Journal of Business and Entrepreneurship

[ISSN 2958-1125]
Volume: 05 Issue: 01 | June-2026

JBE

FinTech-Led Digital Credit and SME Growth: Evidence from Kitui County, Kenya

Authors

Mutisya Muema Utoto [1]; Tom Mokweri Nyamache [2]; Gilbert Nyaga Njagi [3]

Main author's email: muemamutisya@yahoo.com

(1.3) Mount Kenya University, Kenya; (2) Turkana University College, Kenya.

Cite this article in APA

Utoto, M. M., Nyamache, T. M., & Njagi, G. N. (2026). FinTech-led digital credit and SME growth: Evidence from Kitui County, Kenya. *Journal of business and entrepreneurship, 5*(1), 52-69. https://doi.org/10.51317/jbe.v5i1.1017

OPEN ACCESS

A publication of Editon Consortium Publishing (online)

Article history

Received: 2026-04-09
Accepted: 2026-05-14
Published: 2026-06-12

Scan this QR to read the paper online

Abstract

The purpose of this study was to assess how FinTech-driven digital credit access influences the growth of Small and Medium Enterprises (SMEs) in Kitui County, Kenya. It focused on credit availability, ease of access, and sufficiency. A quantitative, correlational approach was used, with data collected from 369 SMEs through stratified random sampling out of 4,732 registered businesses in Kitui and Mwingi towns. Data were gathered via structured questionnaires and analysed with descriptive statistics and multiple linear regression in IBM SPSS 27. Results showed that credit availability ($\beta = 0.446$; $p < 0.001$), ease of access ($\beta = 0.480$; $p < 0.001$), and credit sufficiency ($\beta = 0.413$; $p < 0.001$) had significant positive effects on SME growth. The study concludes that FinTech-led digital credit fosters SME development and recommends improving access, affordability, and sufficiency to boost enterprise growth and financial inclusion in Kitui County.

Key terms: Digital credit accessibility, FinTech, Kenya, SME growth.

INTRODUCTION

Financial Technology (FinTech) involves the use of innovative digital tools to deliver financial products and services more efficiently (Verma et al., 2023). A key FinTech innovation is digital credit, allowing businesses to obtain loans via mobile and online platforms using alternative ways to assess creditworthiness. Consistent with studies by Sanga and Aziakpono (2023) and Verma et al. (2023), FinTech-driven digital credit has become a promising solution for SMEs facing financing challenges, enhancing access, affordability, and ease of credit access.

Small and Medium Enterprises significantly support economic progress, create jobs, and help in poverty reduction. They account for about 98 per cent of all businesses, provide over 80 per cent of jobs, and contribute roughly 30 per cent to 40 per cent of Gross Domestic Product (GDP) (Ding et al., 2026; Verma et al., 2023). Despite their vital role in national economies, SMEs often struggle to access affordable, timely credit from traditional financial institutions. These lenders typically enforce strict collateral demands, lengthy approval processes, and high transaction costs, which hinder SMEs' ability to secure the funding needed for expansion and sustainability (Abu et al., 2025; Musamali et al., 2024; Sanga & Aziakpono, 2023). These issues are especially prominent in counties such as Kitui, where infrastructural deficiencies, low digital literacy, and limited access to formal financial services restrict business expansion.

Against this backdrop, the rise of Financial Technology (FinTech) has revolutionised the financial sector by offering innovative digital credit solutions that enhance the availability, accessibility, and adequacy of loans for underserved small businesses. Globally, FinTech-led digital credit has become a key tool for bridging SME financing gaps. Research in Europe and North America shows that digital lending platforms boost financial inclusion and help SMEs access capital more easily. For example, Sabato et al. (2021) noted that peer-to-peer lending improved financing efficiency in the UK and EU by offering alternative credit options with lower default rates and better credit access. Similarly, Cornelli et al. (2024) found that FinTech lending platforms in the U.S. expanded access to credit in regions underserved by traditional banks. Their research also revealed that FinTech credit models outperform traditional ones in predicting loan repayment. However, these studies primarily relied on secondary data and did not explore SME growth from owners' perspectives. Additionally, they overlooked digital credit access in developing and rural areas, highlighting a need for further investigation.

Similarly, in Asia, the adoption of FinTech has greatly improved SME financing by introducing innovative digital lending methods. Sheng (2021) noted that in China, FinTech growth increased SMEs' access to credit by reducing information gaps and enabling banks to use alternative data in lending decisions. Likewise, Charfeddine et al. (2024) observed that financial literacy, digitisation, and ICT use positively affected credit access among MSMEs in Qatar. These findings indicate the crucial role of digital technologies in enhancing credit availability and access. However, most Asian studies relied on aggregated or regional data and paid limited attention to firm-level growth outcomes like sales growth, profitability, and employment. Moreover, these studies mainly focused on highly digitalised economies, which limits their relevance to resource-limited areas such as Kitui County.

In Africa, FinTech has become a vital resource for enhancing financial inclusion among SMEs that have traditionally been excluded from formal banking. Digital platforms, mobile money, and online lending have broadened financial access across many countries. Several African studies indicate that digital financial services boost enterprise financing and improve business outcomes. For instance, Al-Maamari et al. (2025) showed that microcredit access significantly increased sales, profits, and employment in Yemen. Likewise, Avouba (2022) studied SME credit access in Congo and emphasised the role of financing in enterprise growth, despite mixed results. However, numerous African studies mainly focus on traditional credit and microfinance rather than FinTech-driven digital credit. Additionally, little research has examined how the availability, ease of access, and sufficiency of credit affect SME development, particularly in rural and semi-urban areas.

In Kenya, SMEs make up about 98 per cent of all businesses, contribute roughly 30–40 per cent to GDP,

and employ nearly 80 per cent of the workforce (FSD Kenya, 2024). Despite their crucial role in the economy, many SMEs face challenges securing financing due to insufficient collateral, high borrowing costs, and limited access to formal credit. Nevertheless, the rise of mobile financial services such as M-Pesa, Tala, Branch, Fuliza, and the Hustler Fund has greatly improved access to credit, enabling SMEs to secure loans through digital platforms. Kimari et al. (2022) found that easier access to mobile credit positively impacted the financial health of micro and small enterprises in Nairobi. However, their research was limited to urban businesses and did not explore the aspects of credit adequacy and availability in FinTech lending. Additionally, most Kenyan studies have focused on financial inclusion and mobile money use, rather than the specific impact of digital credit access on SME growth.

