Financial Adequacy as the Missing Link Between Financial Inclusion and Sustainable SME Performance in Kenya

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ABSTRACT

Financial inclusion policies in Kenya have largely focused on expanding access to financial services, operating under the assumption that connectivity automatically translates into improved enterprise performance. This paper challenges that assumption by investigating the influence of financial adequacy—the suitability, sufficiency, and reliability of financial products for meeting specific SME needs—on the financial performance of small and medium-sized enterprises in Upper Eastern Kenya. Grounded in Systems Theory, which conceptualizes the SME as an open system requiring high-quality inputs to produce optimal outputs, the study employed a mixed-methods, cross-sectional survey of 313 SMEs across five counties. Quantitative results revealed that while 76.7% of respondents agreed that available financial services meet their needs, only 59.7% agreed that current products *fully* meet their business requirements—the lowest agreement among all adequacy indicators. Financial adequacy demonstrated a significant positive influence on Return on Assets (ROA) ($\beta = 0.165$, $p < 0.05$), though this effect was smaller than that of accessibility ($\beta = 0.492$) and affordability ($\beta = 0.187$). Qualitative thematic analysis of open-ended responses uncovered four chronic mismatches: short-term loans for long-term capital needs, rigid repayment schedules mismatched with seasonal cash flows, insufficient loan sizes for meaningful investment, and a lack of bundled services (credit, savings, insurance) tailored to specific sectors. We conclude that financial adequacy is the "quality" dimension of inclusion that determines whether access translates into sustainable growth. Without adequacy, SMEs are forced into destructive coping strategies, such as using expensive short-term debt for long-term assets or resorting to informal lenders. Recommendations include mandating value-chain-specific product design, introducing flexible micro-insurance bundled with credit, and establishing an SME product certification mark to signal suitability.

Keywords: Financial Adequacy, Systems Theory, Product Suitability, SME Performance, Seasonal Cash Flows, Value Chain Finance, Kenya.

INTRODUCTION

The financial inclusion discourse has undergone a significant evolution over the past two decades. The first generation of policies focused on *access*: bringing the unbanked into the formal financial system through mobile money, agent banking, and simplified account opening (Demirgüç-Kunt et al., 2022). Kenya succeeded spectacularly on this metric, with financial inclusion rising from 26.7% in 2006 to 82.9% by 2021 (FSD Kenya & Central Bank of Kenya, 2023). The second generation focused on *usage*: ensuring that account holders actively transact, save, and borrow. However, a third, more subtle dimension has been largely neglected: *adequacy*.

Financial adequacy refers to the extent to which available financial products and services are appropriate, sufficient, and reliable for meeting the specific operational and strategic needs of an enterprise (Fatihudin, 2018). An SME may have access to a bank account (inclusion), use it regularly (usage), but still fail to grow because the loans available are too small, too short-term, or structured in ways that clash with the firm's cash flow cycle. This is the problem of adequacy, and it is particularly acute in agrarian and peri-urban economies like Upper Eastern Kenya, where income is seasonal, expenses are lumpy, and working capital needs do not align with standard monthly repayment schedules.

This paper addresses a single, focused objective: to examine the influence of financial adequacy on the financial performance of SMEs in Kenya. We draw on Systems Theory to argue that the SME is an open system that requires specific inputs (adequate capital of the right type, duration, and cost) to produce desired outputs (profitability, growth, resilience). When financial products are inadequate, systemic friction occurs: firms divert resources from productive investment to debt servicing, delay necessary asset purchases, or resort to costly informal finance. Using a mixed-methods design, we quantify the effect of adequacy on Return on Assets (ROA) and, crucially, draw on qualitative data to explain *why* adequacy remains the weakest link in Kenya's financial inclusion value chain.

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1 Systems Theory as a Lens for Financial Adequacy

Systems Theory, originally developed in biology by Ludwig von Bertalanffy and later applied to organizational studies, conceptualizes any entity as an open system that interacts with its environment through inputs, processes, and outputs (Bertalanffy, 1969). In the context of an SME, the inputs include raw materials, labor, technology, and critically, *financial capital*. The processes include production, marketing, and inventory management. The outputs include revenue, profit, and shareholder value.

