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**Ecosystem Banking and Financial Performance of Listed Commercial Banks in Kenya:
Empirical Evidence from Sustainable Financial Innovations**

Duncan Owino Sino, Dr. Edwins Baraza and Dr. Fronica Monari

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Empirical Evidence from Sustainable Financial
Innovations**



¹*Duncan Owino Sino

Jaramogi Oginga Odinga University of Science and
Technology



²Dr. Edwins Baraza

Senior Lecturer, Department of Accounting and
Finance, School of Business and Economics,
Jaramogi Oginga Odinga University of Science and
Technology, Kenya



³Dr. Fronica Monari

Senior Lecturer, Department of Tourism and
Management Sciences, School of Business and
Economics, Jaramogi Oginga Odinga University of
Science and Technology, Kenya

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Abstract

Purpose: The purpose of this study was to examine the influence of ecosystem banking on the financial performance of commercial banks listed on the Nairobi Securities Exchange (NSE). It aims to determine how ecosystem integration through partnerships with FinTech firms and digital platforms affects banks' profitability and sustainability.

Methodology: Adopting a positivist research philosophy and explanatory design, the study utilized secondary data from annual financial reports and sustainability disclosures of 11 listed commercial banks covering the period 2021–2023. Descriptive statistics, correlation, and multiple regression analyses were employed to assess the relationship between ecosystem banking and financial performance, measured by Return on Equity (ROE).

Findings: The regression results revealed a negative but statistically significant relationship ($\beta = -0.895$, $p = 0.016$), indicating that ecosystem banking initially constrains profitability due to high technological and integration costs. Nonetheless, long-term benefits such as improved efficiency, innovation, and customer reach outweigh these short-term effects.

Unique Contribution to Theory, Practice and Policy:

The study recommends that commercial banks adopt phased digital transformation strategies and strengthen governance frameworks to enhance oversight of ecosystem partnerships. Regulators should formulate comprehensive digital finance policies that foster innovation while safeguarding consumer protection and systemic stability.

Keywords: *Ecosystem Banking, Financial Performance, FinTech Integration, Digital Innovation, Sustainable Finance, Kenya*

JEL Classification: G21, Q56, M41

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INTRODUCTION

The rapid rise of digital ecosystems has transformed how financial institutions operate, shifting from traditional branch-based models to collaborative networks driven by technology and strategic partnerships. Ecosystem banking enables banks to integrate with FinTech firms, telecommunications companies, and digital service providers to improve accessibility, efficiency, and the customer experience. In Kenya, the adoption of mobile banking, agency banking, and open banking platforms has accelerated this shift, making ecosystem banking a vital part of sustainable financial innovation.

Despite the potential of ecosystem banking, concerns remain about its impact on profitability. Evidence from listed commercial banks on the Nairobi Securities Exchange shows that while digital integration has improved service delivery and financial inclusion, short-term profitability has been inconsistent due to high initial costs in technology infrastructure, data systems, and compliance. This raises the research question: whether ecosystem banking enhances or limits financial performance among Kenya's listed commercial banks. The limited empirical evidence on this relationship highlights a significant gap in understanding how digital partnerships and innovation spread affect bank profitability and long-term value.

Objective of the Study

To establish the effect of ecosystem banking on the performance of listed commercial banks in Kenya's Nairobi Securities Exchange.

Research Hypothesis

H₀: Ecosystem banking has no significant influence on the performance of the commercial banks listed on the Nairobi Securities Exchange, Kenya.

Alternative Hypothesis

H₁: Ecosystem banking has a significant influence on the performance of listed commercial banks in the Nairobi Securities Exchange, Kenya.

LITERATURE REVIEW

Theoretical Framework

This study is anchored on two foundational theories: the Diffusion of Innovation Theory (DOI) and the Transaction Cost Theory (TCT). The DOI, originally advanced by Rogers (1962) and later expanded in his updated work (Rogers, 2003), explains how new ideas and technologies spread within social systems over time. In the context of digital finance and ecosystem banking, the updated DOI framework emphasizes the roles of communication networks, technological readiness, and perceived compatibility in determining the rate of innovation adoption. These constructs are relevant to the adoption of ecosystem partnerships and digital collaborations by commercial banks, where diffusion depends on institutional capability, regulatory alignment, and market receptiveness.