While existing research shows that FinTech-driven credit enhances financial inclusion and access to funding, there is limited empirical evidence regarding its impact on SME growth in semi-urban areas such as Kitui. Most previous studies have focused mainly on urban regions and have not thoroughly examined credit availability, ease of access, and sufficiency. This research aimed to fill this gap by investigating how FinTech-led digital credit accessibility influences SME growth in Kitui County, Kenya, with particular attention to the availability, ease of access, and sufficiency of digital credit. Specifically, the study sought to examine the effect of the availability of FinTech-led credit on the growth of Small and Medium Enterprises (SMEs) in Kitui County, assess the effect of the ease of access to FinTech-led credit on SME growth, and evaluate the effect of the adequacy of FinTech-led credit on SME growth.

Based on these objectives, the study tested the following hypotheses: H1: There is no significant relationship between the availability of FinTech-led credit and SME growth in Kitui County; H2: There is no significant relationship between the ease of access to FinTech-led credit and SME growth in Kitui County; and H3: There is no significant relationship between the adequacy of FinTech-led credit and SME growth in Kitui County.

The subsequent sections of the study include the research methodology, results, discussions, and summary, conclusion, and recommendations regarding the role of FinTech-led digital credit in fostering SME development.

LITERATURE REVIEW

Empirical Review

The relationship between FinTech-driven digital credit access and SME growth has garnered significant academic interest due to the increasing role of digital financial services in easing financing hurdles for small businesses. Digital credit access typically includes the availability of credit, how easily businesses can obtain credit, and whether the credit provided through FinTech platforms is sufficient. Although numerous studies indicate that FinTech enhances SME financing options, the empirical evidence remains mixed on how much improved access actually translates into tangible business growth.

One dominant perspective suggests that FinTech-driven lending platforms enhance credit access by minimising information gaps and broadening financing options for businesses often excluded from traditional banking systems. Sabato et al. (2021), in a study involving SMEs from the United Kingdom and the European Union, found that peer-to-peer lending platforms improved digital credit access while lowering borrowing costs. The study observed that SMEs using these platforms exhibited lower default rates than conventional borrowers, suggesting that alternative lending mechanisms may enhance financial inclusion. Similarly, Cornelli et al. (2024) reported that FinTech lending platforms in the United States expanded credit provision to underserved regions that traditional financial institutions often overlooked. Their findings suggest that FinTech may play an important role in addressing gaps in the credit market. However, both studies primarily focused on access to finance and lending performance rather than directly examining whether increased credit availability led to sustained SME growth. Consequently, it remains unclear whether access alone is sufficient to generate improvements in sales, profitability, or employment.

A related point is that FinTech improves credit access by helping lenders better evaluate borrower risk. Sheng (2021) showed that in China, FinTech allowed

banks to convert soft information into quantifiable credit indicators, enhancing SME access to funding. This supports the idea that technological advances can reduce information gaps and aid lending decisions. However, the study used provincial data, missing firm-specific differences in credit use and business results. Although more credit was available, it wasn't clear if this led to real business growth. This casts doubt on the belief that more credit inherently boosts SME performance.

In addition to availability, researchers are increasingly highlighting ease of access as a key factor influencing SME financing outcomes. FinTech platforms are often praised for streamlining application processes, reducing documentation requirements, and accelerating loan approvals. Kimari et al. (2022), in their study of micro and small enterprises in Nairobi, found that easier access to mobile credit significantly boosted entrepreneurs' financial well-being. They attributed this to the convenience and speed of digital lending. Likewise, Meher et al. (2021) noted that digital banking improved enterprise growth through more efficient financial transactions, quicker payments, and enhanced operational efficiency. Overall, these results indicate that reducing procedural hurdles can help SMEs better access necessary working capital.

However, other research shows that accessibility goes beyond just technological ease. Panda et al. (2023) found that service quality, responsiveness, and staff commitment significantly influence how customers access financial services in India. This suggests that accessibility is influenced not only by technology but also by institutional and human factors. Similarly, Charfeddine et al. (2024) found that financial literacy and ICT skills significantly impact credit access for MSMEs in Qatar. Findings suggest that access to digital credit platforms alone is insufficient for SMEs to benefit, particularly when they lack the necessary competencies to utilise them. These findings challenge the idea that technological access alone ensures better business outcomes and emphasise the role of contextual factors in the success of FinTech-enabled credit.

Credit adequacy is a crucial yet often overlooked aspect of digital credit access. While obtaining credit is important, the size and appropriateness of the funds may ultimately influence their impact on business growth. Al-Maamari et al. (2025) found that microcredit notably enhanced profitability, sales, and employment in Yemeni micro and small enterprises. The study also highlighted that beneficiary satisfaction strengthened the link between credit and enterprise performance. These results indicate that sufficiently structured and suitable financing can facilitate business expansion. However, the research primarily focused on microfinance programs rather than FinTech-enabled credit systems, which limits its direct relevance to digital lending contexts.

In contrast, other contexts indicate that access to credit doesn't always lead to positive business results. Avouba (2022), analysing data from over 11,000 enterprises in Congo, discovered that access to credit had a neutral impact on SME performance. The study suggested that financing alone might be insufficient for growth without additional factors such as managerial skills, financial literacy, and effective resource use. This offers a different view in the debate, emphasising that the quality of credit utilisation is crucial, not just the amount. Such evidence questions the common belief that more credit always boosts SME performance.

A broader review of the literature uncovers several methodological and contextual limitations. While studies by Cornelli et al. (2024), Kimari et al. (2022), Sabato et al. (2021), and Sheng (2021) generally identify positive links between digital credit access and enterprise outcomes, many depend on cross-sectional data, secondary sources, or are limited to specific geographic areas. As a result, their findings may not be readily applicable to semi-urban and rural areas such as Kitui County. Additionally, much of the existing research treats credit access as a single concept, without differentiating between its availability, ease of access, and adequacy. This constrains understanding of which aspects of digital credit access most significantly promote SME growth.

Furthermore, numerous studies emphasise financial inclusion outcomes over direct indicators of enterprise growth. Aspects such as profitability, job creation, sales growth, and business scaling are less thoroughly explored. Additionally, current research often overlooks regional disparities, financial literacy, and

the specific operational challenges SMEs in developing countries face. As a result, key questions persist about the extent to which FinTech-driven digital credit access supports SME growth across different socio-economic environments.

Guided by empirical debates, this study defines FinTech-led digital credit access as a multidimensional construct including credit availability, ease of access, and adequacy of credit. Focusing on SMEs in Kitui County, Kenya, the research aims to provide firm-level evidence on how these aspects affect SME growth, filling key gaps in context, concepts, and methods in the current literature.

Theoretical Framework

The link between FinTech-led digital credit accessibility and SME growth can be explained through several interconnected perspectives. This research relies on the Technology Acceptance Model (TAM), Diffusion of Innovation (DOI) Theory, and Institutional Theory, all of which helped clarify how the availability, ease of access, and sufficiency of FinTech-based credit impact SME growth in Kitui County. These frameworks underpin the study's hypotheses: H1 addresses the connection between the availability of FinTech-led credit and SME growth; H2 explores how easy access to FinTech credit affects SME growth; and H3 evaluates the influence of credit adequacy on SME growth.

