
**Uptake of Digital Product Innovations on Financial Performance of
Commercial Banks in Kenya**

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Abstract

Product digital innovations are key drivers for differentiation, revenue growth, and competitiveness within the banking sector. In Kenyan banking sector, since 2013, strategic advancements have led to the adoption of digital platforms for service delivery, significantly affecting the industry landscape. The study aimed to investigate the effect of digital product innovations on financial outcomes and the moderating role of government policies in this relationship guided by Evolutionary Theory of Economic Change. Using a descriptive study design, data was collected from 315 employees across 39 commercial banks, employing structured questionnaires for primary data and industry reports for secondary data. Statistical analysis, including regression models, was conducted to test the hypothesis that digital product innovations have no significant impact on financial performance. Key findings indicate that product innovations such as mobile banking solutions and e-wallets have led to improved customer satisfaction and market relevance. However, challenges such as leadership and organizational culture, financial constraints, and regulatory compliance were identified as barriers to effective product development. The study concluded that while there is a statistically significant correlation between digital product innovations and financial performance, the variability explained by innovations on return on equity (ROE) is moderate ($R^2 = 42.6\%$). The research highlights the importance of continuous innovation and strategic alignment to enhance performance. Banks that prioritize customer-centric approaches and agile development processes are more successful in driving digital product uptake. Further, commercial banks can invest in Greentech products, enhance digital literacy on digital wallets and personalized finance management tools, adopt optimal resource allocation and invest in innovation labs with elaborate digital system to increase product survival rates and cuts on costs. It also emphasized the role of government policies as a significant factor influencing the financial outcomes of banks,

suggesting that understanding and leveraging these policies can lead to improved profitability. The study recommends that bank managers foster a culture of innovation, address product differentiation strategies, and optimize resources to overcome challenges in product innovation. By doing so, commercial banks can harness the potential of digital innovations to improve financial performance and maintain a competitive edge in the dynamic banking environment of Kenya.

Keywords: digital innovations, product innovations, financial performance, digital wallets, Greentech products and regulatory frameworks.

1.0 Introduction

An organization's innovation is defined as the implementation of a new or considerably better product or process in business operations (OECD, 2005; Amidjaya & Widagdo, 2020). Innovation, which involves the effective application of information and ideas, must be cost-effective and replicable using available digital platforms (Naqshbandi & Singh, 2015). Globally, product innovation in banking sector involves creating and enhancing financial services to meet evolving customer needs. In USA, Mobile banking, digital wallets, and peer-to-peer lending platforms enable commercial banks to diversify their products for a tech-savvy clientele, promoting financial inclusion (Gartenberg et al., 2019). On the other hand, many developed countries in Europe and Asian such as Netherlands, France, New Zealand, Germany, Canada, Japan, Spain, and Italy use diverse Qamruzzaman and Jianguo (2017) advocate for holistic financial solutions, including non-financial services like insurance and wealth management, to meet customer needs. Regulatory compliance ensures trust and integrity. Sorum (2020) emphasizes that innovation drives differentiation, revenue growth, and competitiveness, while continuous innovation ensures customer satisfaction, market relevance, and sustained growth (Schulz-Knappe et al., 2019).

Robin et al. (2018) suggest that developing innovative banking products involves introducing goods or services that are tailored or significantly enhanced to meet evolving customer needs. Redman (2021) argues for digital products to improve efficiency, speed, ease of use, and accessibility. Commercial banks innovate by enhancing internet banking, upgrading security features like queue systems and ATM functionalities, and introducing numerous mobile banking features for better performance. Digital product innovations encompass ATMs, debit cards, credit cards, self-directed IRA accounts, linked certificates of deposits, and money market deposits (Roseline et al., 2021). As a result, Karabulut (2015) forecasts a 15% annual growth in retail banking in Sub-Saharan Africa until 2023, driven by an expanding middle class and product innovation and technological advancements, reflecting increased demand for banking services.