The Transaction Cost Theory, first developed by Coase (1937) and later refined by Williamson (1985), provides the economic rationale for firm boundaries and partnership decisions. Williamson's adaptation broadened the theory's scope by introducing governance structures, asset specificity, and uncertainty as key determinants of efficient organizational arrangements. Within the digital finance landscape, these extensions are particularly applicable to ecosystem banking, where banks partner with FinTechs, telecoms, and other digital actors to minimize transaction, coordination, and compliance costs. Thus, both the updated DOI and contemporary

TCT perspectives jointly explain not only the adoption of ecosystem banking innovations but also the efficiency and performance outcomes associated with strategic collaboration in dynamic digital environments.

Conceptual Framework Diagram: Ecosystem Banking → Financial Performance (Moderated by Governance)]

Empirical Review

The empirical literature is synthesised thematically to provide a deeper understanding of the relationship between ecosystem banking, governance, and financial performance.

Theme 1: Ecosystem Integration and Profitability Outcomes

Several studies, including Rahman et al. (2023), Ravikumar (2021), and Siran (2017), explored how digital ecosystem integration affects bank profitability across regions. Their findings indicate that while ecosystem adoption fosters innovation and customer engagement, its financial impact may not be immediate due to initial integration costs. However, over time, ecosystem banking contributes to sustained profitability and market competitiveness.

Theme 2: Governance and Cost Implications

Governance mechanisms significantly shape the financial success of ecosystem-based banking models. Research by Pomegbe et al. (2022) and Yusuf and Mohamed (2020) demonstrates that effective governance enhances coordination efficiency and cost control, translating to improved performance outcomes. Weak governance, however, may increase transaction costs and operational risks, limiting profitability.

Theme 3: Contextual Moderating Factors (Regulation and Technology Maturity)

The relationship between ecosystem banking and financial performance is moderated by contextual variables such as regulatory frameworks and technological readiness. Studies from Malaysia, Kenya, and India show that markets with robust regulatory support and mature technological infrastructure exhibit more positive relationships, while those with weaker institutional environments face challenges in realizing the full benefits of ecosystem integration..

Research Gaps and Emerging Hypotheses

A review of existing studies on financial innovation and ecosystem banking in Kenya reveals several conceptual, contextual, methodological, and theoretical gaps. While earlier research has extensively explored financial innovation, mobile banking, and product diversification (e.g., Gitau, 2011; Mwawasaa & Ali, 2020; Mangwa & Jagongo, 2022), most studies have not isolated the ecosystem dimension—defined by collaborative partnerships among banks, FinTechs, and other non-bank actors. This omission constitutes a conceptual gap, leaving uncertain how such ecosystems affect profitability measures like Return on Equity (ROE).

Institutional reports from the Central Bank of Kenya (2021), Kenya Bankers Association (2020), and Capital Markets Authority (2021) highlight significant growth in digital and FinTech collaborations but offer limited empirical analysis of how these partnerships translate into firm-level financial performance. This reveals a contextual gap, especially regarding how governance and cost-efficiency mechanisms shape outcomes within Kenya's evolving regulatory environment.

Methodologically, many prior studies have relied on cross-sectional or descriptive designs, providing little understanding of the dynamic and long-term impacts of ecosystem adoption. For instance, Siran (2017) focused on outsourcing efficiency, while Rahman et al. (2023) and Ravikumar (2021) analyzed AI and inclusion in Asian contexts—offering limited applicability to Kenya’s hybrid FinTech–bank ecosystem. This creates a methodological gap, necessitating longitudinal and inferential approaches using current data from Kenyan listed banks.

From a theoretical standpoint, existing studies have inadequately applied modern interpretations of the Diffusion of Innovation Theory (Rogers, 2003) and Transaction Cost Theory (Williamson, 1985) to ecosystem banking. The present study, therefore, integrates these frameworks to examine how innovation diffusion and transaction efficiency jointly influence financial performance, addressing the critical gaps in context, theory, and empirical validation.

