

Financial Inclusion and Growth of the Last Mile Entrepreneurs in Makueni County, Kenya

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Abstract

This study examined the influence of financial inclusion on the growth of last-mile entrepreneurs in Makueni County, Kenya, amid persistent challenges in business financing and sales performance. Reports indicate that over 70% of last-mile entrepreneurs failed to reach their second anniversary, while more than 56% experienced declining sales during the 2019, 2020, and 2021 financial years, with average declines of 21%, 34%, and 41%, respectively. The study assessed the effects of access to formal financial services, financial literacy, financial credit products, and financial technology on entrepreneurial growth. The target population comprised 1,923 entrepreneurs operating in agriculture, retail, service, and manufacturing sectors in major towns of Makueni County. A sample of 331 respondents participated, with data collected using a structured questionnaire whose validity and reliability were established. Quantitative data were analyzed using statistical techniques, while qualitative information was subjected to thematic analysis. Ethical considerations included informed consent, voluntary participation, and participants' right to withdraw. Multiple regression analysis revealed an exceptionally strong model fit ($R^2 = 0.997$), indicating that the four financial inclusion dimensions jointly explained 99.7% of the variation in entrepreneurial growth. All predictors had positive and statistically significant effects ($p = 0.000$). Financial literacy had the strongest influence ($\beta = 0.457$), followed by financial credit products ($\beta = 0.338$), access to financial services ($\beta = 0.143$), and financial technology adoption ($\beta = 0.069$). The study concludes that strengthening financial knowledge, access, credit availability, and fintech adoption can enhance entrepreneurial growth and business sustainability. It recommends expanding inclusive financial services, strengthening financial literacy initiatives, developing flexible credit products, and investing in financial technology infrastructure and training initiatives.

Keywords: *Financial inclusion; Financial literacy; Financial services; Financial credit; Financial technology; Entrepreneurial growth; Last-mile entrepreneurs*

1.1 Introduction

Last-mile entrepreneurs (LMEs), who operate at the final stage of delivering goods and services to end-users, are closely associated with financial inclusion because their growth can expand access to financial services for entrepreneurs and underserved communities (World Bank, 2022). Their development supports local businesses and employment (IMF, 2019). Globally, LMEs operate in remote and less-developed areas where they provide goods and services that may otherwise be unavailable (Amit & Zott, 2017; Bangens & Collings, 2019). Their contribution to GDP, income generation, poverty reduction and employment makes their growth important to economic development (D’Imperio, 2018). Expansion, investment and financing decisions are central to business growth (Xiao, Lawson & North, 2020). Financial technology has increasingly supported financial inclusion among underserved entrepreneurs. In China, FinTech firms use mobile platforms, cloud computing and big data to provide mobile payments, online credit and other services at unprecedented scale (Chong et al., 2019; Huang & Huang, 2020). In Africa, LMEs are important contributors to employment and economic development. The World Bank (2021) reported that LMEs account for 90% of businesses in Ghana and more than 50% of employment in Nigeria, while formal LMEs contribute substantially to Madagascar’s GDP. LME development remains an important policy priority (Beck, Dermiguc-Kunt & Levine, 2020). Digitization and technology have consequently been identified as mechanisms for addressing credit, value-chain and productivity constraints (Bajaj, 2021).

In East Africa, LMEs continue to experience information and financing constraints that limit market participation and expansion. FinTech supports financial stability, market liquidity and resource allocation (Chatchai & Ho-don Yan, 2019). Mobile payments, digital banking, digital credit and Insurtech have increasingly supported business transactions, while affordable mobile phones have widened banking access in Kenya (Mbogo, 2016). Financial inclusion can help address these constraints by expanding access to credit, insurance and other financial services, for entrepreneurs operating remotely (World Bank, 2021; Egbide, 2020). Growth refers to an increase in entrepreneurial performance over time. Dobbs and Hamilton (2017) define growth as change in an entrepreneur’s dimensions, while Brush et al. (2019) identify expansion, sales, markets, customers, products and services as growth dimensions. Eton et al. (2018) define growth through sales, assets, operational efficiency and customer-base expansion. This study adopts Eton et al.’s (2018) definition because it aligns with LME growth in Makueni County. Growth may arise from increased demand, sales and investment in productive factors (Janssen, 2019). It therefore measures growth using revenue, customer-base and asset growth (Bekaert & Hodrick, 2018; Eton et al., 2018).

Revenue growth represents increases in total sales or income over time and indicates sales effectiveness, market responsiveness and competitiveness (Koryak et al., 2019; Bekaert & Hodrick, 2018). Customer-base growth reflects the capacity to attract and retain customers through effective marketing, quality services and responsiveness to consumer needs (Schaner, 2019). Customer expansion can strengthen sales and market position (World Bank, 2018). Asset acquisition refers to increases in the quantity and value of productive assets, including equipment, buildings and intellectual property. Such assets support operational efficiency, financial stability and expansion (Banerjee, 2019; Petty, Zuckerberg, & Pauli, 2020). Growth reflects efficient use of capabilities, knowledge and resources (Coad et al., 2018).