Gupta et al. (2023) posits that organisations are exposed to macroeconomic and geopolitical risks, including economic downturns, currency volatility, inflation, and political instability. Uncertainty and instability in the operating environment can affect consumer confidence, investment decisions, and loan quality, impacting banks' financial performance and risk profiles. However, in Kenya since 2013, strategic advancements have had a significant impact on the

adoption of digital innovations and alternative digital platforms for service delivery in Kenyan commercial banks (Ndung'u, 2019), resulting in the emergence of new products such as mobile banking solutions, e-wallets, and broadened online banking avenues. According to Roseline et al. (2021), rapid technological advancements and changing consumer preferences are driving significant disruption in the banking industry in Kenya. Commercial banks face challenges in adapting to technological changes, integrating digital solutions into their operations, and competing with fintech startups and non-bank players. Banks must embrace innovation, invest in digital transformation initiatives, and enhance their agility to thrive in the evolving digital landscape (Kholi, &Melville, 2019; Roseline et al.,2021; Rehman,2021).

The objective of the study was to investigate the effect of uptake of digital product innovations on financial performance of commercial banks in Kenya. In analyzing quantitative data, the aim of the study is realized; thus, enabling testing of the hypothesis that uptake of digital product innovations has no significant influence on financial performance of commercial banks in Kenya. Decision making on which product innovation is made was not out of scope and were therefore not investigated in this study. The study mainly focused on perspectives of uptake and effectiveness from the user point of view(employees). It was guided by Nelson and Winter (1961) Evolutionary Theory of Economic Change in which it suggests that for firms to realize higher returns on investments there is need to continually develop new products, provide high quality services and leverage on product differentiation by embracing dynamic changes in the strategies employed on services to offer as the case of Commercial banks of Kenya.

Statement of The Problem

Over the span of years, the global banking sector has witnessed rapid progression towards digital innovations (Hoxha et al.,2020). Uptake of digital innovations has become imperious in Kenyan banking sector to enhance operational efficiency, customer experience and improve overall performance. According to GMSA (2020) 83% of Kenyan population have access to mobile application solution, from various financial service providers. Despite the momentous benefits associated with digital innovations, a gap persists in realizing the precise influence of digital product innovations on financial performance of commercial banks (Misati et al.,2019). The gap is further aggravated by lack of extensive empirical studies, that methodically assess the relationship between key variables such as product innovations and financial performance of commercial banks within the context of digital innovations in Kenyan banking sector (Roseline et al., 2021). Maneuvering the ever-changing government policies poses a daunting challenge as industry seek to balance innovation and compliancy hence dampen the zeal of commercial banks to embosom transformative digital initiatives (Rao,2021). Commercial Banks in Kenya have introduced a slew of digital products and services aimed at meeting the emerging needs of customers. However, the extent to which these digital products contribute to revenue generation remains inconclusive (Misati et al.,2019; Vitorino, 2020). Exploring strategies to overcome these barriers and foster a culture of innovation within commercial banks is paramount to realizing the full potential of digital transformation. Few attempts like study done by Ndungu and Muturi (2019) on this subject of digital innovations have mainly focused on the linkages between financial innovation and financial inclusion and the implications of financial innovation on monetary policy transmission; without considering the effectiveness of business process, product

or organization innovations as the primary channel through which digital innovation impacts organizational performance. The purpose of this study was to assess the effect of the uptake of digital innovation on the performance of commercial banks in Kenya, geared towards providing actionable recommendations and strategies that can antecede for a more expeditious and successful digital transformation in the Kenyan commercial banking sector.

Research Objectives

- (i) To investigate the effect of uptake of digital product innovations on financial performance of commercial banks in Kenya.
- (ii) To assess the moderating effect of government policy on the relationship between uptake of digital innovations and financial performance of commercial banks in Kenya.

Research Hypotheses

H₀1: Uptake of digital product innovations has no significant influence on financial performance of commercial banks in Kenya.

H₀2: There is no significant moderating effect of government policy on the relationship between uptake of digital innovations and financial performance of commercial banks in Kenya.

