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Digital Lending Platforms and SME Growth in Nigeria: An Empirical Analysis of Credit Accessibility and Business Performance

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ABSTRACT

This study investigated the impact of digital lending platforms on Small and Medium Enterprises (SMEs) in Nigeria, with emphasis on credit accessibility and business growth. Despite their vital role in economic development, SMEs often face challenges in obtaining loans from traditional banks due to stringent requirements and high-interest rates. Using survey data analyzed with logistic regression, the study found that loan history significantly influenced access to digital credit ($\beta = 1.95$, $p < 0.05$), while business size, gender, and age of enterprise were not significant predictors. This indicates that digital lenders prioritize repayment behavior over demographic characteristics when granting loans. Furthermore, results from a one-way ANOVA revealed significant differences in loan amounts across levels of loan impact ($F(3,27) = 96.99$, $p < 0.001$). Tukey's post-hoc test showed that SMEs reporting "High Impact" accessed on average ₦468,996 more than "Low Impact" SMEs, and ₦585,842 more than those reporting "No Impact" ($p < 0.001$). These findings suggest that digital lending contributes meaningfully to SME revenue growth when loans are effectively utilized. The study concludes that digital lending platforms enhance financial inclusion and SME sustainability in Nigeria and recommends regulatory support to strengthen digital lending models while encouraging SMEs to adopt better loan utilization practices.

1. INTRODUCTION

Small and Medium Enterprises (SMEs) are the backbone of the Nigerian economy, contributing significantly to employment generation, economic diversification, and poverty reduction. According to Anthony, Shamsudeen, Aminu and Nura (2023), SMEs account for over 80% of employment in the country and contribute nearly 50% to the Gross Domestic Product (GDP). These businesses operate across various sectors, including agriculture, manufacturing, retail, and services, playing a critical role in driving industrialization and innovation. By creating job opportunities, SMEs help to reduce the unemployment rate and improve household incomes, ultimately boosting consumer spending and overall economic activity.

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Access to financing is crucial for the sustainability and expansion of Small and Medium Enterprises (SMEs), as it enables businesses to invest in capital, expand operations, and improve productivity. Adequate funding allows SMEs to purchase modern equipment, hire skilled labor, and increase production capacity, leading to higher efficiency and competitiveness in the market. Without proper financing, many SMEs struggle with cash flow constraints, limiting their ability to meet operational expenses and fulfill customer demands. Financial support, whether through traditional banks, microfinance institutions, or digital lending platforms, ensures that SMEs can scale their businesses, innovate, and adapt to changing market conditions (Nafiu and Sopelola, 2024).

Moreover, financing enhances the resilience of SMEs, helping them navigate economic uncertainties and seize new business opportunities. Access to credit facilities, working capital, and investment funding allows small businesses to explore new markets, develop innovative products, and strengthen supply chains. Additionally, financial literacy and proper financial management practices play a vital role in ensuring that SMEs utilize funding efficiently, avoiding the risks of over-indebtedness or misallocation of resources. By providing SMEs with adequate financial support, policymakers and financial institutions can drive economic growth, job creation, and sustainable business development in Nigeria.

The emergence of online lending innovations has significantly transformed access to finance for Small and Medium Enterprises (SMEs) in Nigeria. Traditional financial institutions, such as commercial banks, often impose stringent requirements, including collateral and extensive documentation, making it difficult for SMEs to secure loans. Online lending platforms, however, have introduced more flexible and efficient financing options by leveraging technology to assess creditworthiness and disburse loans with minimal bureaucratic processes. These digital lenders use data analytics, artificial intelligence, and alternative credit scoring methods to evaluate borrowers, ensuring that more SMEs, especially those lacking formal credit histories, can access much-needed capital. Platforms such as Okash, EaseMoni, PalmPay, FairMoney, Branch, and Carbon offer loans with minimal documentation and faster approval times compared to traditional banks. These platforms utilize artificial intelligence, machine learning, and big data analytics to assess creditworthiness and disburse funds efficiently. The rise of digital lending in Nigeria has been fueled by increased smartphone penetration, internet access, and financial technology advancements (Ejiogu, Oke, and Akinyemi, 2021).