Financial inclusion is the process of ensuring that individuals and businesses can access useful, affordable and responsible financial products and services, including payments, savings, credit and insurance (World Bank, 2018). It promotes economic participation, risk management and financial security (Demirgüç-Kunt et al., 2019; Nwanko & Nwanko, 2020). Aguera (2020) conceptualizes financial inclusion through access, usage, quality and welfare. The study focuses on formal financial services, financial literacy, credit products and financial technology.

Access to formal financial services enables entrepreneurs to obtain savings, insurance, transaction and credit services. Savings provide security, insurance reduces losses, and transaction histories support credit access (Demirgüç-Kunt et al., 2018; Holloway, Niazi, & Rouse, 2017; Gammage et al., 2017). Financial literacy combines financial awareness and knowledge that support effective decisions concerning financial products, services and investments (OECD, 2019). Literacy facilitates sound saving, debt, risk and investment decisions (Eton et al., 2018; IMF, 2019). Financial credit products, including loans and credit lines, support stock acquisition, equipment upgrading and business expansion; their relevance can be assessed through credit application, usage and loan purpose (Ban et al., 2019; Tomlinson, 2018; Owusu, Ismail & Osman, 2019). FinTech, including mobile banking, online payments and digital lending, expands affordable access to financial services for underserved entrepreneurs (Gabor & Brooks, 2017; GSMA, 2017). It reduces transaction barriers and improves operations and market reach (Mundia, 2020; Makasi, 2022).

In Makueni County, LMEs have traditionally supplied goods and services to remote communities but face persistent expansion constraints. Between 2019 and 2023, revenue, customer and asset growth challenges affected profitability, while limited markets, infrastructure and finance contributed to stagnation (Pelz, Aklin, & Urpelainen, 2021; Ngaruiya & Mwenda, 2021). Revenue growth has been constrained by low profits, irregular cash flows and seasonal markets. Many enterprises depend on subsistence markets, while agricultural activities remain vulnerable to drought and other climate disruptions, reducing revenues and investment capacity (County Government of Makueni, 2022; IMF, 2020).

Customer-base expansion is constrained by remoteness, limited marketing capacity and low-income local markets dominated by small-scale farming and livestock keeping (World Bank, 2020). Limited financial and business support restricts wider market entry (County Government of Makueni, 2022). Asset acquisition is constrained by limited access to regulated finance, inadequate collateral and high interest rates. Entrepreneurs may therefore rely on informal finance and savings groups, limiting asset acquisition (Pelz et al., 2021; Mundia, 2022). Although economic surveys have produced mixed signals regarding business performance, financing constraints remain a prominent explanation for slow growth and limited scaling among small enterprises (Chauvet & Jacolin, 2022). These constraints make financial inclusion particularly relevant to the capacity of LMEs to sustain and scale operations successfully. The study therefore examines financial inclusion as a potential mechanism for strengthening revenue growth, customer-base expansion and asset acquisition among last-mile entrepreneurs in Makueni County.

1.2 Problem Statement

Last Mile Entrepreneurs (LMEs) contribute to livelihoods and employment, yet many businesses in Kenya struggle to survive because of limited access to financial services. The County

Government of Makueni (2024) reported that over 70% of LMEs fail to reach their second year, while more than 56% experienced declining sales during 2022–2024. Average sales growth declined by 21%, 34%, and 41% in 2022, 2023, and 2024, respectively, raising concerns about financial inclusion and entrepreneurial growth. Despite financial sector expansion, informal businesses continue to experience greater financing challenges than large enterprises (Babu, 2023). Although mobile banking, microfinance, SACCOs, and internet banking have expanded financial access, LMEs in Makueni have not achieved sales improvement, suggesting unresolved challenges in access, quality, utilization, and service delivery. Evidence indicates that financial inclusion influences LME growth. Samuel and Mbugua (2019) found that financial inclusion and start-up capital affected women-owned LME growth in Nairobi, while Ibor, Offiong and Mendie (2017) established significant effects among Nigerian SMEs. This study examined financial inclusion and LME growth in Makueni County, Kenya. The reviewed evidence therefore establishes that financial inclusion matters for enterprise growth, but it does not establish how its separate dimensions operate among last-mile entrepreneurs in a predominantly arid and semi-arid county. This study addresses that gap.

1.3 Objectives

To investigate the effect of financial inclusion on growth of last mile entrepreneurs in Makueni County, Kenya.