2.0 Literature Review

Empirical review: Product Innovation on Financial Performance of Commercial Banks

According to Johne (2018) and Rikap (2021), product innovation refers to changes that improve design, materials, feel, look, capacity, functionality, and overall user experience, hence having a ripple effect on the firm's performance or, generally, return on equity (ROE). Adner and Zemsky (2016) note that banks innovate to introduce entirely new products catering to specific customer segments or addressing market gaps. This could include innovative savings accounts, digital wallets, or customized lending options. Additionally, banks upgrade existing products by adding features, functionalities, or benefits based on customer feedback and market trends. Liu and Atuahene-Gima's (2018) study in China delves into how competitive strategies and market-based assets bolster product innovation amidst dysfunctional competition. Analyzing responses from 282 Chinese high-tech managers, the study highlights the efficacy of cost leadership, customer focus, and creative marketing in fostering innovation, whereas differentiation and competitor focus yield lesser impact. It advises prioritizing cost leadership, customer-centricity, and innovative marketing to combat dysfunctional competition. However, the study's industry-specific focus on China may limit broader applicability, lacking details on specific violations or exploring collaborative innovation avenues.

In Africa, Aniuga and Ogba (2021) conducted a study in Nigeria on "Product Innovation and Customer Satisfaction in Nigeria Brewery Industry," focusing on Star Lager Beer consumers in the South-East and quality improvement. Employing a survey design, data was gathered from 280 respondents using questionnaires. Descriptive statistics and Pearson's correlation tested hypotheses, while multiple regression analysis examined others with SPSS. Results indicated significant links between product quality and repurchase intent, and product packaging and repurchase intent. However, findings on product brand name's relationship with repurchase intent and product packaging with customer loyalty were inconclusive. The study recommends Nigerian Breweries Plc. to prioritize improving product quality to enhance customer satisfaction. Millan et al. (2023) focused on mobile banking technology's influence on loan performance in

Mombasa County's deposit-taking savings and credit cooperative organizations (DT SACCOs). Utilizing a descriptive approach and regression analysis, they found mobile banking positively affects loan processes, suggesting DT SACCOs should embrace digital innovations to enhance loan performance and competitiveness. While specific to Mombasa County, these findings underscore the broader trend towards digitalization in financial services, urging institutions to adapt to meet evolving customer needs and improve operational efficiency

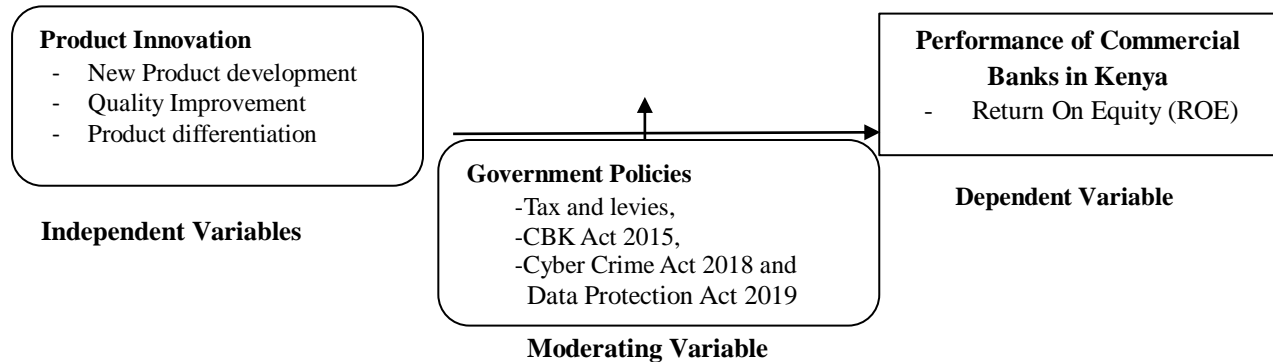


Figure 1: Conceptual Framework

3.0 Materials and Methods

The material and methods used in this study were formed through researched methodology. The research methodology is outlined, detailing the steps taken to achieve the study's objectives. The methodology encompasses research philosophy, design, target population, sampling techniques, sample size, pilot study, and data analysis. Research methodology is defined as a comprehensive collection of methods that, when combined, help gather statistics and results aligned with the research goals (Creswell & Poth, 2015). The approach in this study describes how the research was conducted, providing a systematic framework for understanding the methods used. Research philosophy plays a crucial role in shaping the research process, influencing data collection, analysis, and usage (Shrikant, 2019). It reflects the beliefs guiding researchers, forming the foundation of the methods and design employed (Antwi & Hamza, 2015).