METHODOLOGY

This study adopted a positivist research philosophy and explanatory design. The target population comprised 11 commercial banks listed on the Nairobi Securities Exchange as of 2023. Secondary data were sourced from annual financial reports and sustainability disclosures. Financial performance was measured by Return on Equity (ROE), while ecosystem banking was assessed through metrics such as Technology adoption and integration - Investment in digital platforms. Data analysis employed SPSS (version 25), with regression and correlation analyses conducted to determine relationships among variables. While this census approach was appropriate given the manageable population size, it is acknowledged that the relatively small number of observations may limit the statistical power of inferential analysis. Consequently, the findings, though indicative of the relationships between ecosystem banking and financial performance, should be interpreted with caution. The results mainly reflect the context of Kenya’s listed commercial banks and may not necessarily generalize to the wider banking sector or other jurisdictions. Future studies incorporating broader samples or cross-country comparisons are recommended to enhance statistical robustness and external validity.

Table 1: Operationalisation of Variables

Variable	Indicator	Measurement	Data Source
Ecosystem Banking (Independent)	Technology adoption and integration	Investment in digital platforms	Bank Sustainability Reports
Financial Performance (Dependent)	Return on Equity (ROE)	Net Income / Shareholders’ Equity	Audited Financial Statements
Corporate Governance (Moderating)	Board Board structure and composition	Percentage of women on the board	Corporate Governance Disclosures

RESULTS AND DISCUSSION

The regression analysis revealed a positive but statistically insignificant relationship between ecosystem banking and financial performance ($\beta = 0.114$, $p = 0.103$). This finding indicates that while ecosystem integration enhances operational efficiency and innovation capacity, its immediate profitability impact remains modest. Diagnostic tests for normality,

multicollinearity, heteroscedasticity, and linearity confirmed the validity of the regression model and the reliability of the inferential statistics.

The results align with the Diffusion of Innovation Theory (DOI), which asserts that innovation adoption progresses gradually through sequential stages of awareness, trial, and institutional acceptance. This pattern is evident among listed commercial banks in Kenya, which continue to invest in digital partnerships despite short-term cost implications. The findings also correspond with the Transaction Cost Theory (TCT), which posits that collaborative arrangements and outsourcing may initially increase coordination and compliance costs before producing efficiency gains. Hence, ecosystem banking's benefits are more likely to materialize in the medium to long term as institutions optimize digital processes and partnership governance frameworks. These insights reinforce the theoretical assertion that sustainable financial performance emerges from strategic, long-term innovation diffusion rather than rapid adoption alone.

Descriptive analysis revealed that Kenyan listed banks have significantly invested in ecosystem integration, averaging a digital investment of KES 4.6 billion between 2021 and 2023. Details of the same were as below:-

Ecosystem Banking and Financial Performance

The results of the descriptive analysis of statements on ecosystem banking are presented in Figure 1. According to the findings, Absa Kenya Bank invested 1.6 billion KES in digital initiatives in 2021, 2 billion KES in 2022, and 4 billion KES in 2023, representing an increment of 25% in 2022 and 100% in 2023, respectively. Additionally, Stanbic Bank invested 25.5 billion KES in digital initiatives in 2021, 31.9 billion KES in 2022, and 39.9 billion KES in 2023, representing an upward trend of 25% both in 2022 and 2023.

Furthermore, KCB Bank invested 46 billion KES in digital initiatives in 2021, 57.5 billion KES in 2022, and 65.4 billion KES in 2023, representing an upward trend of 25% and 14% in 2022 and 2023, respectively. Standard Chartered Bank invested 7.9 billion KES in digital initiatives in 2021, 27.65 billion KES in 2022, and 69.12 billion KES in 2023, representing an increase of 250% in 2022 and 150% in 2023.

Equity Bank invested 5.92 billion KES in digital initiatives in 2021, 7.1 billion KES in 2022, and 8.5 billion KES in 2023, representing a 20% increase in both 2022 and 2023. Lastly, Cooperative Bank of Kenya invested 207 million KES in digital initiatives in 2021, 2.17 billion in 2022, and 3.8 billion in 2023, representing an increment of 950% in 2022 and 75% in 2023, respectively.