The TAM, developed by Davis (1989), suggests that individuals mainly decide to adopt technology based on perceived usefulness and ease of use. The model indicates that users are more inclined to embrace new technology when they believe it improves performance and is simple to operate (Nurqamarani et al., 2021; Rokhim et al., 2018). In the context of this study, SME owners are more likely to adopt FinTech digital credit platforms when credit services are accessible and convenient. This perspective supports H1 and H2, as digital credit availability boosts perceived usefulness, while straightforward application processes, quicker approvals, and intuitive interfaces increase perceived ease of use. This, in turn, encourages SMEs to seek financing that aids expansion, ongoing operations, and growth. Nonetheless, TAM has been criticised for emphasising individual perceptions and intentions while often neglecting external factors such as infrastructure, regulations, and socio-economic conditions that also influence adoption. To counter this, the study incorporates DOI and Institutional Theory, which examine external influences on FinTech adoption among SMEs.

The DOI Theory, developed by Rogers (1995), explains how innovations are communicated and adopted within a social system over time. It identifies traits like relative advantage, compatibility, complexity, trialability, and observability as key factors influencing adoption. In the context of FinTech-driven digital credit, SMEs tend to adopt digital lending platforms more readily when they see clear benefits over traditional credit options. The theory supports H1 and H2 by highlighting that easy access to digital credit via mobile devices and online platforms speeds up adoption among enterprises. When digital credit is easily available, SMEs can access financing more conveniently than through traditional banks. Additionally, DOI supports H3 because the sufficiency of credit affects the perceived benefit of FinTech services. Adequate credit helps SMEs meet operational costs, invest in opportunities, and sustain growth, encouraging ongoing use. However, DOI has limitations. It often assumes a uniform adoption process and may overlook variations caused by resource shortages, financial literacy, or institutional barriers. It also pays limited attention to organisational and regulatory factors influencing innovation uptake. This study addresses these gaps by examining FinTech adoption in Kitui County's specific socio-economic context and incorporating Institutional Theory to explore external influences on SME behaviour.

Institutional Theory, initially proposed by Meyer and Rowan (1977) and later expanded by DiMaggio and Powell (1983), highlights how institutional environments influence organisational behaviour. It suggests that organisations tend to adopt practices and innovations due to coercive, normative, and mimetic pressures. In this study, SMEs might adopt FinTech-led digital credit due to regulatory support for digital finance, industry norms favouring financial technology, or a desire to emulate successful firms. This theory is relevant to all three hypotheses, as external forces can affect the availability of digital credit (H1), facilitate easier access to digital financial

services (H2), and influence the quality of credit products available to SMEs (H3). Thus, institutional support can promote greater adoption of FinTech credit and SME growth. However, Institutional Theory is often criticised for overemphasising external pressures and undervaluing managerial discretion, entrepreneurial orientation, and firm-specific capabilities. To address this, the current study combines TAM and DOI, which highlight the importance of individual perceptions and innovation features in shaping adoption decisions.

Collectively, TAM, DOI Theory, and Institutional Theory form a comprehensive framework for explaining the relationship between FinTech-driven digital credit access and SME growth. While TAM explained adoption from a behavioural perspective, DOI highlighted innovation attributes that drive uptake, and Institutional Theory accounted for environmental influences. Their integration enabled a holistic examination of how the availability, ease of access, and adequacy of FinTech-led credit contribute to SME growth in Kitui County.

METHODOLOGY

This study used a quantitative, correlational approach to explore how access to digital credit through FinTech affects SME growth in Kitui County, Kenya. This method was suitable, as it allowed evaluation of the direction and strength of the relationship between digital credit aspects and SME development without altering the variables (Rajath et al., 2025). The study targeted 4,732 registered SMEs in Kitui Town and Mwingi Town, across sectors including retail, services, manufacturing, and finance. Based on Yamane's (1967) formula (as cited in Oluwafemi et al., 2019), with a 95 per cent confidence level and a 5 per cent margin of error, a sample size of 369 SMEs was calculated. A stratified random sampling method was used: SMEs were first grouped by their business types, then randomly sampled within each group to ensure proportional representation. The study gathered primary data through a structured questionnaire with closed-ended questions rated on a 4-point Likert scale (1 = Strongly Disagree, 4 = Strongly Agree). Analysis was conducted using IBM SPSS Version 27, while multiple regression was employed to investigate the association between FinTech-enabled digital credit access and SME growth. Ethical protocols involved securing informed consent, ensuring voluntary participation, protecting respondents' confidentiality and anonymity, and using the data exclusively for academic research.

Based on indicators of SME growth, regression models were;

$$SalesMargin_i = \alpha + \beta_1 FinAvaila) + \beta_2 FinEaseAcce_{ij_i} + \beta_3 FinAdqua_{ij_i} + \varepsilon_i. \quad \text{...(i)}$$

$$NoEmployees_i = \alpha + \beta_1 FinAvaila) + \beta_2 FinEaseAcce_{ij_i} + \beta_3 FinAdqua_{ij_i} + \varepsilon_i \quad \text{...(ii)}$$

Where ***SalesMargin*** (sales margin), ***NoEmployees*** (the number of employees), ***FinAvaila*** (availability of FinTech-led credit), ***FinEaseAcce*** (ease of access to FinTech-led credit), and ***FinAdqua*** (adequacy of FinTech-led credit).

FINDINGS AND DISCUSSION

Response Rate

Three hundred and sixty-nine (369) questionnaires were distributed to SME owners in Kitui and Mwingi towns to assess the role of Fintech-led digital Accessibility in the growth of SMEs in Kitui County, Kenya. The response rate is shown in Table 1.

Table 1: Response Rate

	Description	Frequency	Percentage (%)
General response rate	Sample Size of the Study	369	100.00
	Fully filled questionnaires	344	93.22
	Partially filled questionnaires	25	6.78
	Total	**369**	**100.00**
Response rate by SME category	Retail shops	166	48.3
	Wholesale shops	9	2.6
	Small-scale honey	2	0.6
	Water-purification plants	2	0.6
	Bookshops	2	0.6
	Barber shops	5	1.5
	Mechanics	3	0.9
	Hotels, bars, and restaurants	17	4.9
	Carwash	13	3.8
	Guesthouses	10	2.9
	M-Pesa agents	39	11.3
	Hardware stores	8	2.3
	Welding shops	31	9.0
	Woodwork shops	37	10.8
	Total	**344**	**100.0**

Note. Data source: Primary research data (2026).