3.1 Research Philosophy

The study was based on the positivist worldview, which values empirical observation and the scientific process (Vitorino, 2020). Positivism promotes objectivity and impartiality, with the goal of generalizing and making predictions based on observable facts (Alita et al., 2019; Shrikant, 2019). This approach is consistent with the quantitative and qualitative methodologies utilized in this study, notably the descriptive research design, which enables statistical analysis to validate research questions (Johne, 2018).

3.2 Target Population

The research investigation concentrates on employees from 39 Kenyan commercial banks, including top management and subordinate officers, for a total of 1,470 participants. Data collection was concentrated in Nairobi, where all banks have their headquarters, ensuring a thorough representation of the banking sector throughout the country. The sample frame

employed in this study is based on sampling units that encompass all resident components (Cai et al., 2021; Antwi & Hamza, 2015).

3.3 Sampling Procedure and Sample Size

A stratified random sampling approach guaranteed that samples were representative of each management level (Shrestha, 2020). The sample size, estimated using Slovin's method, was 315 respondents (McGaghie et al., 2015). Sampling involves the systematic selection of individuals or objects from a larger population to ensure that the chosen sample accurately represents the characteristics of the entire population (Alita et al., 2019). The accuracy of the sampling frame is critical as it determines the extent to which research findings can be generalized (Cai et al., 2021). In this study, stratified random sampling was employed, categorizing respondents into distinct groups such as senior management, supervisory management, and junior officers. Each category formed a stratum, from which participants were randomly selected to ensure proportional representation across different organizational levels (Kesmodel, 2018; George & Mallery, 2019). This method not only facilitated equitable representation but also enabled objective comparisons across hierarchical levels within the commercial banks in Kenya. The emphasis on senior management was particularly significant due to their influential role in shaping bank policies and decision-making processes, thereby impacting strategic adoption throughout the organization.

In this study, Slovin's formula was applied to calculate the number of employees participating in structured questionnaires and ensure adequate representation across the stratified groups. Slovan's (1960) formula is indicated as follows: -

$$n = \frac{N}{1+Ne^2} \dots\dots\dots (1)$$

Where: -

n = The Required Sample Size

N=Population size

e = margin of error the study is ready to accept ±5%

This was translated to come up with the sample size in the table 1 below:

Table 1: Sample size

Target Group	Sampling Size	Percentage (%)
Senior Management	73	23
Supervisory Management	88	28
Junior Officers	154	49
Total	315	100

3.3.2 Measures and Covariates

The study employed several measures and covariates to capture and control for relevant variables affecting the relationship between digital product innovations and financial performance within

Kenyan commercial banks. Key measures included: (a) Digital Product Innovations: This variable encompassed various innovations such as mobile banking solutions, e-wallets, and other digital financial services introduced by the banks. (b) Financial Performance Metrics: These metrics included but were not limited to return on equity (ROE), profitability ratios, and market share growth, serving as indicators of the banks' financial health and performance. (c) Government Policies: Covariates included specific policies and regulations imposed by the Kenyan government affecting banking operations and digital innovations. These measures and covariates were meticulously selected to provide a comprehensive assessment of the factors influencing digital product innovations' impact on financial performance within the Kenyan banking sector. The inclusion of covariates aimed to control for potential confounding variables and enhance the study's validity and reliability in drawing conclusions about the studied relationships.

3.3.3 Research Design

The study employed a descriptive research design, facilitating cross-sectional analysis of data from 39 commercial banks in Kenya. This approach allowed for correlation and comparison of variables, essential for examining the impact of digital product innovations on financial performance (Kesmodel, 2018). Data collection involved structured questionnaires to ensure confidentiality and minimize bias among the 1,470 employees targeted across various management levels (Cai et al., 2021). Questionnaire sections covered demographic information and specific variables, following a pilot study to ensure reliability and validity, with a Cronbach's alpha of at least 0.7 indicating acceptable reliability (Shrestha, 2020). Validity was further ensured through content and face validity checks (Drost, 2011).