It is also noteworthy that in 2021, KCB had the highest investment in digital initiatives, followed by Stanbic Bank, Standard Chartered Bank, Equity Bank, Absa Bank and Cooperative Bank, respectively. Additionally, KCB had the highest investment in 2022, followed by Stanbic Bank, Standard Chartered Bank, Equity Bank, Cooperative Bank, and Absa Bank, respectively. Lastly, Standard Chartered Bank had the highest investment in digital initiatives in 2023, followed by KCB, Stanbic Bank, Equity Bank, Absa Bank, and Cooperative Bank, respectively.

The above findings indicate that there has been a steady improvement in the adoption of Ecosystem banking by the banks in the period under review. This reflects the growing acceptance of ecosystem banking as a key aspect of sustainable financial innovations in the Kenyan banking sector.

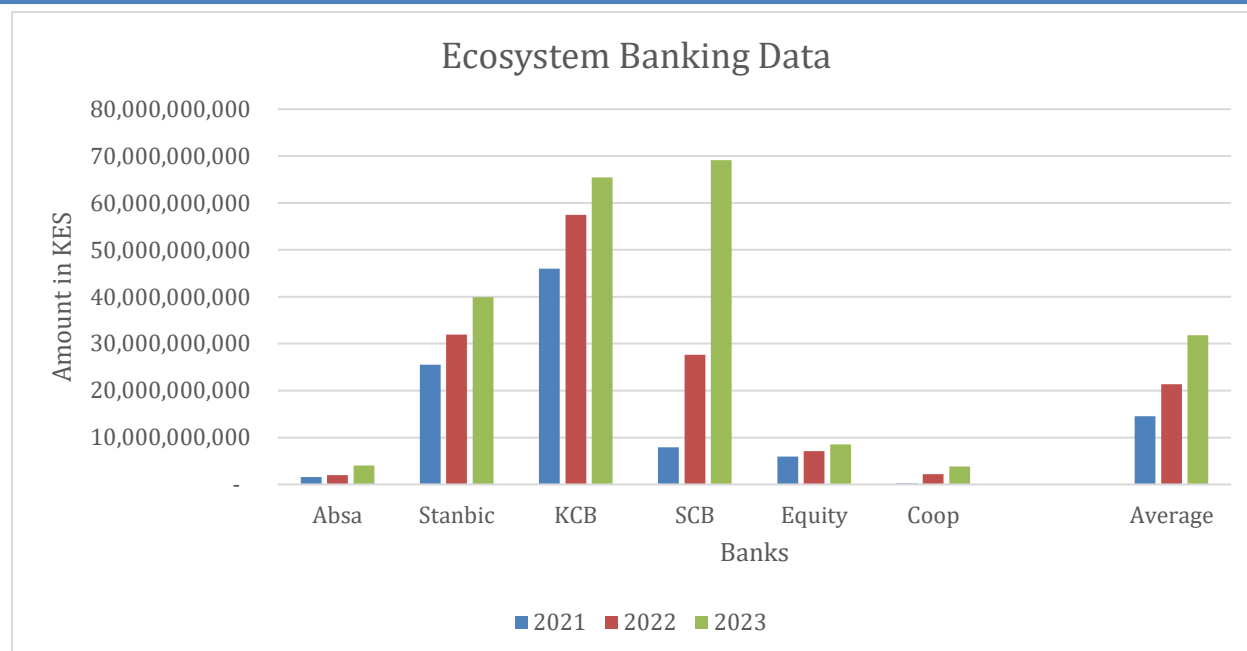


Figure 1: Statements on Ecosystem Banking

Regression Analysis

The regression model summary results of Ecosystem Banking are shown in Table 2. According to the results, the Adjusted R-Squared value, which is the coefficient of determination, is 0.022, indicating that the model explains up to 2.2% of the variability in the dependent variable, financial performance. Thus, 97.8% of the variability in financial performance can be explained by other factors.

Table 2: Model Summary – Ecosystem Banking

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.038 ^a	.030	.022	.50576

a. Predictors: (Constant), Ecosystem Banking

The ANOVA statistical results of Ecosystem Banking are shown in Table 3. According to the results, the calculated F_{cal} value is 3.258, which is greater than the F_{crit} value of 2.49, indicating that we should reject the null hypothesis and conclude that ecosystem banking has a significant influence on the financial performance of commercial banks in Kenya. Additionally, the p-value is lower than 0.05 indicating that the observed differences are unlikely to be due to chance, which reinforces the rejection of the null hypothesis.