Results in Table 1 show that of 369 sampled SME owners, 344 fully completed questionnaires, reflecting a response rate of 93.22 per cent. The high response rate meant that the study questionnaire was well-designed, user-friendly, and effectively implemented. Consistent with recommended response rates in studies of at least 70 per cent (Al Khalaf et al., 2022), a 93.22 per cent response rate minimised non-response bias, enhancing the study's internal validity.

Retail shop owners formed the largest group with 166 businesses (48.3%), highlighting retail's prominence in small-business sectors due to low start-up costs and quick digital adoption like mobile money. Woodwork shops and M-Pesa agents also play a key role, with 37 (10.8%) and 39 (11.3%) respondents, reflecting the importance of informal manufacturing and mobile services for SMEs. Welding shops had 31 respondents (9.0%), while hotels, bars, and restaurants had 17 (4.9%), indicating moderate engagement, likely due to operational demands and varying formality. Carwash businesses and guesthouses had 13 (3.8%) and 10 (2.9%) respondents, respectively, showing a smaller but notable presence. Other sectors like wholesale shops, hardware stores, mechanics, barbershops, honey production, water plants, and bookshops had less than 3 per cent each, possibly due to smaller populations or limited geographic scope.

Demographic Information

Table 2 illustrates the demographic details of the 344 SME owners involved in the study conducted in Kitui County.

Table 2: Demographics of Owners of SMEs

Demographic Variable	Category	Frequency	Percentage (%)
Gender	Female	138	40.1
	Male	206	59.9
	Total	**344**	**100.0**
Age	18 – 27 years	62	18.0
	28 – 37 years	93	27.1
	38 – 47 years	97	28.2
	48 – 57 years	51	14.8
	Above 57 years	41	11.9
	Total	**344**	**100.0**
Level of Education	Primary Education	73	21.2
	Secondary Education	117	34.0
	Tertiary Education	145	42.2
	Any Other (Specify)	9	2.6
	Total	**344**	**100.0**

Note. Data source: Primary research data (2026).

Most participants were male (206, 59.9%), with females at 138 (40.1%), indicating male dominance in business ownership or management. This aligns with Ahmed et al.'s (2025) study on the role of perceived government support in e-business adoption among Omani SMEs, suggesting that male entrepreneurs still hold a significant share due to better access to resources, networks, and opportunities. However, 40.1 per cent of female entrepreneurs in Kitui County highlight notable female participation, enhancing the study's inclusiveness and supporting gender-sensitive analyses of business performance and access to finance.

Most respondents were between 28 and 47 years old, with 93 (27.0%) aged 28–37 and 97 (28.2%) aged 38–47, indicating the study mainly involved middle-aged individuals with relevant experience. This aligns with Khorow's (2023) study of SMEs in Garissa, Kenya, where most owners are middle-aged, combining motivation and practical expertise. The younger group, ages 18–27, included 62 (18.0%) respondents, representing early-career entrepreneurs focused on innovation, risk-taking, and growth. Older groups, 48–57 and over 57 years, included 51 (14.8%) and 41 (11.9%) respondents, respectively, suggesting a smaller share of late-career individuals. Older respondents offer practical insights, market experience, and resilience in business.

Most respondents, 145 (42.2%), have completed tertiary education, indicating many business owners or managers hold advanced qualifications, enhancing skills, financial literacy, and tech adoption. Respondents with secondary education numbered 117 (34.0%), the second-largest group, and were led by individuals with moderate formal education. Those with primary education were 73 (21.2%), showing enterprises run by less-educated individuals. These stats suggest that many SME operators lack advanced qualifications yet have a solid educational foundation.

Diagnostics

To effectively validate the role of FinTech-led digital credit accessibility on SME growth, this study tested normality, linearity, homoscedasticity, multicollinearity, and autocorrelation among the variables.

Normality Tests

Data normality was assessed using histograms of standardised regression residuals for the dependent variable. The results are shown in Figures 1 and 2.

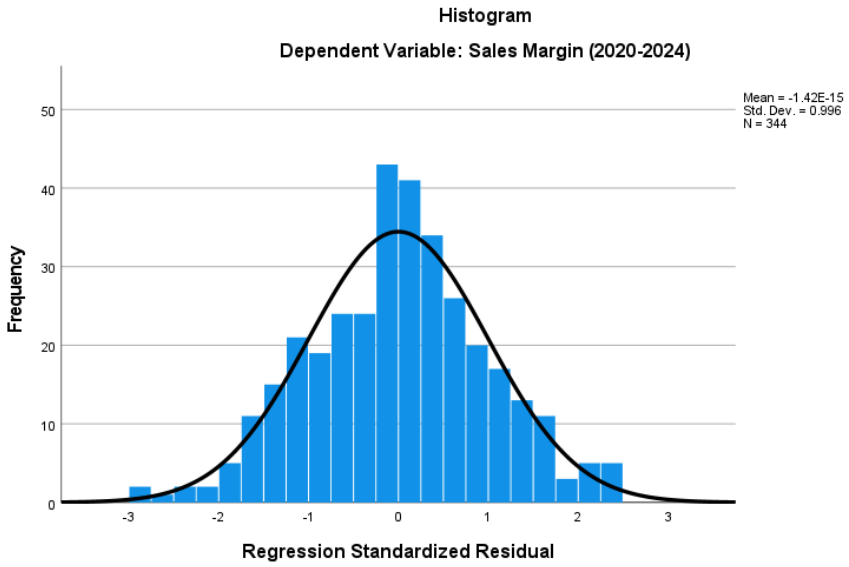

Figure 1: Histogram: Average Sales Margin
Note. Data source: Primary research data (2026).

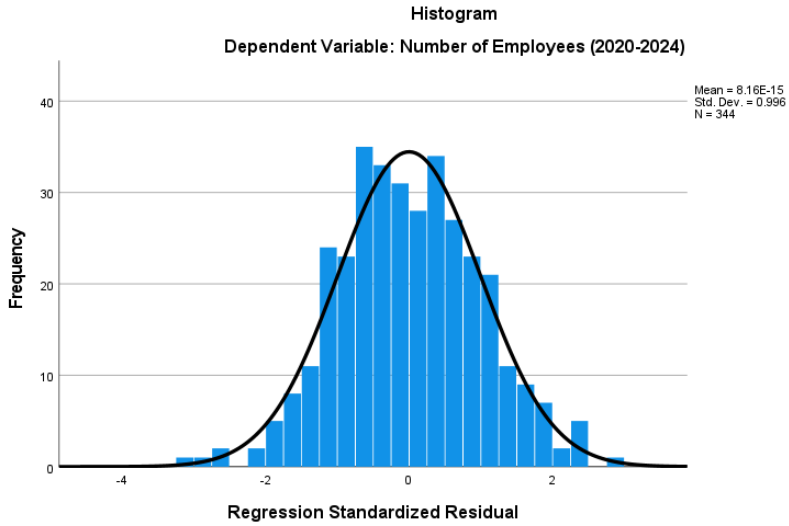

Figure 2: Histogram: Number of Employees
Note. Data source: Primary research data (2026).

