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Product Innovation and Performance of Digital Credit Providers in Nairobi City County, Kenya

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Abstract

This study examined the effect of product innovation on the performance of Digital Credit Providers (DCPs) in Nairobi City County, Kenya. Product innovation encompassing product diversification, introduction of new products, value addition, and customization was hypothesized to be a significant driver of organizational performance measured through customer satisfaction, market share, and return on investment. A descriptive survey research design was adopted. The target population comprised 222 managers (technology, product, and marketing) from 74 licensed DCPs in Nairobi County. Using Yamane's formula at a 95% confidence level, a stratified sample of 143 respondents was drawn. Primary data was collected via structured Likert-scale questionnaires; secondary data came from CBK reports and DCP annual reports. Reliability was confirmed through Cronbach's alpha, and validity was established via content and construct validity assessments. Simple regression analysis was employed in the analysis. Product innovation emerged as a strong predictor of performance ($\beta = 0.6275$, $p < 0.05$), with an average Likert mean of 4.55. The regression model explained 53.8% of performance variation. Respondents particularly endorsed value addition ($M = 4.70$) and strategic product diversification ($M = 4.58$) as dominant innovation practices. DCPs should prioritize investment in product diversification, new product development, and customer-tailored offerings to sustainably improve competitiveness. Regulatory frameworks should create enabling conditions for product-led innovation in Kenya's digital credit ecosystem.

Keywords: *Product Innovation, Digital Credit Providers, Organizational Performance, Fintechs*

INTRODUCTION

Digital financial services have fundamentally transformed credit access across Sub-Saharan Africa, with Kenya's Digital Credit Providers (DCPs) occupying a central role in this transformation. Licensed and regulated by the Central Bank of Kenya (CBK), DCPs deploy mobile-enabled platforms to deliver short-term credit to individuals and small businesses, particularly those underserved by traditional banking institutions. As of October 2024, the CBK had licensed 195 DCPs, representing a sector with outstanding loans totalling KES 109.8 billion, nearly double the KES 55.2 billion recorded in 2023 (Central Bank of Kenya, 2024).

Despite this growth trajectory, performance challenges persist. The FinAccess Household Survey (2021) documented default rates of 50.9% for mobile banking loans and 46.3% for digital app loans, substantially higher than those of conventional lenders. Customer dissatisfaction linked to aggressive debt collection, opaque pricing, and data privacy violations has further undermined DCP reputations. The CBK's regulatory tightening resulted in the approval of only 84 out of 730+ applicants in one year, signalling the structural vulnerability of many players (CBK, 2024).

In this competitive and regulatory environment, product innovation, the creation and improvement of financial products to deliver enhanced value, has emerged as a critical strategic lever. The OECD (2018) defines product innovation as the development of a new or significantly enhanced good or service, characterized by notable improvements in features, technical specifications, materials, or functionality. For DCPs, this translates into diversifying loan products, launching contextually tailored offerings, incorporating value-added features, and enabling customer-specific customization.

While existing studies have examined innovation broadly within Kenya's fintech sector (Ntwiga, 2020; Jeruto et al., 2024), targeted empirical investigation of product innovation's effect on DCP performance remains sparse. This study addresses this gap by isolating product innovation from a broader strategic innovation framework and investigating its specific contribution to DCP performance in Nairobi City County. The study is guided by the following research question: How does product innovation influence the performance of Digital Credit Providers in Nairobi City County, Kenya?

LITERATURE REVIEW

Theoretical Foundation

The study is anchored in Disruptive Innovation Theory, introduced by Clayton Christensen in the early 1990s (Christensen et al., 2018). The theory posits that innovations initially targeting simple, low-end, or underserved market segments, by offering more accessible and affordable products, can ultimately displace established competitors. This framework draws on Schumpeter's (1939) concept of "creative destruction" and Aghion and Howitt's (1992) quality-ladder growth models, which explain how new innovations render prior products obsolete while driving long-term economic growth.

In the context of DCPs, Disruptive Innovation Theory is particularly relevant. Platforms like M-PESA initially targeted underbanked populations with simple, affordable mobile money transfer services before expanding into sophisticated credit and investment products. As fintech solutions matured, they disrupted traditional banking by making credit faster, cheaper, and more accessible. The theory predicts that product innovations enhancing accessibility or reducing costs should generate rapid adoption and measurable performance gains, contingent on effective scaling and quality management (Christensen et al., 2018).

Complementing this theoretical frame is the Resource-Based View (RBV), which holds that firms achieve sustained competitive advantage through the development of valuable, rare, inimitable, and non-substitutable (VRIN) resources and capabilities (Barney, 1991). For DCPs, distinctive product innovation competencies, including proprietary credit algorithms, diversified product portfolios, and customer-centric design capabilities — constitute strategic resources that competitors cannot easily replicate. The integration of these theories provides a robust theoretical

basis for understanding why product innovation drives performance outcomes among digital credit providers.

