# Knowledge management practices and innovation in commercial banks in Kenya

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## ABSTRACT

The increasingly competitive environment has made organizations realize that knowledge is a key asset in enhancing innovation that is critical in achieving customer satisfaction and competitive advantage. This study sought to examine the effect of knowledge management practices on innovation in commercial banks in Kenya. Knowledge-based view theory guided the study. Explanatory research design and cross-sectional survey research design were adopted. The study employed a census survey of all 38 commercial banks in Kenya. Data was collected using a structured questionnaire. Descriptive statistics such as means and standard deviations were used to summarize the data. Pearson's correlation was used to examine the relationship between knowledge management practices and innovation. To test the research hypothesis, multiple regression analysis was used. The results revealed that commercial banks in Kenya practice knowledge management, as indicated by high mean scores for knowledge generation (mean = 4.28), knowledge sharing (mean = 4.34), knowledge storage (mean = 4.41), and knowledge application (mean = 4.49). The banks also practice innovation (mean = 4.31). Correlation analysis revealed positive and significant relationships between all aspects of knowledge management and innovation, with the strongest correlations observed for knowledge generation ($r = 0.616$, $p < 0.05$) and knowledge application ($r = 0.602$, $p < 0.05$). These results suggest that effective knowledge management is closely linked to innovation in Kenyan commercial banks. Regression analysis showed that all the knowledge management practices, namely knowledge generation ($\beta = 0.353$, $p < 0.05$), knowledge sharing ($\beta = 0.112$, $p < 0.05$), knowledge storage ($\beta = 0.095$, $p < 0.05$), and knowledge application ($\beta = 0.300$, $p < 0.05$), have a positive effect on innovation. Further, the ANOVA indicated that the effect of knowledge management practices on innovation is significant ($F = 4.953$, $p < 0.05$). This suggests that effective management of knowledge enhances the ability of banks to innovate. The study recommends that organizations ought to embrace effective knowledge management practices to enhance innovation and competitive advantage.

**Keywords:** Commercial Banks, Innovation, Kenya, Knowledge Management Practices

## I. INTRODUCTION

The business environment in which firms are currently operating in is characterized as volatile, uncertain, complex and ambiguous. Consequently, firms are supposed to innovate and improve their performance continuously in order to catch up with the market changes and be at par with the competitors (Brix, 2017). Organizations have realized that knowledge is the only asset they have to enable them to cope with the ever-dynamic business environment (Mutuku, 2014). Literature suggests that knowledge management practices influence innovation which in turn enhances customer satisfaction and firm competitiveness (Kiptalam et al., 2016). Innovation involves the discovery, experimentation, and development of new technologies, new products and/or services, new production processes, and new organizational structures. Innovation is about implementing new ideas. Innovation involves product, process, marketing and organizational innovations (Ganzer et al., 2017).

Product innovation is the most common form of innovation which refers to improvements in performance characteristics and attributes of the product (Wilson & Campbell, 2016). Product innovation implies changes in a product provided by the organization by using new or existing technologies. It also refers to the development and marketing of new products related to customer satisfaction (Sofiyabadi et al., 2020). Process innovation comprises of changes in the way in which new or improved products are created and delivered. It is the development of different ways of manufacturing and providing services (Soi, 2016). Process innovation is centered on improving the efficiency and effectiveness of the production process. Significant changes in techniques and equipment are part of process innovation, which intends to reduce production or distribution costs in order to improve the quality and distribution of products. Marketing innovation involves implementing new marketing methods to improve product design, packaging, placement, promotion, or pricing. It is about finding new ways to address customer needs, open new markets, or reposition a product in a way that increases sales (Ode & Ayavoo, 2020). Organizational innovation refers to the implementation of new organizational methods within a company, impacting business practices, workplace

organization, or external relations (Tavassoli & Karlsson, 2016). These can be organizational process innovations or product innovations, for instance new tools for measuring customer satisfaction or optimizing delivery processes to reduce costs (Muthami et al., 2016; Nam et al., 2017).