The Specific objectives of this study were to:

1. To determine the effect of access to formal financial services on growth of last mile entrepreneurs in Makueni County, Kenya.
2. To assess the effect of financial literacy on growth of last mile entrepreneurs in Makueni County, Kenya.
3. To assess the effect of financial credit products on growth of last mile entrepreneurs in Makueni County, Kenya.
4. To assess the effect of financial technology on growth of last mile entrepreneurs in Makueni County, Kenya.

2.0 Literature Review

2.1 Theoretical Review

This section presents the theories underpinning the study variables and explains their relevance to financial inclusion and the performance of last-mile micro and small enterprises in Makueni County.

Resource-Based Theory (RBT) of entrepreneurship, developed by Barney et al. (2001), posits that long-term competitive advantage depends on heterogeneous and immobile resources that are valuable, rare, imperfectly imitable, and non-substitutable. The theory identifies physical, organizational capital, and human resources as major sources of competitive advantage. In entrepreneurship, resources possessed by individual entrepreneurs can determine firm competitiveness and performance (Greene et al., 1998). Although initially applied mainly to

established corporations, RBT has been extended to microenterprises to examine how firm-specific resources influence performance (Obeng et al., 2014; Okeyo, 2014; Thapa, 2014).

Critics argue that RBT is context-dependent and may be less applicable across different industries (Priem & Butler, 2001). It has also been criticized for inadequately explaining changing markets and interactions among resources (Amit & Schoemaker, 1993). In Makueni County, RBT provides a basis for examining whether access to financial resources and other internal capabilities associated with financial inclusion enhance the performance of last-mile entrepreneurs.

Transaction Cost Theory explains that firms incur economic and organizational costs when acquiring, establishing, and using resources (Polski et al., 2001). In financial markets, such costs may include expenses associated with accessing and using financial services. These costs can disproportionately constrain microenterprises compared with larger firms (Beck et al., 2009). Resource characteristics and transaction conditions can interact to influence transaction costs, particularly where resources are difficult to isolate or imitate (Zott et al., 2011).

The theory is relevant for analysing how the costs of financial inclusion affect micro and small enterprise performance. In Makueni County, it can help assess whether transaction costs associated with accessing formal financial services influence entrepreneurs' productivity and business outcomes. Critics note that transaction costs are difficult to measure and that the theory may oversimplify complex decision-making processes (Williamson, 1981). It has also been criticized for insufficiently addressing behavioral considerations and opportunistic conduct in transactional relationships (Jensen & Meckling, 1976). Nevertheless, the theory provides a useful lens for understanding financial-access barriers facing last-mile entrepreneurs.

Financial Literacy Theory draws on economics, psychology, sociology, and management to explain financial decision-making. Financial literacy encompasses knowledge of financial products and concepts, numeracy, and financial behaviours such as planning. Its development was supported by initiatives such as the JumpStart Coalition's research on personal financial literacy among high school students. The theory suggests that stronger financial knowledge and skills can support better financial decisions and consequently improve organizational performance.

The theory is relevant because inadequate financial literacy may limit the ability of micro and small enterprises to select, access, and effectively use financial services. Evidence of a significant relationship between financial literacy and enterprise performance in Kericho County, Kenya, supports its relevance to enterprise research. However, measuring financial literacy remains challenging, and financial education interventions have generated debate (Lusardi & Mitchell, 2007). The theory has further been criticized for insufficient attention to socioeconomic and cultural contexts. In Makueni County, the theory provides a basis for assessing entrepreneurs' financial knowledge and skills and their implications for financial decisions, financial inclusion, and business performance.

2.2 Empirical Review

This section reviews empirical studies on financial factors associated with the growth of last-mile entrepreneurs, focusing on access to financial services, financial literacy, financial credit products, and financial technology. Existing studies have largely concentrated on conventional SMEs and microenterprises, leaving limited evidence on enterprises operating in last-mile settings. Chepsang

et al. (2018) found that credit availability, supportive regulation, and financial literacy were important to SME financial performance in Nairobi County, while Kithae et al. (2021) identified financial resource constraints, inadequate financial expertise, and weak institutional capacity among Kenyan enterprises. Similarly, Samuel et al. (2019) reported persistent credit-access challenges among small agribusinesses in Murang'a County. These studies demonstrate the importance of financial access but provide limited evidence on last-mile entrepreneurs in Makueni County.

Financial literacy has also been associated with enterprise performance and participation in formal financial systems. Bire and Sauw (2019) established that financial education supported financial inclusion among MSMEs, while Mwangi et al. (2019) associated financial literacy with improved access to financial services and informed financial decision-making. Siekei et al. (2019) further found that financial literacy training substantially contributed to SME performance, whereas Chepngetich (2019) reported that knowledge of borrowing and budgeting significantly affected SME performance. Although these studies emphasize the importance of financial knowledge, they mainly examined general SME populations and did not adequately establish how financial literacy affects entrepreneurs operating in last-mile environments. The present study therefore examines the relationship between financial literacy and the growth of last-mile entrepreneurs in Makueni County.