Conceptual Framework

The conceptual framework below illustrates the relationship between the independent variable, product innovation and performance of Digital Credit Providers as the dependent variable.

Independent Variable **Dependent Variable**

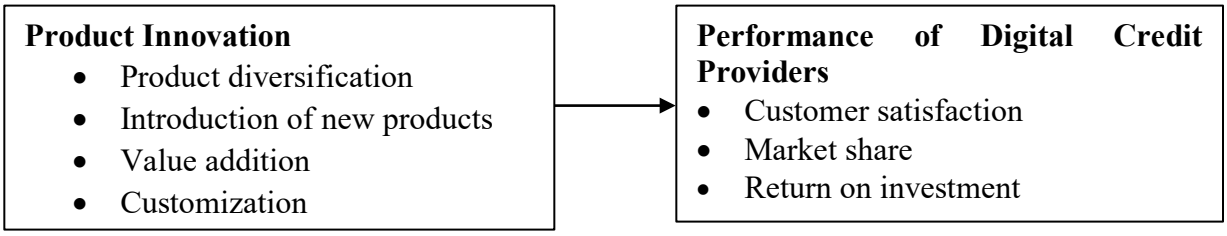

Figure 1: Conceptual Framework
Source: Author, 2026

Empirical Review

Empirical evidence on the relationship between product innovation and firm performance has accumulated across diverse geographic and industry contexts. Owako (2023), in a mixed-methods study of 30 organizations in Uganda, found that high-performing firms were significantly more likely to introduce new products ahead of competitors (M = 3.91, SD = 0.778), establishing a positive link between product novelty and organizational performance.

Munyua (2020), employing a desk-study review of 43 empirical articles, found that product innovation, specifically value addition, customization, and diversification, consistently correlated with improved firm performance metrics. The study concluded that firms implementing these strategies demonstrated superior financial and non-financial outcomes relative to peers.

In the Malaysian entrepreneurial context, Fong (2021) reviewed 105 articles and found that product innovation positively and significantly influenced business productivity. Studies on Kenyan fintech firms (Ntwiga, 2020; Jeruto et al., 2024) similarly documented positive associations between product-level innovation and indicators such as market penetration, customer acquisition, and revenue growth, though few focused specifically on DCPs as a distinct regulatory and operational category.

Notably, Hameed et al. (2018) observed that product innovation plays a pivotal role in improving both market share and financial outcomes, reinforcing its importance as a strategic lever for business success in service industries. These findings collectively position product innovation as a robust driver of performance, particularly in dynamic, technology-mediated markets such as digital credit.

METHODOLOGY

Research Design

A descriptive survey research design was adopted, which is well-suited for examining phenomena within their natural context and for establishing associations between variables without environmental manipulation (Saunders et al., 2019). This design enabled both

quantitative measurement of product innovation practices and their relationship to performance outcomes, while preserving the ecological validity of respondents' organizational experiences.

Population and Sampling

The target population comprised 222 managers — specifically technology managers, product managers, and marketing managers — drawn from the 74 DCPs licensed by the CBK and operating in Nairobi County as at September 2024. This population was selected because these managerial roles are primarily responsible for strategic product innovation decisions within DCPs.

Sample size was determined using Yamane's (1967) formula at a 95% confidence level and 5% margin of error:

$$n = N / (1 + Ne^2) = 222 / (1 + 222 \times 0.05^2) = 143$$

Stratified purposive sampling was employed to ensure representation across all three managerial categories. A pilot study involving 14 respondents (10% of target population) was conducted prior to the main survey to refine the instrument.

Data Collection

Primary data was collected through self-administered, structured questionnaires containing closed-ended items measured on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). Five items specifically measured product innovation practices. Secondary data was sourced from CBK regulatory reports, DCP annual reports, and industry intelligence publications, providing objective performance metrics including loan disbursements, market size, and revenue growth.

Of 139 questionnaires distributed in the final survey, 121 were completed and returned, yielding a response rate of 84.61%, classified as excellent according to Mugenda and Mugenda (2018), who consider 70%+ response rates as very good.

Validity and Reliability

Content validity was assessed by five subject-matter experts who reviewed the instrument against the study's conceptual framework. All 24 items achieved an Item-level Content Validity Index (I-CVI) of 1.00 and a Scale-level CVI (S-CVI) of 1.00 across dimensions of relevance, clarity, objectivity, and simplicity. Construct validity was confirmed through factor analysis; all items recorded loadings between 0.72–0.84 (threshold: ≥ 0.50), with Average Variance Extracted (AVE) of 0.68 and Composite Reliability of 0.89 for the product innovation construct.