Knowledge can be defined as an evolving mix of framed experience, values, contextual information and expert insight that provide a framework for evaluating and incorporating new experiences and information (Brix, 2017). Knowledge management involves capturing an organization's know-how and know-what through creation, collection, storage, distribution, and application of information (Ongus et al., 2016). It thus means identifying and harnessing the collective knowledge of the organization gained through experience and competencies. Wilson and Campbell (2016) defined knowledge management as a systematic, organized, explicit and deliberate ongoing process of creating, disseminating, renewing, applying and updating the knowledge in order to realize the set objectives.

Knowledge generation is the process involving creating internal knowledge, and acquiring external knowledge (Brix, 2017). Firms with high innovation potential employ benchmarking to identify gaps and problems, and disseminate information for best practices for internal use, to effectively make change decisions (Ongus et al., 2016). Knowledge sharing, sometimes interchangeably referred to as knowledge transfer or dissemination, is the process of exchanging knowledge from a knowledge source to a knowledge recipient.

Knowledge storage is the process of recording knowledge and storing it in the repositories such as databases, archives and filing systems. Organizations that generate knowledge and learn, forget the newly developed knowledge or lose track of the generated knowledge hence, it is crucial to store, organize, refine, and make retrievable this organizational knowledge as part of an effective knowledge management system (Wawira, 2013).

Knowledge application is the process where the knowledge is turned into effective action. The use of knowledge ensures companies and individuals develop their core competencies. Mwihia (2008) argued that effective application of knowledge will help organizations to improve their efficiency and reduce costs, and organizations can achieve competitive advantage if they locate and apply the right kind of knowledge in the right form.

In Kenya, the banking sector comprises the Central Bank of Kenya, commercial banks, non-bank financial institutions, deposit-taking microfinances and forex bureaus, both locally and foreign owned. Performance in the banking industry is affected by a number of environmental factors both micro and macro, and they significantly influence business strategies in the industry. Commercial banks need to develop strategies such as innovation that will enable them to grow and survive in the competitive environment (Central Bank of Kenya, 2024). One key way of ensuring this is by adopting effective knowledge management practices. Commercial banks are expected to manage knowledge as a resource to enhance innovation and improve performance. In search for competitiveness, banks have embraced innovations such as agent banking, which enables them to offer services to their customers by engaging the services of third party outlets.

### 1.1 Statement of the Problem

In the rapidly changing and competitive nature of the business environment, innovation has become one of the most important elements for survival. Firms are increasingly adopting innovation to enhance customer satisfaction and overall performance in the competitive environment. Effective knowledge management practices are crucial in generating new insights to enhance innovation, customer satisfaction and performance (Mardani et al., 2018; Simanaviciene et al., 2021). Literature suggests that one of the key drivers of innovation is knowledge, hence the need to adopt appropriate knowledge management practices that enhance innovation.

Competition in the Kenyan banking industry is stiff and the industry is highly changing with the passing of time (Central Bank of Kenya, 2024). Banks must find a way of surviving and succeeding in the competitive environment through appropriate knowledge management practices to enhance innovation by developing new products, new processes, and new markets for products as well as synchronizing organizational structures.

Various studies have been conducted to examine the influence of knowledge management practices on innovation (Abdi et al., 2018; Bawa et al., 2023; Cristache et al., 2025; Garcia-Piqueres et al., 2019; Mardani, et al., 2018; Mutinda, 2017; Kiptalam et al., 2016; Simanaviciene at al., 2021; Thang & Tuan, 2020). However, these studies have largely adopted a limited conceptualization of knowledge management practices in terms of knowledge acquisition and dissemination. The studies have given scanty attention on the aspects of knowledge storage and knowledge application. Further, these prior studies have not examined the collective effect of all aspects of knowledge management practices on innovation in a single study. Thus, this study adopted an integrative perspective to examine the effect of knowledge management practices on innovation in commercial banks in Kenya.

### 1.2 Research Objective

The objective of this study was to establish the effect of knowledge management practices on innovation in commercial banks in Kenya.

### 1.3 Research Hypothesis

$H_1$: Knowledge management practices have a positive effect on innovation.