Figure 1 displays the distributions of standardised residuals for average sales margin (2020–2024) and Figure 2 shows the average number of employees (2020-2024), key for assessing normality, an essential regression assumption. The distributions resemble a bell curve, with bars centred around means near zero (Sales margin ≈ -1.42E-15; employees ≈ -8.16E-15), tapering symmetrically. The standard deviation of 0.996 for both variables aligns with expected normality, and no extreme outliers or peaks are present, with residuals mostly between -3 and +3. These findings, consistent with Field (2024), confirm the normality assumption, supporting the reliability of the regression results.

Linearity and Homoscedasticity Tests

Linearity and homoscedasticity of the data were assessed using scatterplots of standardised regression residuals against standardised regression predicted values for the dependent variables. The results are shown in Figures 3 and 4.

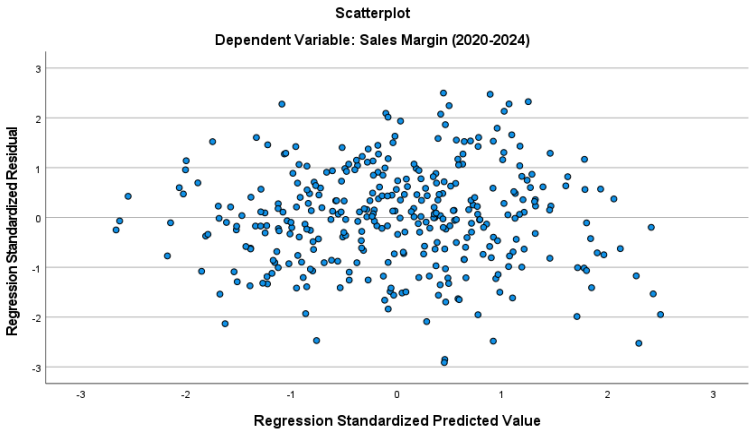

Figure 3: Scatterplot: Average Sales Margin
Note. Data source: Primary research data (2026).

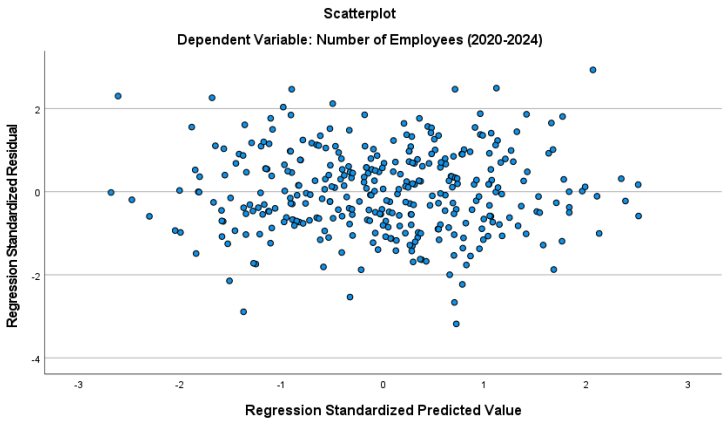

Figure 4: Scatterplot: Number of Employees
Note. Data source: Primary research data (2026).

The scatterplots in Figures 3 and 4 show a random, even dispersion of residuals around zero, with no clear pattern or systematic structure, indicating linear relationships between variables. Residual spreads remain constant across predicted values, suggesting homoscedasticity, and most residuals fall within -3 to +3, showing no serious outliers. Overall, the plots confirm that linearity and homoscedasticity assumptions are met, supporting proper model specification and reliable coefficients.

Multicollinearity Tests

Multicollinearity of the data on both models (sales margin and number of employees) was assessed using the Variance Inflation Factor (VIF). The results are shown in Table 3.

Table 3: Multicollinearity Tests

Models	Coefficients	Tolerance	VIF
Average Sales Margin (2020-2024)	Availability of FinTech-led credit	1.000	1.000
	Ease of Access FinTech-led credit	1.000	1.000
	Adequacy of FinTech-led credit	1.000	1.000
Average Number of Employees (2020-2024)	Availability of FinTech-led credit	1.000	1.000
	Ease of Access FinTech-led credit	1.000	1.000
	Adequacy of FinTech-led credit	1.000	1.000

Note. Data source: Primary research data (2026).

According to Table 3, all variables had tolerance values of 1.000 and VIF values of 1.000 across both models. Values of tolerance close to 1 imply no linear relationships among the predictors, and VIF values of 1 indicate no evidence of multicollinearity. According to standard statistical thresholds, tolerance values above 0.1 and VIF values below 10 (or, more conservatively, below 5) indicate that models do not suffer from multicollinearity (Field, 2024). These findings confirm that multicollinearity is not present in either regression model, which implies that each variable contributes unique explanatory power to the models without redundancy or overlap.

Autocorrelation Tests

Autocorrelation of the residuals in both models (sales margin and number of employees) was tested using the Durbin–Watson statistic. The results are shown in Table 4.

Table 4: Autocorrelation Test

Model	R	R Square	Adjusted R-Square	Std. Error of the Estimate	Durbin-Watson
Sales Margin	0.774[a]	0.599	0.595	15239.26155	2.107
Number of Employees	0.652[a]	0.425	0.420	0.79818	1.968
a. Predictors: (Constant), Adequacy of FinTech-led credit, Availability of FinTech-led credit, Ease of Access to FinTech-led credit					

Note. Data source: Primary research data (2026).

Table 4 indicates Durbin–Watson values of 2.107 and 1.968 for the sales margin and number of employees models, respectively. These values are very close to the benchmark of 2, indicating no evidence of autocorrelation in the residuals. Field (2024) notes that, in regression analysis, values ranging from 1.5 to 2.5 are typically regarded as acceptable and suggests that the error terms are independent. Therefore, the regression model does not suffer from serial correlation, and the estimates can be considered reliable.

Correlation of Independent Variables

The study employed Pearson correlation analysis to evaluate the relationships between the three independent variables: availability, ease of access, and adequacy of FinTech-driven credit, as shown in Table 5.

Table 5: Correlations of Independent Variables

		Availability of FinTech-led credit	Ease of Access FinTech-led credit	Adequacy of FinTech-led credit
Availability of FinTech-led credit	Pearson Correlation	1	0.002	0.004
	Sig. (2-tailed)		0.977	0.944
Ease of Access FinTech-led credit	Pearson Correlation	0.002	1	-0.008
	Sig. (2-tailed)	0.977		0.889
Adequacy of FinTech-led credit	Pearson Correlation	0.004	-0.008	1
	Sig. (2-tailed)	0.944	0.889	

Note. Data source: Primary research data (2026).