Studies on financial credit products have similarly identified both their potential contribution and the barriers limiting their utilization. Obuya (2019) found that short-term loans, long-term loans, trade credit, and other debt-financing alternatives affected the financial performance of micro and small businesses. Gichuki et al. (2019) identified high interest rates, inadequate collateral, and small loan amounts as major constraints to credit access, while Njue and Mbogo (2019) reported that limited creditworthiness information and collateral requirements restricted SMEs' access to banking products. Shibia and Barako (2019) also identified formal financial credit as an important factor in enterprise growth. However, these studies did not specifically examine the accessibility and utilization of different financial credit products among last-mile entrepreneurs, creating a contextual gap that the proposed study addresses.

Financial technology has increasingly emerged as another important factor in enterprise growth. Suriani and Kuncoro (2018) established that fintech services influenced access to credit and competitive advantage, while Ngugi (2019) found a positive relationship between mobile banking innovations and competitive advantage in Kenya. Abbott (2021) similarly reported that fintech firms facilitated credit usage among SMEs in Kisumu, although the study mainly focused on mobile loans. Ndung'u (2021) found that mobile money, online banking, and online lending collectively explained part of SME growth, although the effects differed across individual technologies. Bossire and Ntale (2018) further reported that mobile banking, mobile payments, and mobile loans influenced SME growth, while Awinja and Fatoki (2021) highlighted the growing importance of digital payment services among Kenyan SMEs.

The reviewed studies show that access to financial services, financial literacy, financial credit products, and financial technology can influence enterprise performance and growth. However, much of the available evidence is based on conventional SMEs in urban areas such as Nairobi and Kisumu or on specialized groups such as agribusinesses and social enterprises (Koitamet &

Ndemo, 2019; Abbott, 2021). Furthermore, some studies examine individual financial dimensions without integrating them within the specific socioeconomic conditions experienced by last-mile entrepreneurs. Consequently, limited empirical evidence exists on how these four financial factors collectively relate to the growth of last-mile entrepreneurs in Makueni County. The proposed study addresses this contextual and conceptual gap by examining these relationships within the last-mile entrepreneurship environment.

3.0 Research Methodology

The study adopted a cross-sectional descriptive research design to examine financial factors associated with the growth of last-mile entrepreneurs in Makueni County at a single point in time using structured questionnaires (Kothari, 2007; Dekkers et al., 2012). The target population comprised 1,923 last-mile entrepreneurs operating in major towns and marketplaces in Makueni County in 2023, distributed across agriculture (443; 23.0%), retail (879; 45.7%), services (222; 11.6%), and manufacturing (379; 19.7%) according to the Makueni Revenue Collection Register (2023). Stratified random sampling was used to ensure adequate representation of the four sectors, while Yamane's (1967) formula, $n = N/[1 + N(e)^2]$, at a 5% margin of error generated a sample of 331 respondents, proportionately allocated as 77 from agriculture, 151 from retail, 38 from services, and 65 from manufacturing. Primary data were collected using a standardized questionnaire containing closed- and open-ended questions covering access to formal financial services, financial literacy, financial credit products, financial technology adoption, and enterprise growth.

Following institutional approval, NACOSTI clearance, and authorization from the relevant county authorities, questionnaires were administered to selected respondents with assistance from trained research assistants. Quantitative data were coded, cleaned, and analyzed using SPSS through frequencies, percentages, means, standard deviations, correlation, and multiple regression, while qualitative responses were analyzed thematically. Before regression analysis, the assumptions of multicollinearity, normality, linearity, and homoscedasticity were assessed using appropriate diagnostic procedures. The regression model was specified as $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$, where Y represented growth of last-mile entrepreneurs, X_1 access to formal financial services, X_2 financial literacy, X_3 financial credit products, X_4 financial technology adoption, β_0 the intercept, β_1 – β_4 the regression coefficients, and ε the error term. Ethical principles of informed consent, voluntary participation, confidentiality, privacy, secure data management, and the right to withdraw were observed throughout the study.

4.0 Findings and Discussion

This section presents the inferential findings on the relationship between financial factors and the growth of last-mile entrepreneurs in Makueni County. Pearson correlation analysis was used to determine the direction and strength of the relationships between the study variables, while multiple regression analysis established the joint and individual contribution of access to financial services, financial literacy, financial credit products, and financial technology adoption to enterprise growth. Statistical significance was evaluated at the 5% level.

4.1 Correlation Analysis

Pearson correlation analysis was conducted to establish the direction and strength of the relationship between each financial factor and the growth of last-mile entrepreneurs. The correlation coefficient ranges from -1 to $+1$, with positive values indicating that the variables move in the same direction. Table 1 presents the correlation results.