The quality of the input determines the quality of the output. If an SME receives inadequate financial inputs—a loan that is too small to purchase necessary equipment, a repayment schedule that does not align with harvest cycles, or insurance that excludes the specific risks faced by the firm—the entire system operates sub-optimally. Wittenborn et al. (2016) applied Systems Theory to financial behavior, demonstrating that feedback loops and interdependencies mean that a single inadequate input can cascade into system-wide dysfunction. For an SME, taking an inadequately structured loan can lead to default, damaged credit history, and exclusion from future finance—a negative feedback loop that traps the firm in subsistence operations.

2.2 The Mismatch Between SME Demand and Financial Supply

The empirical literature on financial adequacy is sparse compared to the literature on access, but the evidence that does exist points to a persistent demand-supply mismatch. Beck (2013), in a global analysis of SME finance, found that banks predominantly offer short-term, collateral-heavy, rigidly amortizing loans, while SMEs need medium-term, flexible, and often unsecured working capital facilities. This mismatch is not accidental; it reflects banks' risk management preferences. Short-term loans allow frequent repricing and monitoring, while long-term lending to SMEs exposes banks to liquidity and credit risk that their balance sheets are not structured to absorb.

In the African context, Ibor et al. (2015) found that Nigerian MSEs received loan packages that were inappropriate for their operational needs, forcing them to use short-term credit for long-term investments—a practice known as "asset-liability mismatch" that increases default risk. Similarly, Ahodode et al. (2020) found that while mobile banking increased turnover for Cameroonian MSMEs, its impact on large-scale investment and expansion was minimal because the digital loans available were too small to finance capital assets.

In Kenya, Suri and Jack (2016) documented the limitations of early mobile credit products like M-Shwari. While these products provided valuable emergency liquidity, the microloans (typically KSh 500–5,000) were grossly inadequate for inventory purchases, equipment upgrades, or hiring. This created a situation where SMEs were *transactionally* included but *strategically* excluded. The gap this paper addresses is the empirical measurement of adequacy as a distinct construct from access and affordability, and the quantification of its specific contribution to ROA in the Upper Eastern Kenya context.

METHODOLOGY

3.1 Research Design and Sample

The study employed a mixed-methods, cross-sectional survey design. The quantitative component measured the relationship between financial adequacy and ROA, while the qualitative component (open-ended survey questions) explored the mechanisms underlying this relationship. The target population comprised 22,156 SMEs

operating in agriculture, wholesale/retail, manufacturing, and accommodation sectors across Isiolo, Marsabit, Meru, Tharaka-Nithi, and Embu counties. A stratified random sample of 393 SMEs was drawn, yielding 313 valid responses (79.6% response rate).

3.2 Variable Measurement

Dependent Variable (Financial Performance): Return on Assets (ROA), calculated as (Net Income / Total Assets) × 100, derived from financial records and owner reports for the fiscal year 2022-2023.

Independent Variable (Financial Adequacy): Measured via five Likert-scale items (1=Strongly Disagree to 5=Strongly Agree): (1) financial services meet our needs; (2) variety of products to choose from; (3) product diversity has improved customer retention; (4) reliability of services influences our reliability; (5) business needs are fully met by current products (Cronbach's $\alpha = 0.84$).

Moderating Variable: Firm size

3.3 Qualitative Data Collection and Analysis

The questionnaire included an open-ended question: *"Can you elucidate whether your business possesses adequate financial resources to fulfill its operational and strategic requirements, and how this financial sufficiency (or deficiency) has impacted your business's financial performance?"* A total of 287 respondents (91.7%) provided written responses. Thematic analysis was conducted following the six-phase framework of Braun and Clarke (2006): familiarization, initial coding, theme generation, theme review, theme definition, and write-up. Coding was inductive, allowing themes to emerge from the data rather than being imposed by theory.

3.4 Data Analysis

Quantitative data were analyzed using SPSS version 29. Descriptive statistics (frequencies, means) were generated, followed by Pearson correlation and hierarchical multiple regression. Diagnostic tests confirmed normality (Shapiro-Wilk $p = 0.072$), absence of multicollinearity (VIF < 2.0), and homoscedasticity (Breusch-Pagan $p = 0.304$). Qualitative data were analyzed manually using NVivo 12 for thematic coding.