Access to credit has been a significant challenge for Small and Medium Enterprises (SMEs) in Nigeria due to stringent loan requirements, high-interest rates, and limited access to formal banking services. Traditional financial institutions often perceive SMEs as high-risk borrowers, leading to low approval rates for business loans. However, the emergence of digital lending platforms such as PalmPay, Okash, FairMoney, Branch, and Carbon has created new opportunities for SMEs to access credit through alternative financing models. Despite the growing adoption of digital lending, there is limited empirical evidence on its effectiveness in fostering SME growth and improving financial accessibility. This study aims to statistically evaluate the impact of digital lending platforms on SME performance, financial sustainability, and access to credit in Nigeria.

Access to credit has been a long-standing challenge for Small and Medium Enterprises (SMEs) globally, particularly in developing economies like Nigeria. Studies by Ijaiya et al. (2021) have shown that digital platforms reduce the bureaucratic processes involved in accessing credit, enabling faster loan approval and disbursement. This can be particularly beneficial for SMEs that need quick access to funds for operations or expansion. Digital lending platforms typically rely on alternative data, such as mobile phone usage, to assess creditworthiness, which opens up credit access to a wider range of SMEs, especially those without formal credit histories.

Despite the benefits of digital lending platforms, their adoption among SMEs in Nigeria remains limited. A study by Olatunji et al. (2021) highlights that many SMEs remain skeptical about using digital platforms due to concerns about data privacy, security, and the high-interest rates associated with digital loans. Although these platforms are perceived to provide easier access to credit, their loan terms are often seen as unfavorable, with higher interest rates compared to traditional banking loans. This skepticism, combined with limited digital literacy in some regions of Nigeria, can hinder the full potential of digital lending in fostering SME growth and financial inclusion.

According to Okafor and Chukwu (2019), SMEs in Nigeria face severe limitations when it comes to obtaining financing due to the high collateral requirements and complex documentation processes imposed by traditional lenders. Digital lending platforms, however, have made it possible for SMEs to access small loans without collateral, thus making credit more accessible. These platforms have expanded the financial inclusion of SMEs, allowing them to access financing without the barriers typically associated with conventional financial institutions.

In a study conducted by Eze et al. (2022), it was revealed that SMEs that utilized digital lending platforms experienced higher growth rates in revenue compared to those that relied solely on traditional financing options. This is largely due to the flexibility and speed of digital loans, which allow SMEs to capitalize on business opportunities more quickly. The study also showed that SMEs that accessed loans via digital platforms were better equipped to expand their operations, invest in new products or services, and meet increased demand from customers, leading to higher revenues and increased profitability.

The sustainability of SME growth is influenced by the ability to access consistent and affordable credit. Research by Adewale and Olorunfemi (2020) shows that SMEs that consistently access credit through digital platforms demonstrate improved financial sustainability. The ease and convenience of obtaining loans through platforms like FairMoney and Carbon enable SMEs to maintain a steady cash flow, which is essential for long-term growth. Furthermore, the ability to access financing without excessive delays allows SMEs to implement growth strategies such as expanding their workforce, upgrading their technology, and investing in marketing, all of which contribute to sustainable business development.

One of the key advantages of digital lending platforms is their ability to provide financing to previously underserved SMEs. According to Aladejana and Adebayo (2020), many SMEs in Nigeria, particularly in rural areas, face challenges in accessing credit due to the lack of banking infrastructure. Digital lending platforms, however, provide an

alternative for these SMEs to access credit by bypassing the traditional banking infrastructure. These platforms use mobile technology to facilitate loan applications and disbursements, which has increased financial inclusion in rural areas. This has been particularly beneficial for agribusinesses and other small-scale enterprises that often operate outside the formal banking sector.