3.5 Data Collection and Analysis

Data was collected using structured questionnaires, which facilitated efficient data gathering and ensured respondent confidentiality from these primary sources, reason being they are the ones implementing or using these digital innovations (Cai et al., 2021), and just supplemented by secondary data to give weight. The questionnaires included closed-ended and Likert scale questions to gather both quantitative and qualitative data. A pilot study at Kingdom Bank tested the research instruments for reliability and validity, with adjustments made based on feedback (Shrikant, 2019). Reliability was assessed using Cronbach's alpha, with a threshold of 0.7 indicating acceptable reliability (Shrestha, 2020). Data analysis involved coding, cleaning, and processing using SPSS version 26. Descriptive statistics, ANOVA, and Pearson's correlation were used to analyze the data (George & Mallery, 2019). Diagnostic tests for heteroscedasticity and normality ensured the robustness of the findings (Hernandez, 2021). Panel linear regression model was used with $P < 0.05$. The model was tested for linearity, normality, heteroscedasticity and multicollinearity. Quantitative data were analyzed using SPSS version 26, where descriptive statistics such as factor loading, mean and standard deviations were computed, while regression analysis was used to test the hypothesis.

The simple model took the form:

$$Y_i = \beta_{0i} + \beta_{1i} X_i + \epsilon_i \text{ then;}$$

Panel model with the moderating variable was fitted;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 M + \varepsilon$$

Where, β_0 =Constant $\beta_1,$ are regression coefficients corresponding to the independent variables, X_1 = independent variable digital product innovations M = moderating variable; government policy ε = is the error term.

4.0 Results and Discussion

Table 2: Uptake of Digital Product Innovation

Category	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	40	15.4	15.4	15.4
Strongly Agree	37	14.2	14.2	29.6
Neutral	42	16.2	16.2	45.8
Disagree	81	31.2	31.2	76.9
Strongly Disagree	60	23.1	23.1	100.0
Total	260	100.0	100.0	

Table above shows the results in response to “Uptake of strategic digital product innovations has no significant influence on the performance of commercial banks in Kenya.” Those who agreed or strongly agreed were at 40 (15.4%) and 37 (14.2%) percent, respectively. On the other hand, those who disagreed and strongly disagreed were at 81 (31.2%) and 60 (23.1%), respectively. This study therefore established that the majority of the respondents indeed disagreed with the statement in question about whether product innovation has no significant influence on the performance of commercial banks. To put it another way, the respondent agreed that product innovation has a lot of influence on the performance of commercial banks.

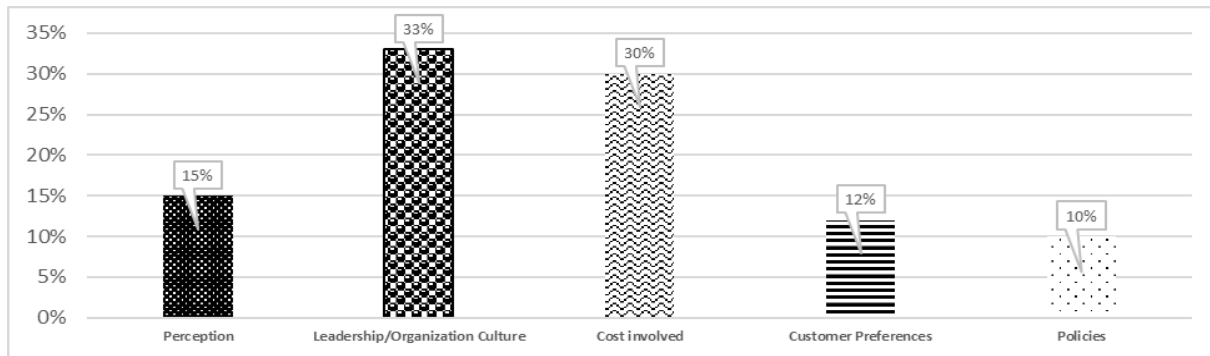


Figure 2: Hindrances on Product Development in Commercial Banks

The data in the above figure indicates that leadership and organizational culture are the commonly cited factors hindering new product development, with 32.7% of respondents selecting this option. This suggests that the leadership style, management practices, and cultural norms within the firm may not sufficiently support or prioritize innovation initiatives. Nearly one-third (30.4%) of respondents identified cost as a significant hindrance to new product

development. This implies that financial constraints, budget limitations, or concerns about return on investment (ROI) may impede the firm's ability to allocate resources effectively towards developing new products. While not as highly ranked as leadership or cost, customer preferences are still considered a notable obstacle by 12.3% of respondents. The findings agree with Bustinza et al. (2019) who posits that bank managers should pay attention to customer needs, preferences, and market trends when developing new products to ensure alignment with customer expectations and maximize market acceptance.