## II. LITERATURE REVIEW

### 2.1 Theoretical Review

In this study, knowledge-based view theory (KBV) was used as the theorectical background. KBV is an extension of the resource-based view theory of the firm that considers knowledge as the most important strategic resource of the firm for competitiveness (Fu, 2022). This theory presents that the major determinants of sustained competitive advantage and superior performance are knowledge-based resources that are socially complex and difficult to imitate (Leal-rodríguez et al., 2013). The theory proposes that an enterprise should act as intelligently as possible to secure its capability through effective knowledge management practices and position the firm for long-term success through innovation.

According to KBV, knowledge is one of the special strategic resources that does not lose value in the way traditional economic productive factors do. Most knowledge-based resources are mainly intangible and dynamic, thus allowing for idiosyncratic development through path dependency and causal ambiguity (Silvia & Rajshekhar, 2019). KBV argues that knowledge is the key resource in new value creation, heterogeneity and competitive advantage. Knowledge-based resources are difficult to imitate, transmit and have social complexities hence making an organization achieve sustainable knowledge-based competitive edge.

The essence of knowledge management regarding innovation is that it delivers a framework for organizations in their endeavour to develop and improve their capability to innovate. If knowledge management as an intangible asset is implemented effectively in different levels of the organization, it leads to some unique capabilities and capacities which in turn lead to superior performance through innovation (Kull & Mena, 2016).

In the current study, the knowledge-based view is adopted in appreciating the value of knowledge in contributing to innovation which will in turn lead to firm competitiveness. The theory creates understanding of how applying knowledge management in innovation can significantly enable an organization to enhance its performance, achieve strategic goals and hence create competitive advantage in the information era (Olayinka & Nkemdilim, 2018).

### 2.2 Empirical Review

Knowledge is deemed to be a strategic resource; and the capability of organizations to generate, share, store and apply it can be used to achieve innovation that will in turn lead to competitive advantage and superior performance. Rahimi et al. (2018) argue that effective knowledge management will lead to innovation, and organizations that quickly capture and implement new knowledge are able to foster innovation compared to those that do not focus on knowledge management. Similary, Ngoc-tan and Gregar (2018) contended that knowledge management has an influence on innovation in academic settings and with innovation, an organization is able to enhance performance by engaging in knowledge management activities.

Various studies have examined the relationship between knowledge management and innovation. Cristache et al. (2025) examined how knowledge management processes of knowledge creation, integration, implementation, and sharing affect innovation and organizational performance of large enterprises in Romania. The findings indicated that organizations with strong knowledge creation and sharing processes have a significantly higher likelihood of achieving superior innovation outcomes. Other studies examining the relationship between knowledge management processes and innovation (Mardani, et al., 2018; Garcia-Piqueres et al., 2019; Simanaviciene et al., 2021; Thang &Tuan, 2020; Bawa et al., 2023) have demonstrated a positive relationship between knowledge management and innovation.

A study by Abdi et al. (2018) examining the direct and indirect effect of organizational culture, knowledge management and organizational learning on innovation in Automotive Industry in Iran revealed that knowledge management was a significant mechanism to enhance innovation and corporate performance. The results confirmed that there is a significant and positive relationship between knowledge management and innovation. However, the study examined knowledge management in terms of knowledge creation, dissemination and storage. Applying organizational learning as a mediating variable in their research that evaluated the effect of knowledge management on organizational innovation, Nouri et al. (2017) established that there is a positive effect of knowledge management and organizational learning on innovation. Besides, the analysis returned a positive relationship between organizational learning and innovation thus, the conclusion that learning mediates the relationship between knowledge management and organizational innovation. Another study investigating the impact of knowledge management on organizational innovation by Chibuzor et al. (2019) at Camila Oil Ltd, Nigerian oil industry, showed that knowledge acquisition, application, and sharing have a significant effect on organizational and process innovation. The study concluded that given the dynamic nature of the business environment characterized by radical and continuous

changes, investment in knowledge management and innovation by a firm is crititical in creating sustainable competitive advantage.