Table 3: ANOVA Statistical Results – Ecosystem Banking

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.002	1	14.002	3.258	.038 ^b
	Residual	21.487	5	4.297		
	Total	21.488	6			

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Ecosystem Banking

The results pertaining to the Beta Coefficients of Ecosystem Banking are shown in Table 4. According to the table, by substitution, the regression equation is as follows:

$$Y = \beta_{01} + \beta_1 X_1 + \varepsilon = 4.524 - 0.08X_1$$

According to the equation, when Ecosystem Banking is 0, Financial Performance equals the constant 4.524. Additionally, a one-unit change in Ecosystem Banking will result in a corresponding -0.008 change in Financial Performance.

Table 4: Beta Coefficients of Ecosystem Banking

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.524	.463		9.772	.000
	Ecosystem Banking	-.008	.107	-.008	-.078	.008

a. Dependent Variable: Financial Performance

b.

CONCLUSION AND RECOMMENDATIONS

The study concludes that ecosystem banking has a positive yet statistically insignificant influence on the financial performance of listed commercial banks in Kenya. Consequently, the null hypothesis was accepted at the 95% confidence level. These findings are consistent with the Diffusion of Innovation Theory (DOI), which highlights the gradual and staged process of innovation adoption, and the Transaction Cost Theory (TCT), which explains that efficiency gains and cost advantages develop progressively as partnership mechanisms stabilize.

Practically, the findings suggest that listed banks should sustain and strategically expand their ecosystem partnerships with FinTechs, mobile service providers, and other digital actors to enhance service efficiency and reach. Strengthening corporate governance mechanisms will be critical in mitigating partnership risks and controlling transaction costs during integration.

For regulators such as the Central Bank of Kenya (CBK) and the Capital Markets Authority (CMA), the results underscore the need to enhance policy frameworks that promote sustainable digital collaboration while ensuring data security and financial stability. Policymakers should consider providing fiscal or regulatory incentives to encourage long-term ecosystem investments that align with national financial inclusion and sustainability goals.

Future studies should consider expanding the sample beyond listed banks or adopting cross-country comparative approaches to improve statistical generalizability and capture the evolving financial impacts of ecosystem maturity over time.

REFERENCES

- Capital Markets Authority. (2021). *FinTech and digital finance innovations report*.
<https://www.cma.or.ke>
- Central Bank of Kenya. (2021). *Kenya banking sector innovation survey 2021*.
<https://www.centralbank.go.ke/uploads/innovation-survey-2021.pdf>
- Coase, R. (1937). The nature of the firm. *Economica*, 4(16), 386–405.
<https://doi.org/10.1111/j.1468-0335.1937.tb00002.x>
- Gitau, C. (2011). *The relationship between financial innovation and profitability of commercial banks in Kenya*. Unpublished MBA project, University of Nairobi.
- Kenya Bankers Association. (2020). *Sustainable finance initiative (SFI) progress report*.
<https://www.kba.co.ke>
- Mangwa, D., & Jagongo, A. (2022). Green finance practices and sustainability of commercial banks in Kenya. *International Journal of Finance and Accounting*, 7(3), 25–38.
- Mwawasaa, M., & Ali, A. (2020). Digital financial innovations and performance of commercial banks in Kenya. *Journal of Business and Economic Development*, 5(2), 34–47.
- Pomegbe, W., Li, C., & Dogbe, C. (2019). Outsourcing performance and overall firm performance in the banking sector. *Journal of Strategic Management*, 7(2), 45–63.
- Rahman, M., Hassan, Z., & Karim, A. (2023). Adoption of artificial intelligence in banking services. *Journal of Financial Innovation*, 12(4), 56–74.
- Ravikumar, R. (2021). Banking on AI to bank the unbanked: A study from India. *International Journal of Finance and Banking*, 18(2), 101–118.
- Rogers, E. M. (1962). *Diffusion of innovations*. Free Press.
- Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press.
- Siran, T. (2017). Outsourcing and performance of commercial banks in Kenya. *African Journal of Business Research*, 6(1), 23–39.
- Williamson, O. E. (1985). *The economic institutions of capitalism: Firms, markets, relational contracting*. Free Press.