Table 3: Item Statistics under Product Innovation

Category	Mean	Std. Deviation	N
The firm offers wide range of products to its customers	2.46	1.301	260
The bank uptake development of new products to cater for changing and evolving needs of customers	2.47	1.365	260
The bank undertakes market survey to identify the needs of its customers	2.65	1.245	260
The banks ensures quality management in the products and services provided.	2.65	1.245	260
Product differentiation in this bank has not been identified.	2.46	1.301	260
Average Score	2.538	1.291	

Table above depicts the result analysis of all items based on product innovation and measured through the use of means and standard deviation. The outputted result shows that the means score of all the items ranges from 2.46 to 2.65 and the SD from 1.245 to 1.365. Consequently, the researcher established that the firm offers a wide range of products to its customers with a mean of 2.46, and product differentiation in this bank has not been identified with a mean of 2.46. This means that even if the firm offers a range of products to its customers, the product differentiation strategy has not been well established. Bank managers should pay attention to this disparity between the perception of product range and product differentiation. Offering a wide range of products is beneficial, but without effective differentiation, it may be challenging to stand out in the market and meet customer needs effectively. Bank managers should address any discrepancies between the perception of product range and product differentiation, develop strategies to enhance product differentiation, and address resistance to digital innovations to ensure the diverse range of products effectively meets customer needs and stands out in the competitive market.

Challenges of Products Innovations in Commercial Banks

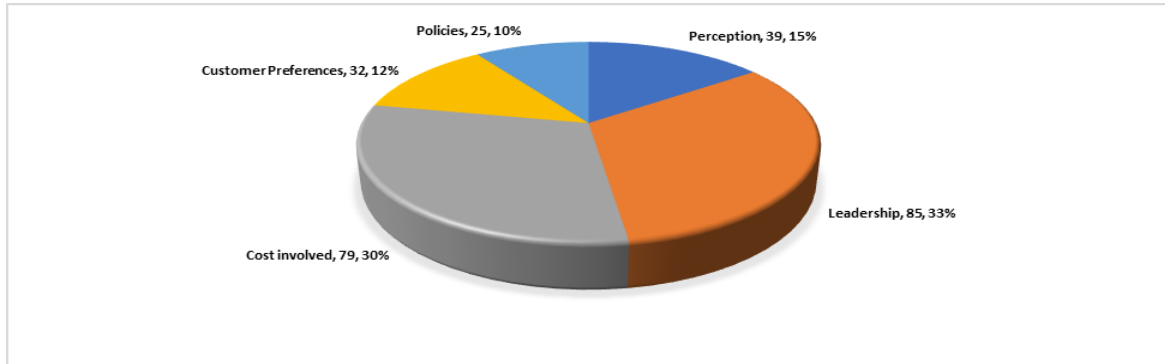


Figure 3: Challenges of Product Innovation

Leadership challenges are the most cited obstacle (32.7%), indicating the importance of effective leadership in product innovation. Nearly one-third (30.4%) of respondents identified cost as a significant challenge, implying financial constraints and concerns about ROI hinder innovation efforts and the ability to bring new products to market. Perception-related challenges are cited by 15.0% of respondents, indicating that negative perceptions about the firm's innovation capabilities, brand reputation, or market positioning can hinder product acceptance. Customer preferences are noted by 12.3%, highlighting the importance of aligning new products with customer expectations. Policies are a barrier for 9.6%, referring to internal or regulatory constraints. This study aligns with Odhiambo and Ngaba (2019) and recommends that bank managers address product innovation challenges by fostering a culture of innovation, aligning leadership with innovation objectives, optimizing resources, enhancing stakeholder perceptions, and streamlining policies. Overcoming these challenges can lead to a more innovative and competitive organization, driving sustained growth (Olalere et al., 2021).