The results in Table 5 show that the correlations between the variables are extremely weak, close to zero in all three independent variables. In particular, the correlation between *availability of FinTech-led credit* and *ease of access to FinTech-led credit* is r = 0.002 (p = 0.977), between *availability of FinTech-led credit* and *adequacy of FinTech-led credit* is r = 0.004 (p = 0.944), and between *ease of access to FinTech-led credit* and *adequacy of FinTech-led credit* is r = -0.008 (p = 0.889). These coefficients are nearly zero, indicating no linear relationship among the independent variables. In addition, all p-values exceed 0.05,

indicating that these relationships are not statistically significant. These findings imply that each independent variable captures a distinct and independent dimension of FinTech-led credit. Likewise, the lack of notable correlations reinforces the multicollinearity findings (VIF = 1.000), confirming that there is no risk of redundancy or overlap among the predictors. All in all, the correlation analysis indicates that the independent variables are statistically independent, strengthening the robustness of the regression models and ensuring that each variable's effect on SME growth outcomes can be interpreted clearly and reliably.

Regression Results

Linear regression models were utilised to explore the association between the independent variables (availability, ease of access, and adequacy of FinTech-led credit) and the dependent outcomes, which included sales margin and number of employees. The results are presented as a model summary, ANOVA results, and regression coefficients.

Model Summary

Table 6 summarises the results of two regression models estimating the effects of the availability of FinTech-led credit, ease of access to FinTech-led credit, and the adequacy of FinTech-led credit on SME performance indicators, such as sales margin and the number of employees.

Table 6: Models' Summary

Model	R	R Square	Adjusted R-Square	Std. Error of the Estimate
Sales Margin	0.774[a]	0.599	0.595	15239.26155
Number of Employees	0.652[a]	0.425	0.420	0.79818
a. Predictors: (Constant), Adequacy of FinTech-led credit, Availability of FinTech-led credit, Ease of Access to FinTech-led credit				

Note. Data source: Primary research data (2026).

Results in Table 6 show strong correlation coefficients (R = 0.774 for sales margin and R = 0.652 for the number of employees), indicating strong positive relationships between the independent and dependent variables. This indicates that, overall, the FinTech credit variables are strongly linked to changes in SME sales performance. The coefficients of determination (R^2 = 0.599 for sales margin and R^2 = 0.425 for the number of employees) indicate that approximately 59.9 per cent and 42.5 per cent of the variations in sales margin and the number of employees, respectively, are explained by the three predictors included in the models. This indicates a strong explanatory power, showing that the models account for significant portions of the factors affecting sales margin and the number of employees. In the same vein, the adjusted R^2 values (0.595, 0.425) are very close to the R^2 values (0.595, 0.420) for the sales margin and number of employees models. This indicates that the models remain stable even after adjusting for the number of predictors, and that there is minimal overfitting. Overall, the model summary shows that the regression models are statistically robust and well-fitting, with strong explanatory power. Therefore, the availability, ease of access to, and adequacy of FinTech-led credit are important determinants of SME sales margin and the number of employees in Kitui County.

ANOVA

Table 7 presents the ANOVA results for the regression models assessing the roles of the availability, ease of access to, and adequacy of FinTech-led credit in explaining SME performance indicators (sales margin and number of employees).

Table 7: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
Sales margin	Regression	117,751,511,722.202	3	39250503907.401	169.012	0.000[b]
	Residual	78,959,931,519.281	340	232235092.704		
	Total	196,711,443,241.483	343			
Number of Employees	Regression	160.364	3	53.455	83.904	0.000[b]
	Residual	216.613	340	0.637		
	Total	376.976	343			
a. Dependent Variables: Sales Margin and Number of Employees						
b. Predictors: (Constant), Adequacy of FinTech-led Credit, Availability of FinTech-led Credit, Ease of Access to FinTech-led Credit						

Note. Data source: Primary research data (2026).

Regression results in Table 7 show that both the overall sales margin and the number of employees models are statistically significant, with $F = 169.012$, $p < 0.001$, and $F = 83.904$, $p < 0.001$, respectively. This implies that the independent variables (availability of FinTech-led credit, ease of access to FinTech-led credit, and adequacy of FinTech-led credit) jointly have a significant effect on sales margin and the number of employees. Compared with the residual sum of squares (78,959,931,519.281 and 216.613), the regression sum of squares (117,751,511,722.202 and 160.364) indicates that a substantial proportion of the variations in sales margin and the number of employees, respectively, are explained by the models. Overall, the ANOVA results confirm that both regression models are statistically significant and effectively explain variation in SME growth indicators.

Regression Coefficients

The regression coefficients for models examining the effects of availability, ease of access, and adequacy of FinTech-led credit on SME performance measures (sales margin and number of employees) are presented in Table 8.

Table 8: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
Sales Margin	(Constant)	347092.188	12308.905		28.198	0.000
	Availability of FinTech-led credit (*FinAvaila*)	28269.430	2177.289	0.446	12.984	0.000
	Ease of Access FinTech-led credit (*FinEaseAcce*)t	25474.373	1825.005	0.480	13.959	0.000
	Adequacy of FinTech-led credit (*FinAdqua*)	30232.954	2516.307	0.413	12.015	0.000
Number of Employees	(Constant)	2.179	0.645		3.379	0.001
	Availability of FinTech-led credit (*FinAvaila*)	1.017	0.114	0.367	8.921	0.000
	Ease of Access FinTech-led credit (*FinEaseAcce*)	1.072	0.096	0.461	11.211	0.000
	Adequacy of FinTech-led credit (*FinAdqua*)	0.902	0.132	0.281	6.842	0.000
a. Dependent Variable: Sales Margin (2020-2024)						

Note. Data source: Primary research data (2026).

$$SalesMargin_i = 347092.188 + 28269.430FinAvaila + 25474.373FinEaseAcce + 30232.954\,FinAdqua$$

…… **(iv)**

$$NoEmployees_i = 2.179 + 1.017FinAvaila + 1.072FinEaseAcce + 0.902FinAdqua$$

…… **(v)**

Results on the sales margin model in Table 8 show that all three independent variables have positive and statistically significant effects ($p < 0.001$). In particular, the availability of FinTech-led credit (B = 28,269.430, β = 0.446, t = 12.984) significantly increases sales margin, indicating that improved availability of credit is associated with higher business revenue. Ease of access to FinTech-led credit exhibits the strongest influence (B = 25,474.373, β = 0.480, t = 13.959), suggesting that easier access to credit plays a critical role in enhancing sales performance. Similarly, adequacy of FinTech-led credit (B = 30,232.954, β = 0.413, t = 12.015) positively and significantly affects sales margin, implying that sufficient credit amounts contribute to improved financial outcomes. The constant term (B = 347,092.188, $p < 0.001$) represents the baseline sales margin when all predictors are held constant.