Table 1: Correlation between Financial Factors and Growth of Last-Mile Entrepreneurs

Variable	Pearson Correlation with Growth (r)	Sig. (2-tailed)
Access to Financial Services	.972**	< .001
Financial Literacy	.979**	< .001
Financial Credit Products	.808**	< .001
Financial Technology Adoption	.944**	< .001

The results in Table 1 indicate that all four financial factors were positively and statistically significantly associated with the growth of last-mile entrepreneurs. Access to financial services had a very strong positive relationship with growth ($r = .972$, $p < .001$), indicating that higher access to formal financial services was associated with higher enterprise growth. Financial literacy similarly recorded a very strong positive association with growth ($r = .979$, $p < .001$), suggesting that entrepreneurs with greater financial knowledge and skills tended to report higher levels of growth. Financial credit products were also strongly and positively related to growth ($r = .808$, $p < .001$), indicating that greater access to and utilization of appropriate credit facilities were associated with better enterprise outcomes. Financial technology adoption had a very strong positive relationship with growth ($r = .944$, $p < .001$), demonstrating that increased use of mobile banking, digital payments, digital credit, and related technologies was associated with improved enterprise growth. Overall, the findings show that improved financial access, literacy, credit utilization, and technology adoption were each associated with higher growth among last-mile entrepreneurs in Makueni County.

4.2 Regression Analysis

Multiple regression analysis was conducted to determine the extent to which access to financial services, financial literacy, financial credit products, and financial technology adoption jointly explained variations in the growth of last-mile entrepreneurs. The analysis further examined the estimated contribution of each predictor while controlling for the other variables in the model.

Table 2: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.998	.997	.997	.01417

Table 2 shows that the regression model recorded a multiple correlation coefficient of $R = .998$, indicating a very strong relationship between the combined financial factors and growth of last-mile entrepreneurs. The coefficient of determination was $R^2 = .997$, meaning that approximately 99.7% of the observed variation in enterprise growth was explained jointly by access to financial services, financial literacy, financial credit products, and financial technology adoption. The adjusted R^2 was also .997, showing that the model retained a very high explanatory capacity after adjustment for the number of predictors included. The standard error of estimate was .01417, indicating a relatively small difference between the observed and model-predicted values of growth. However, the exceptionally high R^2 should be interpreted cautiously because the correlation analysis also revealed very high relationships among some of the predictor variables, making assessment of multicollinearity important before drawing conclusions about their independent effects.

Table 3: Analysis of Variance for the Regression Model

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	16.916	4	4.229	21055.582	< .001
Residual	.053	263	.000		
Total	16.968	267			

The ANOVA results presented in Table 3 show that the overall regression model was statistically significant, $F(4, 263) = 21055.582$, $p < .001$. This indicates that access to financial services, financial literacy, financial credit products, and financial technology adoption jointly provided a statistically significant explanation of variation in the growth of last-mile entrepreneurs. The regression sum of squares of 16.916 was substantially greater than the residual sum of squares of .053, showing that most of the observed variation in growth was accounted for by the predictors included in the model. The findings therefore demonstrate that the combined financial factors were significantly associated with growth among the surveyed enterprises.

Table 4: Regression Coefficients

Predictor	B	Std. Error	Beta (β)	t	Sig.
Constant	.065	.019		3.383	.001
Access to Financial Services	.143	.026	.152	5.546	< .001
Financial Literacy	.457	.016	.535	29.456	< .001
Financial Credit Products	.338	.007	.272	46.193	< .001
Financial Technology Adoption	.069	.016	.112	4.459	< .001

The regression coefficients show that all four financial factors had positive and statistically significant coefficients. Access to financial services recorded $B = .143$ ($\beta = .152$, $p < .001$), indicating that a one-unit increase in access to financial services was associated with a .143-unit

increase in enterprise growth when the other predictors were held constant. Financial literacy recorded $B = .457$ ($\beta = .535$, $p < .001$), while financial credit products recorded $B = .338$ ($\beta = .272$, $p < .001$). Financial technology adoption also recorded a positive coefficient of $B = .069$ ($\beta = .112$, $p < .001$). Based on the unstandardized coefficients, the estimated regression equation was $\text{Growth} = 0.065 + 0.143(\text{Access to Financial Services}) + 0.457(\text{Financial Literacy}) + 0.338(\text{Financial Credit Products}) + 0.069(\text{Financial Technology Adoption}) + \varepsilon$. Although all coefficients were statistically significant, their individual magnitudes should be interpreted cautiously because the reported correlations among several independent variables were extremely high; therefore, variance inflation factor (VIF) and tolerance statistics should be reported before making firm conclusions about the independent contribution or relative importance of each predictor.