Ononye and Igwe (2019) conducted a study in 12 state-owned public enterprises in Southern Nigeria to investigate the relationship between sharing of knowledge and innovation. The study found that knowledge sharing positively contributes to innovation performance. Nawab et al. (2015) did research that examined the mediating effect of innovation in the link between knowledge management and business management across SMEs in Rwanda. Using a cross-sectional survey and quantitative methodological approaches the results showed that knowledge management practices which are knowledge creation, knowledge sharing and knowledge utilization have an impact on the banking industry by contributing to enhance innovation. A study by Mutinda (2017) to examine knowledge management and innovation among Commercial Banks in Kenya, revealed that knowledge creation and dissemination had a positive effect on the banks' innovativeness.

The studies that have explored the effect of knowledge management practices on innovation have not examined the effect of all the dimensions of knowledge management on innovation. Most of these studies focused only on knowledge creation and knowledge dissemination as dimensions of knowledge management with scanty attention on knowledge storage and knowledge application. Thus, the current research bridges this gap by examining the integrative effect of knowledge generation, knowledge sharing, knowledge storage and knowledge application on innovation within the context of commercial banks in Kenya.

## III. METHODOLOGY

### 3.1 Research Design

This study employed an explanatory research design as it sought to determine cause and effect relationships between knowledge management practices and innovation. The study also adopted a census and cross-sectional survey since data was collected from all the commercial banks at a single period in time.

### 3.2 Study Population

The population in this study comprised commercial banks in Kenya. According to Central Bank of Kenya, there were 38 commercial banks registered in Kenya as at August 2024 (Central Bank of Kenya, 2024). Given the small number of the banks, the study adopted a census survey.

### 3.3 Data Collection

This study used primary data, which was collected using a questionnaire. The questionnaire contained closed ended questions on a five-point Likert scale. Respondents were asked to express their perceptions regarding adoption of the aspects of knowledge management practices and innovation in the organizations. The unit of analysis was the firm, hence the study targeted one respondent from each of the 38 commercial banks. The respondents included the executive officers in the banks who are deemed to have an understanding of knowledge management practices and innovation in the organizations.

### 3.4 Measurement of Variables

Building on the literature review, knowledge management was conceptualized in terms of knowledge generation, knowledge sharing, knowledge storage and knowledge application. A questionnaire, comprising four dimensions of knowledge management practices and their related items was designed. Knowledge management practices indicators consists of knowledge generation items adopted from Rahimi et al. (2008), knowledge sharing items adopted from Ngoc-tan and Gregar (2008) and Awaja et al. (2018), knowledge storage items of measurement borrowed from Taraszewski (2017) and Donate et al. (2015), and knowledge application items adopted from Papademetriou and Masouras (2015). Using a Likert-type scale, the respondents indicated the extent to which they agreed or disagreed with each of the statements on knowledge management practices ranging from 1 (strongly disagree) to 5 (strongly agree).

The dependent variable (innovation) was also operationalized in four dimensions, that is, product innovation whose items were adopted from Polder et al. (2010), process innovation drawn from Sofiyabadi et al. (2020), marketing innovation as conceptualized by Lundell and Varga (2021) and organizational innovation (Chausset & Namara, 2014; Demircioglu, 2016). In measuring innovation, a Likert-type scale was used; respondents were required to indicate the extent to which they agreed or disagreed with each of the statements on innovation ranging from 1 (strongly disagree) to 5 (strongly agree).

### 3.5 Validity and Reliability Analysis

Validity assessment was carried out to determine the appropriateness and structure of the research instrument. The assessment of validity of the research instrument was done through the guidance of academic staff at the Faculty of Commerce, Egerton University.

To assess reliability of the research instrument, Cronbach's alpha coefficient was used. Nunnally and Bernstein (1994) recommended a minimum acceptable reliability coefficient of 0.7. Thus, a threshold of 0.7 was used to assess reliability.