While digital lending platforms have increased credit accessibility, their effectiveness in fostering long-term SME growth remains a subject of debate. A study by Oyebanji et al. (2021) found that although digital lending provides immediate financial relief for SMEs, it may not always lead to sustainable growth. One of the challenges highlighted in their study is the high-interest rates associated with digital loans, which may strain SMEs' cash flows and hinder their ability to reinvest in their businesses. Moreover, the short repayment periods of some digital loans can lead to defaults, negatively impacting the financial health of SMEs.

The role of digital lending platforms in enhancing the overall financial ecosystem in Nigeria is critical to the growth of SMEs. A study by Akinmoladun and Olaniyi (2021) suggests that the increasing use of digital lending platforms has led to a more inclusive financial system, where SMEs have access to diverse credit options. These platforms not only offer loans but also provide additional financial services such as savings accounts and insurance, which help SMEs to manage risk and plan for the future. This has contributed to improving the overall financial health of SMEs, enabling them to withstand economic shocks and grow in a more stable environment.

Research by Ezeani and Onuoha (2020) underscores the need for a more supportive regulatory framework to ensure that digital lending platforms operate in a way that benefits both SMEs and the broader economy. Policymakers must address issues such as data privacy, interest rates, and loan repayment terms to maximize the benefits of digital lending for SMEs. By doing so, digital lending platforms could become a key driver of SME growth and financial sustainability in Nigeria, contributing to economic development and job creation.

In assessing the link between digital lending and entrepreneurship, Ajayi and Adepoju (2021) found that the flexibility and ease of access to digital loans have significantly lowered entry barriers for new SME entrepreneurs in Nigeria. Their study revealed that digital lenders such as Branch and Carbon allow SMEs to begin operations even in the absence of formal business plans or high-value collateral. The research emphasized that this financial democratization has especially benefited youth-owned and female-led enterprises, which are typically underrepresented in formal loan approvals. Consequently, these digital platforms are emerging as strategic tools for entrepreneurship development and SME expansion in underserved markets.

Another dimension of digital lending's impact on SME development is its influence on credit scoring and risk assessment. As highlighted by Musa and Aliyu (2022), digital lenders use machine learning algorithms and alternative data sources, like mobile phone usage patterns, airtime purchases, and e-wallet activity, to evaluate borrowers' creditworthiness. This innovation has enabled broader access to credit for SMEs that lack formal credit history or bank statements. Their findings showed that SMEs that were previously excluded from traditional banks due to lack of documentation were able to secure financing

based on behavioral data, thus enhancing the inclusiveness of financial services in Nigeria.

The operational efficiency gains SMEs achieve through digital lending platforms are also noteworthy. According to Chikwendu and Okeke (2021), SMEs that received funding through digital platforms experienced an improvement in working capital management and cash flow planning. The study showed that timely access to credit helped businesses avoid stock-outs and meet short-term liabilities, which are crucial for maintaining business continuity. Unlike traditional loans that may take weeks to process, digital loans are often disbursed within 24–72 hours. This responsiveness to financing needs has enabled many SMEs to operate with greater agility in a competitive market environment.

According to Uche and Daramola (2020), most digital lenders enforce strict repayment tracking systems, which include automated deductions and reminders. These mechanisms promote responsible borrowing and discourage default. Their study also found that SMEs with consistent digital loan repayments built a positive credit history, which qualified them for higher loan amounts over time. This progressive lending structure supports SMEs in scaling operations and improving profitability, making digital lending platforms not just lenders but long-term financial partners.