Reliability was assessed via Cronbach's alpha on pilot data (n = 14). The product innovation scale recorded $\alpha = 0.706$, meeting the acceptable threshold of 0.70 (Taber, 2018). Pearson's correlation confirmed linear relationships between product innovation and performance ($r = 0.734$, $p < 0.001$).

Data Analysis

Data was analysed using descriptive statistics (means, standard deviations) and inferential statistics (correlation and simple regression analysis) via SPSS. The regression model specified was:

$$Y = \alpha + \beta X + \varepsilon$$

Where Y = Performance of DCPs; X = Product Innovation; α = Constant; β = Regression coefficients; ε = Error term.

FINDINGS AND DISCUSSION

Descriptive Statistics: Product Innovation

Respondents were presented with five statements measuring product innovation practices on a five-point Likert scale. Table 1 presents the descriptive statistics.

Table 1: Descriptive Statistics for Product Innovation (n = 121)

Item	Mean	Std. Dev.
DCPs frequently introduce a variety of financial products to serve different customer needs.	4.58	0.50
DCPs actively develop and launch new financial products or services different from prior offerings.	4.39	0.75
Financial products regularly incorporate additional features or improvements that enhance customer value.	4.70	0.46
DCPs offer financial products tailored to meet the specific preferences of individual customers.	4.36	0.48
Product innovation is a core part of company strategy to improve competitiveness and market performance.	4.69	0.46
Average	4.55	0.53

Source: Author's Field Survey (2025)

The aggregate mean score of 4.55 (SD = 0.53) indicates strong agreement that product innovation is widely practised and valued among DCPs in Nairobi. The low standard deviation signals high homogeneity in responses, reflecting consistency in how managers across DCPs perceive and operationalize product innovation.

The highest-rated item was "financial products regularly incorporate additional features or improvements that enhance customer value" (M = 4.70, SD = 0.46), underscoring the centrality of value addition in the DCP product strategy. This aligns with Aas and Breunig's (2017) observation that service firms pursuing product innovation tend to outperform competitors by introducing differentiated offerings that generate and sustain customer value.

The item affirming product innovation as a core strategic component also scored highly (M = 4.69, SD = 0.46), indicating strong executive-level commitment to product-led growth strategies. The item with the lowest mean — customization of products to individual customer preferences (M = 4.36) — while still reflecting strong agreement, suggests room for deepening personalization capabilities within the sector.

Secondary Performance Indicators

Secondary data from CBK reports corroborates the positive performance trajectory attributed to product innovation. Table 2 presents sector-wide performance data from 2022 to 2025.

Table 2: Performance of Digital Credit Providers in Kenya (2022–2025)

Indicator	2022	2023	2024	2025

Number of Licensed DCPs	10	32	85	195
Annual Market Size Growth (%)	—	220%	165%	129%
Average Loans Disbursed	—	2.4M	4.0M	6.6M
Annual Customer Growth (%)	—	—	67%	65%
Total Outstanding Loans	—	KES 28.9B	KES 55.2B	KES 109.8B
Annual Revenue Growth (%)	—	—	91%	99%

Source: CBK Reports and Press Releases (2022–2025)

The data reveals rapid growth across all performance dimensions, consistent with the descriptive evidence on product innovation practices. The near-doubling of outstanding loans from KES 55.2B to KES 109.8B between 2024 and 2025, alongside 99% revenue growth, reflects the cumulative impact of product diversification and new product launches in attracting and retaining borrowers.

Inferential Statistics

Pearson Correlation

The Pearson correlation between product innovation (X_1) and DCP performance (Y) was r = 0.734 ($p < 0.001$), indicating a strong positive linear relationship. The correlation was statistically significant at the 1% level (two-tailed), confirming a robust and reliable association.

Model Summary

The simple regression model yielded the following summary statistics (Table 3).

Table 3: Regression Model Summary

Statistic	Value
R	0.734
R Square (R^2)	0.538
Adjusted R^2	0.53
Standard Error	0.1187
Observations	121

Note: Dependent Variable = Performance of DCPs; Predictor = Product Innovation

The model accounts for 53.8% of the variance in DCP performance ($R^2 = 0.538$), with an Adjusted R^2 of 0.53 confirming minimal inflation from predictor overlap. R of 0.734 reflects a strong positive relationship between product innovation and performance. In organizational and social sciences, explaining over 50% of variance through a regression model is considered a strong fit (Hair et al., 2019). The small standard error of 0.119 against a 5-point Likert scale demonstrates that the model predicts performance values with considerable precision.

ANOVA

Table 4: Analysis of Variance (ANOVA)

Source	df	SS	MS	F	Sig. F
Regression	1	17.834	17.834	94.36	0.000

Residual	119	22.457	0.189
Total	120	40.291	

Note: Dependent Variable = Performance of DCPs in Nairobi County

The ANOVA results confirm the statistical significance of the overall regression model ($F = 94.36$, $p = 0.000 < 0.05$). The high F-value indicates that the predictor explain a substantially greater proportion of performance variance than a null model would, validating the appropriateness of the regression framework and the collective explanatory power of product innovation.