### 3.6 Data Analysis

Descriptive statistics, that is mean and standard deviation were employed to describe the research variables. Pearson correlation analysis was used to assess how knowledge management strategies are related with innovation. To test the research hypothesis $H_1$, which stated that knowledge management practices have a positive effect on innovation, the following multiple regression model was used:

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \varepsilon$$

Where: Y = Innovation, $\beta_0$ = constant, $\beta_1$ - $\beta_4$ = regression coefficients, $x_1$ = knowledge generation, $x_2$ = knowledge sharing, $x_3$ = knowledge storage, $x_4$ = knowledge application, Ɛ= Error term

## IV. FINDINGS & DISCUSSION

### 4.1 Response Rate

To collect data for this study, questionnaires were distributed to 38 commercial banks. After follow-ups, questionnaires from 33 companies were completed and returned, which constituted a response rate of 86.8 percent. This response rate was considered good as suggested by Bryman and Bell (2007).

### 4.2 Descriptive Statistics for Study Variables

The study examined the dimensions of knowledge management practices and innovation in the organizations. This was done using means and standard deviations.

#### 4.2.1 Descriptive Statistics for Knowledge Generation

The study examined knowledge generation in the commercial banks. Respondents were asked to indicate the extent to which they agreed that each of the statements on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree), described their firms. The results are presented in Table 1.

**Table 1**

*Descriptive Statistics for Knowledge Generation*

| Statement | Mean | STD |
|---|---|---|
| The bank has a system for generating and acquiring knowledge from sources like competitors, employees, business partners and customers | 4.36 | .895 |
| The bank undertakes benchmarking with the best industry knowledge generation practices | 4.36 | .929 |
| The bank sends employees for external trainings on knowledge generation | 4.15 | 1.149 |
| The bank invests in research & development designed for knowledge generation | 4.36 | 1.025 |
| The bank has tasked certain employees to identify best knowledge generation practices in the industry and share with management | 4.18 | .983 |
| **Overall Mean** | **4.28** | |

**N = 33**

As shown in Table 1, the overall mean for knowledge generation was 4.28. The responses on all the items indicate high mean scores and low standard deviations. These results indicate that the respondents agreed with the statements in regard to knowledge generation. The results were interpreted to mean that the firms practice knowledge generation to a great extent. The results show that the commercial banks generate knowledge through creation of systems for generating and acquiring knowledge from sources like competitors, employees, business partners, and customers (Mean = 4.36, Std. Dev. = 0.895), benchmarking with the best industry knowledge generation practices (Mean = 4.36, Std. Dev. = 0.929), sending employees for external trainings on knowledge generation (Mean = 4.15, Std. Dev. 1.149), investing in research and development designed for knowledge generation (Mean= 4.36, Std. Dev. = 1.025), and tasking certain employees to identify best knowledge generation practices in the industry and share with management (Mean = 4.18, Std. Dev. = 0.983).

### 4.2.2 Descriptive Statistics for Knowledge Sharing

The study examined knowledge sharing in the firms. This was done using means and standard deviations. The results are presented in Table 2.

**Table 2**

*Descriptive Statistics for Knowledge Sharing*

| Statement | Mean | STD |
|---|---|---|
| The bank has a formalized knowledge sharing processes | 4.52 | .755 |
| The bank holds training sessions and conferences often for employees on knowledge sharing | 4.76 | .614 |
| The bank releases relevant reports and information on time to the employees and other relevant institutions | 4.55 | .833 |
| Knowledge sharing infrastructure and equipment (inter-net and intranet) is easily available to all employees | 4.76 | .502 |
| New employees are assigned mentors to help them on personal work and accelerate their learning | 4.00 | 1.225 |
| Employees are encouraged to share past failures and successes as required | 3.61 | 1.171 |
| Employees hold brainstorming sessions to come up with suggestions for solving problems in order to improve cur-rent organizational policies | 4.15 | .939 |
| **Overall Mean** | **4.34** | |

**N = 33**

The results in Table 2, show that the overall mean for the items on knowledge sharing is 4.34. The high mean scores for knowledge sharing items were interpreted to mean that the firms practice knowledge sharing to a great extent. The results reveal that knowledge sharing in the firms is done through formalized knowledge sharing processes (Mean = 4.52, Std. Dev. = 0.755), training sessions and conferences for employees on knowledge sharing (Mean = 4.76, Std. Dev. = 0.614). Also, the bank releases relevant reports and information on time to the employees and other relevant institutions (Mean = 4.55, Std. Dev. = 0.833), and ensuring easy availability of knowledge sharing infrastructure and equipment (internet and intranet) to all employees (Mean = 4.76, Std. Dev. = 0.502). The findings suggest that commercial banks in Kenya are well aware of the critical role knowledge sharing plays in achieving organizational outcomes.