Moderating Effect of Government Policies on Financial Performance of Commercial Banks

Table 4: Item Statistics on Government Policies

Category	Mean	Std. Deviation	N
Return on Equity(Dependent Variable)	2.59	1.474	260
Tax and Levies	2.73	1.319	260
Cyber Crime Act 2018	2.59	1.345	260
Data Protection Act 2019	2.81	1.341	260
CBK Act 2015	2.46	1.301	260
Average Score	2.636	1.356	

Table above shows the moderating effect of government policies on the dependent variable return on equity. The mean score ranged from 2.46 for the for the CBK Act 2015 and (b) the Cyber Crime Act 2018 to a mean score of 2.81, which touched on the Data Protection Act 2019. In the case of the Data Protection Act 2019 with a mean score of 2.81, the majority of respondents strongly agreed at 60% and disagreed at 20% that the policy had a moderating effect on return to equity, while the same happened to the Banking Act 2015, which had 60% strongly

agreeing and 30% disagreeing that the policy had a moderating effect on return to equity, which was the dependent variable in this study.

Performance of Commercial Banks

Return on Equity

The study sought to find out whether commercial banks had improved its performance in terms of profitability in relation to innovations or uptake of digital innovation in the last 5 years. Majority of the respondents said that they disagreed at 32%, and the majority agreed or strongly agreed at 59%, while those who were neutral were at 10%. From secondary data analysis of profitability of banks between 2018-2022 showed that the overall average ROE across all banks for the given years stands at 10%, reflecting the sector's profitability and efficiency during this period. This measure demonstrates how effectively banks are utilizing shareholders' equity. Notably, some banks exhibit higher average ROE, indicating superior profitability and efficient equity usage, while others show lower figures. This study therefore established that many were in agreement that, due to the uptake of innovation, there was high performance by the commercial banks but not to the desired levels, since most of the innovations have challenges in use and application. For bank managers, this data underscores the importance of embracing and investing in innovative strategies, particularly those related to digital transformation, as a means to enhance the financial performance and competitiveness of their institutions. It suggests that banks that effectively leverage innovations are more likely to achieve improved profitability and ROE compared to those that do not prioritize innovation initiatives.

Regression Results

Regression Model Results on Uptake of Digital Product Innovation to Performance of Commercial Banks

Table 5: Regression Coefficient of Product Innovation

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	.762	.085		8.948	.000	.594	.929					
Product	.623	.045	.653	13.841	.000	.535	.712	.653	.653	.653	1.000	1.000

a. Dependent Variable: ROE

Table 6: Model Summary of Product Innovation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change	Durbin-Watson
						F Change	df1	df2		
	.653 ^a	.426	.424	.64941	.426	191.579	1	258	.000	.159

a. Predictors: (Constant), Product

b. Dependent Variable: ROE

Table 7: Hypothesis Test on Product Innovation

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	80.794	1	80.794	191.579	.000 ^b
Residual	108.806	258	.422		
Total	189.600	259			

a. Dependent Variable: ROE

b. Predictors: (Constant), Product

Table 5 presents the results of a regression analysis where the dependent variable is "Return on Equity" (ROE) and the independent variable is "Product Innovations. The $p < 0.0001$ indicate that that product innovation significantly and positively influences returns on equity. Specifically, on average, for every unit increase in product innovations the return on equity is predicted to rise by 0.762. The standardized coefficient (Beta = 0.653) suggests that product innovations are predictor of return on equity.

The predicted model coefficient for product innovation took the form:

$$Y = \beta_0 + \beta_1 X_2 + \varepsilon ,$$

$$Y = 0.762 + 0.653 X_2 + \varepsilon$$

Table 6 shows that 0.426(42.6%) variation in product innovation causes variations in returns in equity. This implies that though product innovations are correlated to ROE, they do not explain much of the variability with ROE. Table 7 on one-way ANOVA, shows that the regression is significant for use in the study. Sig.0001 is < F-Value 191.579, which means that the hypothesis is rejected. Therefore, product innovation has moderate and significant influence on the performance of commercial banks.

Regression on Moderating Effect of Government Policies to Financial Performance of Commercial Banks

Table 8 shows the regression coefficient of moderating effect of government Policies and its effect on the performance of commercial bank.