5.0 Conclusions

The study concluded that availability of financial services significantly and positively influenced the growth of last-mile entrepreneurs in Makueni County. Access to savings, banking, insurance, and credit services enhanced revenue generation, customer growth, business sustainability, and competitiveness. Financial literacy also had a significant positive influence on enterprise development and recorded the strongest effect among the study variables. Entrepreneurs with greater knowledge of budgeting, financial decision-making, and financial products demonstrated improved resource management, credit utilization, and business decision-making, thereby supporting enterprise growth. The study further concluded that financial credit products positively influenced the growth of last-mile entrepreneurs. Accessible and flexible business financing enabled entrepreneurs to invest, strengthen entrepreneurial capabilities, improve performance, and expand their enterprises. Finally, adoption of financial technology positively contributed to entrepreneurial growth, although its effect was comparatively lower than that of the other financial factors. Mobile banking, digital payments, and online financial platforms improved financial record keeping, reduced transaction costs, and expanded access to financial services. Overall, the findings demonstrate that strengthening financial service access, financial literacy, suitable credit products, and fintech adoption can support sustainable growth among last-mile enterprises.

6.0 Recommendations

The study recommends strengthening financial inclusion to support the growth of last-mile entrepreneurs in Makueni County. Banks and other financial institutions should expand branch networks, mobile banking, and agent banking in rural and arid/semiarid areas to reduce geographical and cost barriers. They should also develop tailored products, including low-fee savings accounts and affordable insurance, to enhance financial service uptake and stability. Policymakers and development partners should provide context-specific financial education covering budgeting, income and expenditure monitoring, credit management, and financial contracts. Integrating such training into community-based mentoring programmes could strengthen entrepreneurs' financial decision-making and effective resource use.

Financial institutions should introduce flexible and affordable credit products that reflect entrepreneurs' cash-flow patterns. Flexible repayment schedules, lower collateral requirements, transparent credit terms, could improve credit uptake and enterprise development. Fintech providers and policymakers should promote user-friendly platforms for mobile banking, electronic payments, and online lending. Digital literacy training, subsidised mobile data, and community e-

hubs could improve access in poorly connected areas. Government, non-governmental organisations, and financial service providers should collaborate to promote inclusive, gender-responsive, and digital financial systems.

Future studies should examine informal financial mechanisms, including savings groups, rotating credit associations, and community lending schemes, to complement evidence on formal services available. Longitudinal research should assess how financial literacy and training influence business performance over time and compare online training, workshops, and mentoring. Further research should examine fintech adoption alongside gender, age, education, business sector, digital literacy, network coverage, and technology costs to inform targeted, scalable, and affordable interventions for last-mile entrepreneurs.

References

- Abbott, E. (2021). Financial technology and credit usage by SMEs in Kisumu. Unpublished doctoral dissertation, University of Kisumu.
- African Development Bank. (2021). Mobile payments and the digital economy in Africa.
- Aguera, P. E. (2020). Financial inclusion: Definition, dimensions, and evolution. *Journal of Financial Economic Policy*, 12(1), 1-22.
- Alvarez, S. A. (2010). Entrepreneurship in the discipline of management. *Journal of Business Venturing*, 25(3), 273-279.
- Amit, R., & Schoemaker, P. J. H. (1993). Strategic assets and organizational rent. *Strategic Management Journal*, 14(1), 33-46.
- Amit, R., & Zott, C. (2017). Creating value through business model innovation. *MIT Sloan Management Review*, 55(3), 41-49.
- Babu, N. P. (2017). Challenges facing small and medium enterprises in accessing credit facilities in Kenya. *International Academic Journal of Human Resource and Business Administration*, 2(3), 1-18.
- Bajaj, G. (2021). Digitization and technology adoption in SME financing in Ghana and West Africa. *International Journal of Economics, Commerce and Management*, 9(3), 84-98.
- Ban, K., Aziakpono, M., & Aziakpono, E. (2019). Challenges facing micro businesses in accessing finance: Evidence from South Africa. *South African Journal of Economic and Management Sciences*, 22(1), 1-11.
- Banerjee, R. (2019). Assets growth and small business performance. *Journal of Small Business & Entrepreneurship*, 31(1), 1-20.
- Bangens, L., & Collings, S. (2019). Last-mile entrepreneurs: Driving economic development worldwide. *Journal of Entrepreneurship Education*, 22(3), 1-9.
- Beck, T., Dermiguc-Kunt, A., & Levine, R. (2015). SMEs, growth, and poverty: Cross-country evidence. *Journal of Economic Growth*, 20(3), 339-373.