### 4.2.3 Descriptive Statistics for Knowledge Storage

Knowledge storage in the banks was assessed on a five-point Likert scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree). The data was analyzed using means and standard deviations. The results are presented in Table 3.

**Table 3**

*Descriptive Statistics for Knowledge Storage*

| Statements | Mean | STD |
|---|---|---|
| Knowledge is kept in databases/repositories | 4.45 | .833 |
| The bank has knowledge storage and access procedures manual | 4.30 | 1.212 |
| The bank has established knowledge archival systems | 4.58 | .708 |
| Documenting lesson learned from assignment is required in the bank | 4.18 | .983 |
| The bank has secure knowledge storage mechanism | 4.52 | .795 |
| **Grand Mean** | **4.41** | |

**N = 33**

The findings in Table 3 show that the overall mean for knowledge storage is 4.41. This demonstrates that commercial banks in Kenya practice knowledge storage to a great extent. The respondents agreed that knowledge is kept in databases/repositories (Mean = 4.45, Std. Dev. = 0.833). It was also revealed that the banks have knowledge storage and access procedures manual (Mean = 4.30, Std. Dev. = 1.212); and the banks have established knowledge archival systems (Mean = 4.58, Std. Dev. = 0.708). Further, documentation of lessons learned from assignment is in the banks (Mean = 4.18, Std. Dev. = 0.983); and there is a secure knowledge storage mechanism in the banks (Mean = 4.52, Std. Dev. = 0.795). By maintaining a well organized and accessible knowledge base, banks can make better decisions, preserve institutional knowledge, ensure consistency, and leverage data to stay competitive in a rapidly changing financial landscape.

### 4.2.4 Descriptive Statistics for Knowledge Application

Knowledge application in the commercial banks in Kenya was analysed using means and standard deviations. Table 4 presents the results.

**Table 4**

*Descriptive Statistics for Knowledge Application*

| Statement | Mean | STD |
|---|---|---|
| Bank leadership has pioneered and driven knowledge management adoption and use | 4.48 | .834 |
| The bank makes management decisions based on information | 4.39 | .788 |
| The bank has structured manner of ensuring knowledge management application in daily operations | 4.55 | .905 |
| The bank uses information technology to enhance knowledge application | 4.58 | .751 |
| Our bank uses knowledge acquired to design new products and services | 4.45 | .833 |
| **Grand Mean** | **4.49** | |

**N = 33**

The results depicted in Table 4 indicate that bank leadership has pioneered and driven knowledge management adoption and use (Mean = 4.48, Std. Dev. = 0.834). The banks make management decisions based on information (Mean= 4.39, SD= 0.788). The respondents further agreed that the banks have structured manner of ensuring knowledge management application in daily operations (Mean = 4.55, Std. Dev. = 0.905). The results show that the banks use information technology to enhance knowledge application (Mean = 4.58, Std. Dev. = 0.751). Respondents also agreed that the banks uses knowledge acquired to design new products and services (Mean = 4.45, Std. Dev. = 0.833). The overall mean for all the items for knowledge application is 4.49. The results demonstrate that the firms apply knowledge.

### 4.2.5 Descriptive Statistics for Innovation

The study examined innovation in the commercial banks in Kenya. Respondents were asked to indicate the extent to which they agreed that each of the statements on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree), described their firms with regard to the dimensions of innovation. Table 5 presents the results of the analysis.