Akinyemi and Nwachukwu (2021) examined how partnerships between digital lenders and SMEs foster financial digitization, including adoption of POS systems, digital inventory tracking, and mobile money solutions. Their research concluded that the availability of digital credit encouraged SMEs to embrace other tech-driven tools, improving operational efficiency, customer service, and transaction transparency. This ripple effect suggests that digital lending platforms are not only improving financial access but also accelerating digital literacy and technological adoption among Nigerian SMEs.

The current study seeks to statistically evaluate the impact of digital lending platforms on SME performance, financial sustainability, and access to credit in Nigeria. It emphasizes a structured and data-driven assessment of the relationship between digital lending and measurable outcomes such as revenue generation, financial accessibility, and SME participation in alternative lending systems.

The empirical literature reviewed supports the relevance of digital lending in improving financial inclusion, promoting entrepreneurial activities, and enabling operational efficiency among SMEs. Studies by Ajayi and Adepoju (2021), Musa and Aliyu (2022), and Chikwendu and Okeke (2021), among others, have shown that digital lending platforms improve access to capital, speed up loan processing, and encourage responsible financial behavior. They also point out the role of fintech innovations such as alternative credit scoring, mobile-based lending, and data-driven risk profiling.

However, most of these studies are descriptive or exploratory in nature, relying heavily on qualitative insights, case studies, or narrative accounts. Few of them conduct rigorous statistical evaluations to measure the actual effect size or significance of digital lending on key performance indicators of SMEs. Additionally, several studies focus on the accessibility or inclusiveness of digital lending rather than on its measurable economic impact, such as how significantly it affects SME growth, financial health, or revenue generation in empirical terms.

While prior literature establishes the relevance of digital lending platforms in promoting SME financial access, there is limited empirical evidence that quantifies the direct impact of such platforms on SME growth outcomes, such as revenue increase, business expansion, and financial sustainability, using robust statistical techniques. The existing works often lack statistical depth in evaluating the magnitude, significance, and consistency of this relationship across different SME segments.

3. METHODS AND MATERIALS

This study adopts a quantitative research approach using a survey research design to collect data from SME owners and managers. The design is suitable for examining relationships between digital lending platforms and SME financial outcomes through statistical analysis. This study employs primary data collection through a structured questionnaire administered to small and medium enterprise (SME) owners across different sectors in Delta State. The dataset included categorical, binary, and continuous variables, capturing key SME characteristics such as business age, size, number of employees, loan history, loan repayment tenure, and gender of the business owner. Additionally, SME growth impact data will be categorized into four levels (High, Moderate, Low, No Impact).

The study applies both descriptive and inferential statistical techniques to examine the impact of digital lending platforms on SME growth and financial accessibility. The use of percentage as a descriptive statistics tool will be used to assess the extent of SME participation in digital lending platforms in Nigeria. Using inferential statistics, the logistic regression will be used to analyze factors influencing SME financial accessibility from online lending platforms. More so, ANOVA will be used to evaluate the impact of loan amount obtained from online lending platforms on SME growth. The dependent variable is loan amount obtained, while the independent variable (treatment factor) is impact of loan, categorized as: *High Impact, Moderate Impact and Low Impact.*

MODEL SPECIFICATION

The dependent variable is Loan Access (Binary: 1 = Granted digital loan, 0 = Not granted). The predictor variables include:

- Business Age (Years in Operation) – Continuous
- Business Size (Micro, Small, Medium) – Categorical
- Number of Employees – Continuous
- Previous Loan History (Yes/No) – Binary (1 = Had a loan before, 0 = No previous loan)
- Loan Repayment Tenure (Short/Long-term) – Categorical (Dummy coded)
- Gender of SME Owner (Male/Female) – Binary (1 = Male, 0 = Female)

The regression results in table 1 provide strong evidence that previous loan history is a significant determinant of access to credit through digital lending platforms in Nigeria. SMEs with a record of past loans have a much higher likelihood of obtaining credit approval, as indicated by the positive and highly significant coefficient (Estimate = 2.78, $p < 0.01$) and an odds ratio of 16.09. This implies that SMEs with previous borrowing experience are over sixteen times more likely to secure digital loans compared to those without such history. This finding highlights the importance of credit history in digital lending, suggesting that platforms like PalmPay, FairMoney, and Carbon rely