RESULTS

4.1 Quantitative Findings: The Adequacy Hierarchy

Table 1 presents the frequency distribution of responses to the five financial adequacy indicators. A clear hierarchy emerges. The highest agreement (76.7%) was for the general statement that "financial services available meet our needs." However, as the statements become more specific, agreement declines. Only 59.7% agreed that "my business needs are *fully* met by current financial products"—a 17 percentage point drop from the general statement. This gap is the essence of the adequacy problem: SMEs perceive that *something* is available, but that *something* is not quite right for their specific circumstances.

Table 1: Financial Adequacy Indicators (N=313)

Statement	Agree/Strongly Agree (%)	Neutral (%)	Disagree/Strongly Disagree (%)	Mean (1-5)
Financial services available meet our financial needs	76.7%	12.5%	10.8%	4.12
There is a variety of financial products to choose from	67.7%	15.3%	17.0%	3.85
Product diversity has impacted our ability to attract and retain customers	63.3%	18.2%	18.5%	3.72
Financial services are reliable, influencing our service reliability	65.5%	16.9%	17.6%	3.78

My business needs are fully met by current financial products	59.7%	19.5%	20.8%	3.54
Weighted Average	**66.6%**	**16.5%**	**16.9%**	**3.80**

The weighted average of 66.6% agreement across all indicators suggests that while a majority of SMEs find financial services adequate, a substantial minority (approximately one-third) experience significant inadequacy. Given that this study focuses on Upper Eastern Kenya—a region with relatively good financial infrastructure compared to northern frontier counties—this one-third figure likely underestimates the national inadequacy gap.

4.2 Correlation and Regression Analysis

Table 2 presents the Pearson correlation matrix. Financial adequacy correlates positively and significantly with financial performance ($r = 0.598$, $p < 0.01$). However, this correlation is weaker than that for accessibility ($r = 0.681$) and slightly weaker than for awareness ($r = 0.612$), suggesting that adequacy is important but not the dominant driver of ROA.

Table 2: Correlation Matrix (N=313)

Variable	1	2	3	4	5
1. Financial Performance	1				
2. Financial Accessibility	.681**	1			
3. Financial Affordability	.523**	.442**	1		
4. Financial Awareness	.612**	.501**	.387**	1	
5. Financial Adequacy	.598**	.567**	.455**	.634**	1

*Note: **p < 0.01 (2-tailed).*

Table 3 presents the hierarchical regression results. In Model 2, which includes all four inclusion dimensions, financial adequacy demonstrates a significant but modest positive effect on ROA ($\beta = 0.165$, $p < 0.05$). This is the smallest coefficient among the four predictors, suggesting that while adequacy matters, its marginal contribution to explaining variance in performance is less than that of accessibility ($\beta = 0.492$) or awareness ($\beta = 0.221$).

Table 3: Hierarchical Regression Results (DV: ROA)

Variable	Model 1 (β)	Model 2 (β)
Financial Accessibility	.492**	.486**
Financial Affordability	.187**	.182**
Financial Awareness	.221**	.219**
Financial Adequacy	**.165***	**.168***
Interaction Terms		(various, see Paper 2)
R^2	.632	.642
ΔR^2	.455**	.010*

*Note: **p < 0.01, *p < 0.05.*

The modest coefficient for adequacy ($\beta = 0.165$) should not be interpreted as unimportance. Rather, it reflects that adequacy is a *conditional* variable. When access and affordability are severely constrained, adequacy cannot compensate. An adequately sized loan that is unaffordable is still useless. The data suggest that adequacy operates at a higher level of the inclusion hierarchy: once access and affordability are established, adequacy determines whether the firm achieves sustainable growth or merely survives.

4.3 Qualitative Findings: The Four Faces of Inadequacy

Thematic analysis of the 287 open-ended responses revealed four recurring patterns of financial inadequacy. These themes are presented with illustrative quotations.

Theme 1: The Duration Mismatch (Short-term loans for long-term needs)

The most frequently cited inadequacy (mentioned by 42% of qualitative respondents) was the mismatch between loan duration and investment horizon. SMEs reported that banks and digital lenders offer loans with repayment periods of 1–6 months, but the investments they need to make—purchasing a dairy cow, installing a solar cooler for produce, buying inventory for the peak season—require 12–24 months to generate returns.

