knowledge application with innovation, service quality, decision-making, and organizational performance among Kenyan commercial banks.

Although the correlation demonstrates a strong association, it does not independently establish causation. The relationship may also be influenced by leadership, organizational culture, technology, employee competence, and the quality of other knowledge-management processes. Nevertheless, its magnitude shows that knowledge application was substantively associated with organizational competence.

4.5 Bivariate Linear Regression Analysis

Simple linear regression analysis was conducted to determine the effect of knowledge application on organizational competence and to test the study’s null hypothesis. Knowledge application was entered as the predictor variable, while organizational competence was entered as the dependent variable. The results are presented in Tables 5, 6, and 7.

Table 5: Model Summary for Knowledge Application and Organizational Competence

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.714	0.510	0.507	0.493

Dependent variable: Organizational competence.

Predictor: Knowledge application.

The results in Table 5 show that knowledge application had a strong positive relationship with organizational competence ($R = 0.714$). The R^2 value of 0.510 indicates that knowledge application explained 51.0% of the variation in organizational competence among commercial banks in Nairobi County. The remaining 49.0% was attributable to other factors not included in the bivariate regression model.

The adjusted R^2 value of 0.507 was close to the R^2 value of 0.510, indicating that the model retained substantial explanatory power after adjustment for sample size. The standard error of the estimate was 0.493, representing the average difference between the observed organizational-competence scores and those predicted by the regression model.

The ANOVA results presented in Table 6 were used to determine whether the regression model was statistically significant.

Table 6: ANOVA for Knowledge Application and Organizational Competence

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	44.758	1	44.758	185.250	< 0.001
Residual	43.002	178	0.242		
Total	87.760	179			

Dependent variable: Organizational competence.

Predictor: Knowledge application.

The ANOVA results show that the regression model was statistically significant, $F(1, 178) = 185.250$, $p < 0.001$. This finding indicates that knowledge application significantly predicted organizational competence and that the regression model provided a better prediction than an intercept-only model. Knowledge application was therefore an important explanatory factor in the organizational competence of commercial banks in Nairobi County.

The regression coefficients are presented in Table 7.

Table 7: Coefficients for Knowledge Application and Organizational Competence

Model	Unstandardized B	Std. Error	Standardized Beta	t	Sig.
Constant	0.984	0.222	—	4.432	< 0.001
Knowledge application	0.748	0.055	0.714	13.611	< 0.001

Dependent variable: Organizational competence.

The coefficient results show that knowledge application had a positive and statistically significant effect on organizational competence ($B = 0.748$, $SE = 0.055$, $\beta = 0.714$, $t = 13.611$, $p < 0.001$). The unstandardized coefficient indicates that a one-unit increase in knowledge application was associated with a predicted increase of 0.748 units in organizational competence. The standardized coefficient of 0.714 further demonstrates that knowledge application made a strong positive contribution to organizational competence.

The constant of 0.984 represents the predicted organizational competence score when the knowledge application score is zero. The coefficient of 0.748 represents the predicted change in organizational competence associated with a one-unit increase in knowledge application.

Since the probability value was below the 0.05 significance threshold, the null hypothesis that knowledge application has no statistically significant effect on organizational competence was rejected. The study therefore concluded that knowledge application positively and significantly influenced organizational competence among commercial banks in Nairobi County, Kenya.

The finding supports Grant’s (2020) argument that organizational knowledge creates value when it is purposefully integrated and applied in organizational activities. It also agrees with Mahboub and Ghanem (2024), who established that knowledge generated through artificial intelligence enhanced banking outcomes when applied in customer analytics, credit scoring,

and operational decision-making. Similarly, Ngai (2024) found that knowledge application strengthened innovation, service quality, decision-making, and organizational performance among Kenyan commercial banks.

Although knowledge application explained a substantial proportion of organizational competence, the unexplained 49.0% indicates that competence was also influenced by factors outside the model. These may include leadership, employee expertise, technological infrastructure, organizational culture, regulatory conditions, and other knowledge-management practices. Commercial banks should therefore strengthen knowledge application as part of an integrated knowledge-management framework that also supports knowledge acquisition, storage, and sharing.

5. Conclusion

The study established that knowledge application had a positive and statistically significant effect on organizational competence among commercial banks in Nairobi County, Kenya. Applying available knowledge strengthened banks' capacity to innovate, improve operational efficiency, respond to customers, comply with regulations, manage risks, and adapt strategically. Knowledge application explained 51.0% of the variation in organizational competence, leading to rejection of the null hypothesis.

Regulatory knowledge was most consistently applied, followed by stored knowledge in risk assessment and customer and operational knowledge in service improvement. Product innovation and decision support were also positively assessed. However, using lessons learned for process improvement was comparatively weaker, suggesting that banks did not always convert experience from projects, audits, complaints, and operational incidents into systematic improvements. The study concludes that acquiring, storing, and sharing knowledge creates potential value, but practical application transforms that knowledge into organizational competence.

6. Recommendations

Commercial-bank management should integrate organizational knowledge into decision-support, customer-relationship, credit-risk, operational, and compliance systems. Regulatory updates should be promptly translated into procedures and decision rules, while customer and operational data should guide product development, service improvement, and process redesign.

Banks should conduct structured after-action reviews, document lessons from audits, projects, incidents, and customer complaints, and assign responsibility for implementing agreed improvements. Cross-functional teams involving strategy, information technology, operations, risk, compliance, and customer-service departments should coordinate knowledge application.

Management should evaluate knowledge-management investments using indicators such as decision speed, error reduction, service quality, innovation outcomes, risk-detection effectiveness, and compliance performance. Employee training, accessible knowledge repositories, integrated digital platforms, and a culture supporting evidence-based decisions should complement these measures.

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