**Table 5**

*Descriptive Statistics for Innovation*

| Statements | Mean | STD |
|---|---|---|
| **Product Innovation** | **4.33** | |
| There is improved quality of new products compared to current ones | 4.27 | .761 |
| The bank improves existing products and services leading to improved ease of use and customer satisfaction | 4.24 | .561 |
| The bank develops new products with technical specifications and features differing from the current ones | 4.19 | .792 |
| The bank has increased product variety | 4.39 | .747 |
| The bank has tailored bank product | 4.55 | .711 |
| **Process Innovation** | **4.33** | |
| Our bank has determined and eliminated non-value activities in delivery related processes | 4.21 | .893 |
| Our bank has decreased variable cost in logistic related processes | 4.45 | .754 |
| Our bank adopts advanced real-time process control technology thereby increasing delivery speed | 4.36 | .859 |
| Our bank has increased process output quality | 4.24 | .902 |
| The bank has renewed the production and quality management systems | 4.39 | .788 |
| Our bank optimizes process cost on a continuous basis in providing services | 4.30 | .728 |
| Our bank constantly updates methods for upgrading current services and techniques for designing new ones | 4.33 | .777 |
| **Marketing Innovation** | **4.35** | |
| Our bank uses both existing and new platforms to reach our customers | 4.76 | .502 |
| Our bank has made changes to the existing products and services channels to stay competitive in the market | 4.45 | .754 |
| Our bank uses both digital and published media to advertise our products and services | 3.97 | .961 |
| Our bank adapts new marketing strategies to maintain and acquire new customers | 4.36 | .742 |
| Changes in the business environment influence our marketing strategy(ies) | 4.21 | .820 |
| Organizational Innovation | **4.23** | |
| The bank allows the opportunity to employees to influence decisions that are made within the organization | 3.82 | 1.158 |
| The bank has renewed/improved the organization structure to facilitate coordination between different functions such as marketing and finance | 4.21 | .960 |
| The bank has renewed/improved the routines, procedures and processes employed to execute firm activities in innovative manner. | 4.42 | .708 |
| The bank encourages employees to give ideas towards improvement | 4.46 | .603 |
| **Overall Mean** | **4.31** | |

**N = 33**

The results in Table 5, shows that the overall mean for the dimensions of innovation is 4.31. The high mean scores for innovation items were interpreted to mean that the firms practice innovation to a great extent. The results reveal that the commercial banks practice all the aspects of innovation, namely product innovation (Mean = 4.33), process innovation (Mean = 4.33), marketing innovation (Mean = 4.35) and organizational innovation (4.23) to a great extent. The results suggest that the firms recognize the importance of innovation in achieving customer satisfaction and competitive advantage.

### 4.3 Correlation Analysis

The study examined the relationship between knowledge management practices and innovation. This was examined using Pearson's correlation analysis. Table 6 presents the findings.

**Table 6**

*Correlation Matrix for Knowledge Management Practices and Innovation*

| | Knowledge generation | Knowledge sharing | Knowledge storage | Knowledge application | Innovation |
|---|---|---|---|---|---|
| Knowledge generation | 1 | | | | |
| Knowledge sharing | .796** | 1 | | | |
| Knowledge storage | .748** | .735 | 1 | | |
| Knowledge application | .816** | .684** | .657** | 1 | |
| Innovation | .616** | .528** | .448** | .602** | 1 |

The results in Table 6 reveal a positive and significant correlation between knowledge generation and innovation ($r = 0.616$, $p < 0.05$). The study also found positive and significant correlation between knowledge sharing and innovation ($r = 0.528$, $p < 0.05$). There was also a positive and significant correlation between knowledge storage and innovation ($r = 0.448$, $p < 0.05$). The results also indicate a positive and significant relationship between knowledge application and innovation ($r = 0.602$, $p < 0.05$).

### 4.3 Test of Hypothesis

The study sought to examine the effect of knowledge management practices on innovation in commercial banks in Kenya. It was hypotheisized that knowledge management practices have a positive effect on innovation. To test the hypothesis, multiple regression analysis was performed. The results are presented on Table 7.