- Bekaert, G., & Hodrick, R. (2018). Sales growth, asset growth, and the cross-section of stock returns. *Journal of Financial Economics*, 130(2), 267-291.
- Bire, K. K., & Sauw, A. S. (2019). The effect of financial literacy on financial inclusion through financial training for MSMEs. *Journal of Research in Business, Economics and Management*, 17(1), 2334-2345.
- Cantillon, R. (1931). *Essai sur la nature du commerce en général*. Translated by Higgs, H. (1931). *Essay on the Nature of Trade in General*. London: Macmillan.
- CFI. (2018). Definition of financial inclusion. Retrieved from [link]
- Chatchai, T., & Ho-don Yan. (2019). Financial technology services and SME growth: Evidence from East Africa. *International Journal of Business and Society*, 20(3), 1032-1047.
- Chauvet, M., & Jacolin, L. (2022). Financial performance and growth of small and medium-sized enterprises: A review of the literature. *Small Business Economics*, 58(2), 601-617.
- Chepngetich, J. (2019). The effect of financial literacy on SME performance in Kenya. Unpublished master's thesis, Kenyatta University.
- Chepsang, D., Too, J., & Kurgat, W. (2018). Effects of access to credit on financial performance of small and medium enterprises in Nairobi County. *International Journal of Economics, Commerce and Management*, 6(1), 21-36.
- Chong, L., et al. (2019). Digital technology and financial inclusion in the People's Republic of China. *Asian Development Review*, 36(1), 64-88.
- Chong, L., et al. (2019). Digital technology and financial inclusion in the People's Republic of China. *Asian Development Review*, 36(1), 64-88.
- Chrisman, J. J., Chua, J. H., & Litz, R. A. (2003). A unified systems perspective of family firm performance. *Journal of Business Venturing*, 18(4), 451-465.
- Churchill, N. C., & Lewis, V. L. (2019). Entrepreneurial marketing: The interface of marketing and entrepreneurial. *International Journal of Entrepreneurial Behavior & Research*, 25(2), 293-309.
- Coad, A., et al. (2018). Small business and the value of local social networks. *Journal of Small Business Management*, 56(1), 40-58.
- County Government of Makueni. (2020). Economic challenges facing women and youth entrepreneurs in Makueni County. Retrieved from [link]
- County Government of Makueni. (2021). Report on the financial performance of last-mile entrepreneurs in Makueni County. Retrieved from [link]
- County Government of Makueni. (2022). Poverty rates and agricultural challenges in Lower Eastern Kenya. Retrieved from [link]
- D'Imperio, P. (2018). SMEs and GDP contribution: A positive correlation. *Small Business Economics*, 51(2), 371-383.

- Daunfeldt, S. O., & Elert, N. (2019). The economic contribution of high-growth firms: New methods and new results. *Small Business Economics*, 52(2), 319-339.
- Demirgüç-Kunt, A., Klapper, L., Singer, D., & Oudheusden, P. V. (2019). The Global Findex Database 2017: Measuring financial inclusion and the fintech revolution. Retrieved from [link]
- Dobbs, M., & Hamilton, T. (2017). How to survive in an unpredictable economy: Last-mile entrepreneurs' perspective. *Harvard Business Review*, 10(3), 76-85.
- Egbide, B. (2020). Financial inclusion and the role of last-mile entrepreneurs. *Journal of Financial Inclusion*, 7(2), 45-58.
- Eton, O. M., Mwosi, J. M., Ogwel, R. O., Edaku, W. R., & Obote, L. (2018). Growth indicators and performance of small and medium-sized enterprises in Uganda. *Journal of Innovation and Entrepreneurship*, 7(1), 1-17.
- Frankel, J. R., & Wallen, N. E. (2000). *How to design and evaluate research in education* (4th ed.). McGraw-Hill.
- Gabor, D., & Brooks, S. (2017). The digital revolution in financial inclusion: International development in the fintech era. *New Political Economy*, 22(4), 423-436.
- Gammage, S., et al. (2017). Financial services for women entrepreneurs: A review of the evidence. *Enterprise Development and Microfinance*, 28(3), 184-204.
- Garcia, A. G. (2019). Financial inclusion: Macroeconomic stability and resilience. *Journal of Financial Economic Policy*, 11(3), 402-416.
- GSMA. (2017). Digital financial services and financial inclusion: Factsheet. Retrieved from [link]
- Holloway, K., Niazi, A., & Rouse, P. (2017). Small business and financial inclusion: Evidence from the UK. *Local Economy*, 32(5), 439-460.
- Huang, S., & Huang, Z. (2018). Fintech and financial inclusion in the People's Republic of China. *Journal of Asian Business and Economic Studies*, 25(1), 61-78.
- Ibor, R. A., Offiong, O. A., & Mendie, E. I. (2017). Financial inclusion and MSMEs performance in Nigeria: The role of financial institutions. *Research Journal of Finance and Accounting*, 8(11), 1-11.
- IMF. (2019). Financial inclusion and last-mile entrepreneurs: A global perspective. Retrieved from [link]
- IMF. (2020). Economic challenges facing women and youth entrepreneurs in developing countries. Retrieved from [link]
- Janssen, B. (2019). The impact of financial inclusion on SMEs in emerging markets. *Emerging Markets Finance and Trade*, 55(7), 1589-1604.
- Kehinde, K. (2021). Bridging the funding gap for African SMEs: The role of fintech. *Journal of Financial Transformation*, 53, 94-102.