In the number of employees model, the results also show that all independent variables have positive and statistically significant effects ($p < 0.001$). The availability of FinTech-led credit (B = 1.017, β = 0.367, t = 8.921) is positively associated with employment levels, indicating that greater access to credit enables SMEs to expand their workforce. Ease of access to FinTech-led credit again has the strongest effect (B = 1.072, β = 0.461, t = 11.211), highlighting its importance in facilitating business growth and job creation. Adequacy of FinTech-led credit (B = 0.902, β = 0.281, t = 6.842) also significantly contributes to increases in the number of employees. The constant term (B = 2.179, p = 0.001) reflects the baseline number of employees in the absence of the predictors. Overall, the findings show that all three aspects of FinTech-led credit have a strong positive impact on SME growth, with ease of access being the most significant predictor in both models.

Discussions

Effect of Availability of FinTech-led Credit on SME Growth

The findings indicate that the availability of FinTech-led credit significantly and positively affects SME growth in Kitui County, resulting in the rejection of H1. Descriptive statistics indicated strong agreement among respondents regarding the presence and accessibility of FinTech platforms (mean values ranging from 3.1860 to 3.2326), suggesting that SMEs widely perceive digital credit as readily available and increasingly accessible over time. The relatively low standard deviations further confirm consistency in these perceptions. The inferential analysis reinforces this finding, with regression results revealing a significant positive effect on sales margin (β = 0.446, p < 0.001) and number of employees (β = 0.367, p < 0.001). This implies that better credit availability directly improves SME performance. The findings also align with previous research indicating that greater FinTech credit access improves liquidity and facilitates investment in expansion activities. For instance, research highlights that FinTech platforms reduce financing constraints and enhance operational capacity among SMEs, thereby supporting enterprise growth. Similarly, studies such as (Cornelli et al., 2024; Sabato et al., 2021) confirm that increased credit availability enables SMEs to stabilise operations and pursue expansion. Therefore, the findings underscore the critical role of FinTech ecosystems in improving financial inclusion and strengthening SME growth outcomes in developing economies such as Kenya.

Effect of Ease of Access to FinTech-Led Credit on SME Growth

The findings indicate that ease of access to FinTech-led credit has a significant and positive effect on SME growth in Kitui County, leading to the rejection of H2. Descriptive results show moderate to high agreement among respondents, with mean values ranging from 2.9767 to 3.0116, implying that SMEs generally perceive FinTech credit processes as relatively simple, fast, and convenient. Although there are slight variations, the overall consistency in responses suggests that digital platforms have simplified access to credit. Inferential analysis further confirms this relationship, with ease of access emerging as the strongest predictor of SME growth in both models, significantly influencing sales margin (β = 0.480, $p < 0.001$) and the number of employees (β = 0.461, $p < 0.001$). These results imply that reducing barriers such as lengthy procedures and complex requirements enhances SMEs' ability to secure timely financing, thereby improving business performance. The findings are consistent with empirical literature showing that simplified credit processes reduce transaction costs and improve liquidity. Studies such as Kimari et al. (2022) and Panda et al. (2023) similarly demonstrate that accessibility factors, including efficiency and responsiveness, significantly influence SMEs' financial outcomes. Overall, the results highlight that beyond mere availability, the usability and convenience of FinTech platforms play a decisive role in driving SME growth and operational expansion.

Effect of Adequacy of FinTech-Led Credit on SME Growth

The study established that the adequacy of FinTech-led credit has a significant positive influence on SME growth in Kitui County, thereby rejecting H2. Descriptive findings reveal strong agreement among respondents, with mean scores ranging from 3.2355 to 3.3547, indicating that SMEs perceive FinTech credit as sufficient to meet both operational and expansion needs. The low dispersion of responses suggests a shared perception of adequacy across businesses. Inferential statistics further validate this observation, showing that the adequacy of credit has a positive and

statistically significant effect on sales margin (β = 0.413, $p < 0.001$) and the number of employees (β = 0.281, $p < 0.001$). These results suggest that access to sufficient credit enables SMEs to invest in productive assets, manage working capital effectively, and expand their workforce. These findings are in agreement with earlier research suggesting that adequate financial resources are vital for maintaining business expansion and increasing profitability. Empirical evidence from developing economies shows that sufficient credit enhances enterprise performance, while inadequate financing limits growth potential. Additionally, studies such as Al-Maamari et al. (2025) emphasise that adequate credit levels are crucial for supporting business expansion. Therefore, the results confirm that not only access but also the sufficiency of FinTech credit is critical to driving meaningful and sustainable SME growth outcomes.

Summary

This study extends the understanding of FinTech-led digital credit by examining how its key dimensions, namely: availability, ease of access, and adequacy, influence SME growth in Kitui County, Kenya. While earlier studies have mainly examined general financial inclusion, this study offers a more detailed perspective by breaking down digital credit into separate components and linking them to firm-level growth indicators such as sales margin and number of employees. Grounded in empirical analysis, the study contributes to the growing FinTech literature by demonstrating how digital credit accessibility shapes enterprise performance in a semi-urban context characterised by financial constraints and limited infrastructure.

The empirical findings indicate that all three dimensions of FinTech-led credit accessibility are positively and significantly related to SME growth. Descriptive statistics showed strong consensus among SMEs about the availability and adequacy of credit, and moderate agreement on how easy it is to access, indicating that digital credit platforms are broadly adopted and used. Inferential analysis further demonstrated that availability, ease of access, and adequacy significantly impact both sales margin and employment growth, with ease of access being the most influential factor. These results highlight the crucial role of accessible, sufficient, and user-friendly financial solutions in boosting SME performance, aligning with earlier research that emphasises the role of FinTech in easing financial constraints and enhancing business outcomes.

CONCLUSION AND RECOMMENDATIONS

Conclusion: The study shows that FinTech-led digital credit not only improves access to finance but also enhances the efficiency with which SMEs utilise financial resources. The notable impacts seen in both growth indicators imply that SMEs can turn digital credit into concrete results, like higher revenue and workforce growth. This highlights FinTech's importance in overcoming traditional obstacles like collateral needs, high transaction fees, and slow credit processing, which have historically constrained SME expansion in counties like Kitui. Overall, the results strongly suggest that digital financial innovations play a crucial role in enhancing enterprise resilience and competitiveness.

Recommendation: The study provides a context-specific contribution to the FinTech and SME growth literature by demonstrating that digital credit accessibility is a critical driver of enterprise performance in resource-constrained environments.

The results indicate that the availability, ease of access, and adequacy of FinTech-led credit significantly boost SME performance. Among these, ease of access is the most influential factor for both sales margins and employment growth. Future research could include longitudinal data to observe long-term effects, investigate sector-specific differences in how SMEs benefit from credit, and analyse moderating factors like financial literacy or institutional support. These approaches would enhance understanding of how digital credit ecosystems impact business outcomes and increase the applicability of the findings across various contexts.