Result and discussion

Table 1: Regression coefficient estimates and odds ratio

Predictor	Estimate	Std. Error	z value	Pr(>|z|)	OR
(Intercept)	-2.51904	1.36114	-1.851	0.06422	0.081
Business_Age_Years	0.13577	0.08389	1.618	0.10556	1.145
Business_SizeSmall	-0.09568	1.15959	-0.083	0.93424	0.909
Business_SizeMedium	1.43814	4.14237	0.347	0.72846	4.213
Number_of_Employees	0.0417	0.10078	0.414	0.67907	1.043
Previous_Loan_History	2.77822	0.87578	3.172	0.00151	16.09
Loan_Repayment_TenureLong	-0.77435	0.8377	-0.924	0.35529	0.461
Gender_Male_1_Female_0	-0.25071	0.8906	-0.282	0.77832	0.778

heavily on prior repayment behavior to mitigate perceived risks associated with SME financing.

Other variables such as business age, size, number of employees, and gender were not statistically significant, indicating that digital lenders may not emphasize traditional demographic and structural features of SMEs when determining creditworthiness. Instead, their models appear more data-driven, focusing on financial behavior patterns rather than firm characteristics. This supports the idea that digital lending platforms can improve financial accessibility by lowering entry barriers that typically constrain SMEs in conventional banking systems. Thus, while H_{01} is rejected (since credit history is a significant factor influencing access to credit), the findings also suggest that digital platforms potentially expand credit opportunities for SMEs that may have been excluded under traditional lending structures.

Hypothesis testing for the impact of loan on business growth

H_0: the effect of loan impact categories (No Impact, Low, Moderate, High) on the amount of loan accessed by SMEs is statistically insignificant

H_1: the effect of loan impact categories (No Impact, Low, Moderate, High) on the amount of loan accessed by SMEs is statistically significant