Regression Coefficients

Table 5: Regression Coefficients

Variable	β Coefficient	Std. Error	t-Statistic	p-value
Intercept (α)	1.112	1.090	1.100	0.27
Product Innovation (X_1)	0.6275	0.187	2.309	0.022

*Note: Dependent Variable = Performance of DCPs; * $p < 0.05$*

The fitted regression equation is:

$$Y = 1.112 + 0.6275X$$

Product Innovation ($\beta = 0.6275$, $t = 2.309$, $p < 0.05$) is a statistically signifciant predictor of DCP performance in the model. A one-unit increase in product innovation practices is associated with a 0.6275-unit improvement in performance, holding all other variables constant. This means that for every incremental improvement in product diversification, new product development, value addition, or customization, DCP performance improves by nearly two-thirds of a Likert-scale unit, a practically significant magnitude.

Discussion

The finding that product innovation is an influential driver of DCP performance ($\beta = 0.6275$) aligns with both the theoretical framework and extant empirical literature. Owako's (2023) study in Uganda found that high-performing firms consistently created new products before competitors, while Munyua (2020) documented widespread performance improvements attributable to value addition, customization, and diversification, precisely the dimensions rated highest in this study.

The particularly high endorsement of value addition ($M = 4.70$) among Nairobi's DCP managers signals a competitive environment where differentiation is increasingly achieved through product enrichment rather than price alone. This resonates with Dawar's (2013) "downstream innovation" concept, where competitive advantage shifts to how products engage and retain customers, rather than solely upstream technological superiority.

The secondary performance data (Table 2) provides further contextual evidence. Revenue growth of 99% and loan disbursement growth from 4.0M to 6.6M loans annually between 2024 and 2025 are consistent with the adoption of diversified, value-added product strategies. The rapid growth in licensed DCPs (10 in 2022 to 195 by 2025) suggests a sector where product-led differentiation is the primary mechanism for market entry and expansion.

However, the relatively lower mean for customization (M = 4.36) compared to value addition (M = 4.70) and product diversification (M = 4.58) suggests that personalization remains underdeveloped. This represents a strategic gap: in a sector characterized by thin product differentiation and high customer switching rates (Putman et al., 2021), firms that invest in deep personalization through data analytics and modular product design could establish durable competitive advantages.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study established that product innovation exerts a statistically significant and practically meaningful positive effect on the performance of Digital Credit Providers in Nairobi City County, Kenya. Among all dimensions of strategic innovation investigated, product innovation registered the strongest influence on organizational performance, explaining a disproportionate share of the 53.8% total performance variance accounted for by the four-predictor model. Three specific product innovation practices emerged as particularly impactful: value addition, product diversification, and the strategic commitment to product innovation. Together, these signal that Nairobi's DCP managers recognize product portfolios as the primary vehicle for competitive differentiation, customer acquisition, and performance improvement. These findings validate Disruptive Innovation Theory in the DCP context: providers that create more accessible, affordable, and value-enriched credit products are better positioned to disrupt incumbent competitors, attract underserved market segments, and achieve superior performance outcomes. The study thus contributes empirical evidence to the growing literature on product-led growth in digital financial services.

Recommendations

DCPs should institutionalize product innovation as a board-level strategic priority, with dedicated product innovation teams and annual R&D budgets. Specific focus should be placed on product diversification, developing distinct product lines catering to micro-enterprises, salaried individuals, agricultural value chains, and healthcare financing. Value addition through enhanced features such as credit insurance, flexible repayment scheduling, and loyalty rewards can deepen customer retention. Investment in customer data analytics and AI-driven profiling is recommended to unlock the underexplored customization dimension, which demonstrated lower adoption despite its theoretical importance.

The CBK and related regulatory bodies should develop innovation-supportive regulatory sandboxes that allow DCPs to test new products before formal licensing, reducing the time and cost of new product development. Regulatory frameworks should incentivize product diversity, particularly for DCPs targeting underserved segments such as rural farmers and informal sector workers. Consumer protection mechanisms should be strengthened to build the trust necessary for customers to adopt and retain newly introduced products, thereby maximizing the performance returns from product innovation investment.

Future studies should explore the moderating role of organizational culture and leadership style on the product innovation–performance relationship. Longitudinal research is needed to capture causal dynamics and lagged effects of product innovation investments. Comparative studies

between DCPs and traditional microfinance institutions would illuminate whether product innovation effects are sector-specific or generalizable across financial services. Additionally, qualitative investigations into the innovation process itself, how DCP product teams ideate, prototype, and launch, would complement this study's quantitative findings.

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