Table 8: Regression Coefficient of Moderating Effect of Government Policies

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error				Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	.394	.059		6.620	.000	.277	.511					
Government	.795	.030	.857	26.661	.000	.736	.854	.857	.857	.857	1.000	1.000

a. Dependent Variable: ROE

Table 9: Model Summary of Moderating Effect of Government Policies

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change	Durbin-Watson
						F Change	df1	df2		
	.857 ^a	.734	.733	.44239	.734	710.789	1	258	.000	.571

a. Predictors: (Constant), Government

b. Dependent Variable: ROE

Table 10: Hypothesis Test on Moderating Effect of Government Policies

Model	ANOVA					Sig.
	Sum of Squares	df	Mean Square	F		
Regression	139.107	1	139.107	710.789	.000 ^b	
Residual	50.493	258	.196			
Total	189.600	259				

a. Dependent Variable: ROE

b. Predictors: (Constant), Government

Table 8 presents the results of a regression analysis where the dependent variable is "Return on Equity" (ROE) and the moderating effect of government policy. The p value indicates that moderating effect of government policy significantly and positively influences returns on equity. Specifically, on average, for every unit increase in the moderating effect of government policy, the return on equity is predicted to rise by 0.857. The standardized coefficient (Beta = 0.857) suggests that moderating effect of government policy are predictors of return on equity. As a result, bank management should pay attention to government policies and regulations, since they can have a significant influence on the bank's return on equity. Understanding and perhaps utilizing these rules might result in improved financial performance. This research sheds light on the significance of government policy as a driver of bank profitability. However, the predicted model coefficient was predicted in the form:

$$Y = \beta_0 + \beta_1 M + \varepsilon ,$$

Table 9 shows that 0.734(73%) variation in moderating effect of government policies causes variations in returns in equity. Table 10 shows a that the regression on moderating effect of government policy is significant with Sig.0001 is < F-Value 710.789 which means that the hypothesis is rejected. Therefore, moderating effect of government policy has a positive and significant influence on the financial performance of commercial banks

5.0 Conclusions

The study concluded that there was a statistically significant and moderate correlation of digital product innovation and performance commercial banks in Kenya. The study showed that though product innovations are positively correlated, they do not explain much of the variability with ROE (R2 =42. 6%).This study found several factors that play a crucial role in shaping the uptake decisions of digital product innovations such as market demand, internal organization capabilities and strategic priorities. The understanding of this fact of the matter by these banks has led them to invest in product innovations by developing wide range of new products in order to handle the emerging demands of customers such as mobile banking apps, digital wallets, and a

personalized financial management tool. Differentiation strategy on innovated products has not been developed in most banks, since most banks leverage the same digital products as other financial service providers. This impacts negatively on financial performance. As a result of implementing new products commercial banks have accomplished various milestones such as repeat clientele, growing their brand, and executing their marketing strategy. Credit products are least digitalized in all commercial banks, yet the products are the main source of business, impacting moderately on their return on Equity. Banks that prioritize customer-centrality, agile development processes and collaboration with fintech partners tend to be more successful in driving digital products. Product innovations may lead to increase in expenses without balanced gains hence affecting (ROE). Bank managers need to evaluate risks associated with investing in product innovation and weigh this against potential benefits, they need to determine the optimal allocation of resources through strategic planning, across all types of innovations to maximize on ROE.

6.0 Recommendations

The study recommends that products innovation is noble idea, but focusing on cost benefits of products should be encouraged, leaders need to develop means in which perception of customers need to be dealt with. Prioritize customer centricity when developing new products to ensure quality is communicated to customers. Product quality and differentiation can be achieved through green technology(GreenTech)where products or practices that significantly reduce negative environmental impacts such as emissions, pollutants, and waste are encouraged. Commercial Banks in Kenya can invest in Innovation labs to test new products developed to increase survival rates of the products when it has been introduced in the market. Promotion of digital literacy among consumers on digital product innovations such digital wallets and personalized financial management tools to increase client base. Commercial banks develop an elaborate digital system to cut costs when undertaking product innovations, by not relying on third party service providers who may be more expensive in the long-run.

Multifaceted government policies and regulatory constraints around Cyber security risks and Data privacy concerns limits the banks' ability to meet evolving expectations of their tech-savvy clientele who are always vulnerable to fraud. They to a great extent hamper seamless uptake of digital innovations hence the insignificance to ROE. Data must be well-defined, structured and organized to be useful for analysis and decision making. Commercial banks can leverage application of Big Data and Data analytics, Biometric technology and cloud computing to enhance customer data protection as a regulatory requirement.

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