- Kilungu, M. (2022). Financial literacy and last mile entrepreneurs: A case study of East African SMEs. *Journal of Financial Education*, 48(1), 45-61.
- Koryak, O., et al. (2019). Sales growth and small business performance: A systematic review and future research agenda. *International Small Business Journal*, 37(6), 567-588.
- Kristiningsih, D., & Trimarjono, I. (2019). Financial exclusion and the role of microfinance institutions: Evidence from Indonesia. *Bisnis & Birokrasi Journal*, 25(1), 69-80.
- Kushinir, V. (2018). The challenges of defining SMEs: A case study of different definitions in different countries. *Management and Sustainable Development*, 10(3), 1-10.
- London Stock Exchange (LSE). (2018). Financing African SMEs: The funding gap. Retrieved from [link]
- Makasi, M. (2022). Financial literacy and last mile entrepreneurs: A case study of East African SMEs. *Journal of Financial Education*, 48(1), 45-61.
- Mbogo, C. (2016). Mobile payments and SMEs growth: A case study of Kenya. *Journal of African Business*, 17(3), 321-338.
- Mbogo, C. (2019). Financial innovation and SME growth in East Africa. *Emerging Markets Finance and Trade*, 55(7), 1627-1644.
- Mundia, C. (2020). Financial inclusion and last mile entrepreneurs in developing countries. *International Journal of Economics, Commerce and Management*, 8(1), 1-15.
- Muniech, R., & Mondiri, E. (2017). Small and medium enterprises and economic growth: A case study of Kenya. *International Journal of Business and Social Science*, 8(4), 45-57.
- Nabiswa, W., & Mukwa, C. (2021). Impact of credit financing on human resource development among micro and small enterprises. *Journal of Business and Economics*, 9(3), 150-168.
- Ngugi, K. K. (2019). Mobile banking advances in Kenya for competitive advantage (2016–2018). *Journal of Finance and Banking*, 7(1), 1-17.
- Ngugi, R. (2019). Financial technology and firm competitive advantage. *Journal of Business and Economic Development*, 4(1), 1-14.
- Njue, W., & Mbogo, B. (2019). Improving access to banking products and services for small and medium enterprises in Kenya. *Journal of African Studies in Educational Management and Leadership*, 2(1), 124-135.
- Nkongue, B., & Bogonko, B. (2019). Assessing the effect of financial access on women-owned SMEs in Nairobi County. *International Journal of Entrepreneurship and Small Business*, 36(4), 425-445.
- Nwanko, V., & Nwanko, A. (2020). The impact of financial inclusion on SMEs: Evidence from Nigeria. *International Journal of Academic Research in Business and Social Sciences*, 10(4), 351-367.
- OECD. (2019). Improving financial literacy: Analysis of issues and policies. Retrieved from [link]

- Okello, J. O., et al. (2018). Financing challenges affecting growth of small and medium-sized enterprises in Kenya: A case study of SMEs in Nairobi County. *International Journal of Academic Research in Business and Social Sciences*, 8(5), 153-164.
- Owusu, J. E., Ismail, A., & Osman, I. (2019). Financial inclusion and last mile entrepreneurs in Sub-Saharan Africa. *International Journal of Economics, Commerce and Management*, 7(6), 99-108.
- Pelz, S., Aklin, M., & Urpelainen, J. (2021). Sustainability of last-mile entrepreneurs: A global perspective. *World Development*, 140, 105317.
- Petty, J. W., Zuckerberg, S. W., & Pauli, J. (2020). Asset growth and small business performance: A meta-analysis. *Journal of Business Venturing Insights*, 14, e00197.
- Rosa, P. (2013). How does context matter in the firm's strategic entrepreneurship? Evidence from the Portuguese context. *Journal of Small Business Management*, 51(1), 72-91.
- Schaner, S. G. (2019). Digital technology and last mile entrepreneurs: Evidence from a field experiment. *American Economic Review*, 109(4), 1371-1410.
- Tita, N., & Aziakpono, M. J. (2017). Barriers to financial inclusion among micro businesses: Evidence from South Africa. *Journal of African Business*, 18(4), 445-468.
- Tomlinson, P. (2018). Micro, small, and medium-sized enterprises facing financial challenges: Evidence from the UK. *Environment and Planning C: Politics and Space*, 36(1), 56-78.
- World Bank. (2017). SMEs and the global economy.
- World Bank. (2018). Financial inclusion and economic development: Evidence from the Global Findex database.
- World Bank. (2019). The nexus between financial inclusion and SMEs growth.
- World Bank. (2020). Poverty rates and agricultural challenges in Kenya.
- World Bank. (2021). Unlocking the potential of last mile entrepreneurs: A global perspective.
- Xiao, T., Lawson, M. B., & North, D. S. (2020). Behavioral finance and SME growth: A conceptual framework. *Journal of Small Business Management*, 58(2), 211-227.