These findings underscore the importance of policy actions that target the three key aspects of credit access identified in the study. Policymakers and regulators should focus on expanding digital infrastructure and internet connectivity to improve availability, simplifying credit procedures to make access easier, and ensuring that loan products meet SME needs in terms of adequacy. Clarifying credit

requirements and increasing transparency can reduce barriers, while collaboration among FinTech firms, financial institutions, and government agencies can enhance usability and inclusivity. When these interventions are aligned with the study's evidence, they can promote SME growth, create jobs, and advance financial inclusion in underserved regions.

REFERENCES

Abu, N., da Silva, F. P., & Vieira, P. R. (2025). Government support for SMEs in the fintech era: Enhancing access to finance, survival, and performance. *Digital Business, 5*(1), 100099. https://doi.org/10.1016/j.digbus.2024.100099

Ahmed, M., Al-Riyami, S. N., Husain, W. R. B. W., Juhdi, N. B., Al-Shuwaikh, F., & Haji, A. (2025). Examining the moderating effect of perceived government support on e-business adoption among Omani SMEs. *International Journal of Information Management Data Insights, 5*(2), 100378. https://doi.org/10.1016/j.jjimei.2025.100378

Al-Maamari, O. A., Aljonaid, N., & Alrefaei, N. (2025). Impact of microcredit on the performance of micro and small enterprises (MSEs) in Yemen. *Cogent Economics & Finance, 13*(1). https://doi.org/10.1080/23322039.2025.2460083

Al Khalaf, K., O'Dowling Keane, S., da Mata, C., McGillycuddy, C. T., Chadwick, B. L., & Lynch, C. D. (2022). Response rates to questionnaire-based studies in the contemporary dental literature: A systematic review. *Journal of Dentistry, 126*, 104284. https://doi.org/10.1016/j.jdent.2022.104284

Avouba, F.-G. N. (2022). Effects of access to credit on the performance of SMEs in the Congo. *The Journal of Entrepreneurial Finance, 24*(3), 48–64. https://doi.org/10.57229/2373-1761.1444

Charfeddine, L., Umlai, M. I., & El-Masri, M. (2024). Impact of financial literacy, perceived access to finance, ICT use, and digitization on credit constraints: Evidence from Qatari MSME importers. *Financial Innovation, 10*(1), 15. https://doi.org/10.1186/s40854-023-00557-4

Cornelli, G., Frost, J., Gambacorta, L., & Jagtiani, J. (2024). The impact of fintech lending on credit access for U.S. small businesses. *Journal of Financial Stability, 73*, 101290. https://doi.org/10.1016/j.jfs.2024.101290

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340. https://doi.org/10.2307/249008

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review, 48*(2), 147–160. https://doi.org/10.2307/2095101

Ding, Y., Wang, Z., & Hu, Y. (2026). FinTech and SME access to credit: Heterogeneous effects across firms. *Finance Research Letters*. Advance online publication. https://doi.org/10.1016/j.frl.2026.109997

Field, A. (2024). *Discovering statistics using IBM SPSS statistics* (6th ed.). Sage Publications.

FSD Kenya. (2024). *Transforming the MSME industry in Kenya*. FSD Kenya.

Kimari, A., Lio, S., & Ogada, A. (2022). The effect of ease of access on financial prosperity of micro and small entrepreneurs in Nairobi County, Kenya. *International Journal of Research in Business and Social Science, 11*(6), 314–323. https://doi.org/10.20525/ijrbs.v11i6.1946

Khorow, A. M. (2023). *Mobile money services and financial performance of small and medium enterprises in Garissa County, Kenya* [Master's thesis, Kenyatta University].

Meher, B. K., Hawaldar, I. T., Mohapatra, L., Spulbar, C., Birau, R., & Rebegea, C. (2021). The impact of digital banking on the growth of micro, small and medium enterprises (MSMEs) in India: A case study. *Business: Theory and Practice, 22*(1), 18–28. https://doi.org/10.3846/btp.2021.12856

Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology, 83*(2), 340–363. https://www.jstor.org/stable/2778293

Musamali, R., Jugurnath, B., Maalu, J., & Mahuni, K. (2024). Fintech regulation in Kenya: Global practices and lessons learnt. *Journal of Smart Economic Growth, 9*(2), 33–66.

Nurqamarani, A. S., Sogiarto, E., & Nurlaeli, N. (2021). Technology adoption in small-medium enterprises based on technology acceptance model: A critical review. *Journal of Information Systems Engineering and Business Intelligence, 7*(2), 162–172. https://doi.org/10.20473/jisebi.7.2.162-172

Oluwafemi, I., Oluwafemi, J., Laseinde, T. O., Awoyemi, B. O., & Babatunde, A. (2019). Datasheet showing the impact of work environment on productivity in higher education institutions. *Data in Brief, 25*, 104090. https://doi.org/10.1016/j.dib.2019.104090

Panda, P., Satapathy, M., & Acharya, S. (2023). Factors influencing ease of access to banks. In S. Sarma & N. Gupta (Eds.), *Handbook of research on the interplay between service quality and customer delight* (pp. 213–230). IGI Global. https://doi.org/10.4018/978-1-6684-5853-2.ch011

Rajath, K. G. S., Sindhu, E. B., Bharathi, N., & Peerani, S. (2025). *Research design and analysis*. RK Publication.

Rogers, E. M. (1995). Diffusion of innovations: Modifications of a model for telecommunications. In *Die Diffusion von Innovationen in der Telekommunikation* (pp. 25–38). https://doi.org/10.1007/978-3-642-79868-9_2

Rokhim, R., Wulandari, P., & Mayasari, I. (2018). Small medium enterprises technology acceptance model: A conceptual review. *International Journal of Business and Society, 19*, 689–699.

Sabato, G., Altman, E. I., & Andreeva, G. (2021). Small and medium-sized enterprises that borrow from "alternative" lenders in the United Kingdom: Who are they? *Journal of Credit Risk, 17*(2), 1–24. https://doi.org/10.21314/JCR.2021.002

Sanga, B., & Aziakpono, M. (2023). FinTech and SMEs financing: A systematic literature review and bibliometric analysis. *Digital Business, 3*(2), 100067. https://doi.org/10.1016/j.digbus.2023.100067

Sheng, T. (2021). The effect of fintech on banks' credit provision to SMEs: Evidence from China. *Finance Research Letters, 39*, 101558. https://doi.org/10.1016/j.frl.2020.101558

Verma, S., Shome, S., & Hassan, M. K. (2023). FinTech in small and medium enterprises (SMEs): A review and future research agenda. *European Management Journal, 41*(6), 950–971. https://doi.org/10.1016/j.emj.2023.07.003