Level of significance = 0.05

```
                Df    Sum Sq   Mean Sq F value   Pr(>F)
Impact_of_Loan   3 1.228e+12 4.093e+11   96.99 1.42e-14 ***
Residuals       27 1.139e+11 4.220e+09
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Fig 1: ANOVA test statistic

The ANOVA result shows that the effect of loan impact categories (No Impact, Low, Moderate, High) on the amount of loan accessed by SMEs is statistically significant ($F(3,27) = 96.99$, $p < 0.001$). This means that the average loan amounts differ significantly across the different levels of perceived loan impact. In other words, whether SMEs experience no impact, low, moderate, or high impact from loans strongly influences the loan amounts they are able to access,

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confirming that loan accessibility is not uniform across groups.

	diff	lwr	upr	p adj
Moderate-High	-273312.5	-377399.8	-169225.22	0.0000006
Low-High	-468996.3	-564874.5	-373118.17	0.0000000
No Impact-High	-585842.3	-687182.7	-484501.86	0.0000000
Low-Moderate	-195683.8	-281631.1	-109736.58	0.0000066
No Impact-Moderate	-312529.8	-404530.8	-220528.75	0.0000000
No Impact-Low	-116846.0	-199445.3	-34246.62	0.0032815

Fig 2: Multiple comparison

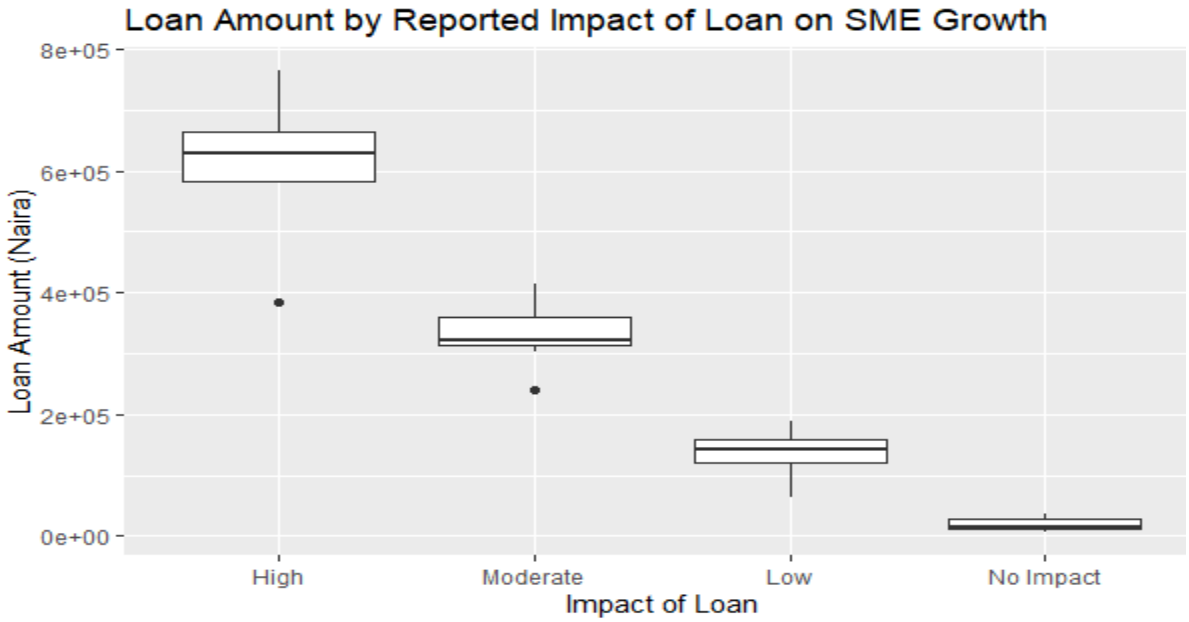


Fig 3: Box plot multiple comparison

The Tukey post-hoc test further reveals the specific differences between groups. SMEs in the "High Impact" category consistently accessed significantly higher loan amounts compared to all other categories (No Impact, Low, Moderate). Similarly, those in the "Moderate Impact" group accessed significantly higher loan amounts than "Low" and "No Impact" groups. Even between "Low" and "No Impact" groups, there was a significant difference, with the "Low" group accessing more. This pattern highlights that higher levels of loan impact are associated with greater access to credit, suggesting that digital or formal loan interventions are more effective in supporting SMEs that can demonstrate stronger impact from borrowed funds.

4. CONCLUSION

This study examined the impact of digital lending platforms on SME growth and access to credit in Nigeria. Findings revealed that access to digital loans is significantly influenced by previous loan history, while

factors such as business age, size, and gender did not play a significant role. This suggests that digital lending platforms prioritize behavioral and financial records (repayment history, credit usage) rather than traditional demographic indicators often emphasized by conventional banks. This supports earlier literature that digital financial institutions are more data-driven in credit evaluation, thereby reducing the barriers SMEs face in accessing credit from traditional banks.

The study concludes that digital lending platforms play a critical role in bridging financing gaps for SMEs in Nigeria. By reducing reliance on traditional collateral requirements and focusing on financial behavior, platforms such as PalmPay, FairMoney, Branch, and Carbon offer more inclusive credit opportunities. Access to credit is significantly shaped by previous loan history, while the amount of credit accessed is strongly tied to demonstrated business impact. This shows that digital loans are not only accessible but can translate into tangible growth outcomes for SMEs.

It was recommended that entrepreneurs should build a credible repayment history with digital lenders to improve their chances of accessing larger loans in the future. Lenders should integrate more flexible models that consider innovative performance indicators beyond repayment history, such as business digital transactions and sales trends, to extend opportunities to startups with no credit history.

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