**Table 7**

*Multiple Regression Results for Effect of Knowledge Management Practices on Innovation*

| Model Summary | | | | |
|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .644[a] | .414 | .331 | .44280 |

| ANOVA[a] | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 3.885 | 4 | .971 | 4.953 | .004[b] |
| | Residual | 5.490 | 28 | .196 | | |
| | Total | 9.375 | 32 | | | |

| Coefficients[a] | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.521 | .608 | | 2.502 | .018 |
| | Knowledge generation | .232 | .207 | .353 | 1.120 | .002 |
| | Knowledege sharing | .097 | .221 | .112 | .438 | .035 |
| | Knowledge storage | .071 | .174 | .095 | .407 | .017 |
| | Knowledge application | .225 | .189 | .300 | 1.191 | .044 |

a. Dependent Variable: Innovation

b. Predictors: (Constant), Knowledge application, Knowledge storage, Knowledege sharing, Knowledge generation

The results in Table 7 indicate that knowledge management practices (knowledge generation, knowledge storage, knowledge sharing, and knowledge application) accounted for 41.4% of the variation in innovation (R Square = 0.414).

The ANOVA results show that the effect of knowledge management practices on innovation was statistically significant ($F = 4.953$, $p < 0.05$). Hence, the research hypothesis was supported. Thus, it is concluded that knowledge management practices have a positive and significant effect on innovation.

All the four dimensions of knowledge management practices, knowledge generation, sharing, storage, and application, have a positive and significant effect on innovation. Knowledge generation ($\beta = 0.353$, $t = 1.120$, $p < 0.05$) and knowledge application ($\beta = 0.300$, $t = 1.191$, $p < 0.05$) show greater effect on innovation, suggesting that banks that focus on creating and utilizing knowledge are likely to be more innovative. Although knowledge sharing ($\beta = 0.112$, $t = 0.438$, $p < 0.05$) and knowledge storage ($\beta = 0.095$, $t = 0.407$, $p < 0.05$) also have a positive and significant effect on innovation, their effect is relatively smaller.

The results of this study demonstrate that knowledge management practices, namely knowledge creation, knowledge sharing, knowledge storage and knowledge utilization have a positive and significant effect on innovation. These findings are consistent with the findings of the study by Cristache et al. (2025) that found that knowledge creation and sharing significantly influenced innovation; and a study by Simanaviciene that found that knowledge generation has a positive correlation with organizational innovation. The findings of this study also support the findings of studies by Mardani et al. (2018), Garzia-Piqueres et al. (2019), Thang and Tuan (2020), and Bawa et al. (2023) that found that knowledge creation, knowledge integration, and knowledge application facilitate innovation and performance. Thus, this study confirms prior arguments and empirical findings that knowledge management processes have positive effect on innovation outcomes.

## V. CONCLUSION & RECOMMENDATIONS

### 5.1 Conclusion

The overall objective of this study was to establish the effect of knowledge management practices on innovation in commercial banks in Kenya. From the findings of this study, it was established that knowledge management practices have a positive and significant effect on innovation. The findings demonstrate that effective management of knowledge processes enhances the ability of banks to innovate. Specifically, knowledge generation, knowledge storage, knowledege sharing, and knowledge application enhance innovation.

### 5.2 Recommendations

The findings of this study reveal that knowledge management practices have a positive effect on innovation. The findings have managerial implications. To enhance innovation and responsiveness to the changes in the dynamic environment, organizations should create systems required for effective knowledge management. This may include generating and acquiring knowledge from sources such as competitors, employees, business partners and customers; benchmarking with the best industry knowledge generation practices, and sending employees for external trainings on knowledge generation, research and development, and benchmarking. The firms also need to develop effective systems and processes for storing and sharing knowledge, and efficiently practice knowledge application to foster innovation.

The findings contribute to knowledge-based view by confirming a positive effect of knowledge management practices on innovation. The study emphasizes that as knowledge is created and disseminated throughout the firm, there is the potential to contribute to the firm's innovation. The study should be replicated in other sectors and other countries. Such replication could further determine whether the results of this study can be generalized to other sectors or countries with different contextual conditions. This will enhance understanding of the relationship between knowledge management practices and innovation in different contexts.

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