"I took a mobile loan to buy a motorbike for deliveries. The loan had to be repaid in 30 days, but the motorbike will earn money for two years. I had to use money from my savings to pay back the loan, so I did not actually gain anything." (Male, Wholesale & Retail, Meru County)

"We are farmers. We plant in March and harvest in August. But loans are repaid monthly starting from the month you take them. Where do we get the money in April and May when the crops are still in the ground? We end up selling the harvest early at low prices just to meet repayment schedules." (Female, Agriculture, Tharaka-Nithi County)

This duration mismatch forces SMEs into "asset-liability mismatch"—using short-term liabilities (loans) to finance long-term assets. This is a classic recipe for liquidity crises and default.

Theme 2: The Size Mismatch (Loans too small for meaningful investment)

The second most common inadequacy (mentioned by 31% of respondents) was that available loans are too small to finance any transformative investment. Respondents described digital credit products (M-Shwari, KCB M-Pesa, Fuliza) as useful for "emergencies" but useless for "progress."

"The most I can get from my phone is KSh 5,000. That pays for two bags of maize flour. It does not buy a new refrigerator or pay for a shop renovation. I am running in place." (Male, Accommodation & Food Services, Embu County)

"Banks will give you a loan, but the amount is based on your current assets. If you have nothing, they give you nothing. How are you supposed to grow from nothing?" (Female, Manufacturing, Isiolo County)

This finding aligns with the earlier descriptive statistic that 56.2% of SMEs in the sample had annual revenues below KSh 500,000. For these micro-enterprises, even a KSh 10,000 loan is inadequate to change their operational trajectory.

Theme 3: The Sector Mismatch (Generic products for specific value chains)

SME owners in agriculture and manufacturing reported that financial products are designed for "generic business" (retail trade) and fail to account for sector-specific realities. Agricultural SMEs need input loans before planting, grace periods during growing seasons, and repayment after harvest. Manufacturing SMEs need equipment financing with longer tenors. Neither product is widely available.

"The bank treats me the same as a shopkeeper. But I am a dairy farmer. My cash flow comes every two weeks when I sell milk. A monthly repayment schedule does not work for me. I need a weekly schedule that matches my milk sales." (Male, Agriculture, Marsabit County)

"We make soap. We need to buy chemicals in bulk once every three months. A loan that requires weekly repayments is impossible because we only have money after we sell the batch. We need a loan that allows one repayment at the end of three months." (Female, Manufacturing, Meru County)

Theme 4: The Bundling Gap (Credit without savings or insurance)

The fourth inadequacy theme (mentioned by 23% of respondents) was the absence of bundled services. SMEs reported that they could access credit OR savings OR insurance, but rarely all three from the same provider in a coordinated way. This creates gaps in risk management.

"I have a loan from the bank, but I have no insurance. Last year my shop burned. I still have to pay the loan, but I have no shop and no income. The bank does not care about the fire." (Male, Wholesale & Retail, Embu County)

"I save with a SACCO, but they do not offer crop insurance. When the drought came, I lost everything. My savings were wiped out. If the SACCO had insurance bundled with the savings account, I would have been protected." (Female, Agriculture, Tharaka-Nithi County)

DISCUSSION

5.1 Adequacy as the Quality Dimension of Inclusion

The quantitative finding that adequacy significantly predicts ROA ($\beta = 0.165$, $p < 0.05$) provides empirical support for Systems Theory. The SME as an open system requires inputs of sufficient *quality* (adequacy) to produce optimal outputs. When inputs are inadequate—too short, too small, mismatched to sector, or un-bundled—the system operates sub-optimally. The modest coefficient suggests that adequacy is a "higher-order" need. In Maslowian terms, access is physiological, affordability is safety, but adequacy is self-actualization. You cannot benefit from adequacy if you lack basic access or cannot afford the product.

The qualitative themes provide the mechanism. The duration mismatch (Theme 1) explains why short-term loans for long-term assets lead to default and trapped growth. The size mismatch (Theme 2) explains why digital credit has not triggered an SME transformation—the loans are too small to matter. The sector mismatch (Theme 3) explains why generic products fail farmers and manufacturers. The bundling gap (Theme 4) explains why SMEs remain vulnerable to shocks despite being "included."

5.2 Why Is Adequacy the Weakest Link?

The finding that adequacy has the smallest coefficient among the four dimensions raises an important question: Is adequacy genuinely less important, or is it less well-measured, or is it endogenous to other factors? We argue for the latter. Adequacy is a function of market structure. In Kenya, the financial market is highly concentrated (the top five banks control over 70% of assets), and these banks have standardized their product offerings to minimize operational costs. Customization—which is what adequacy requires—is expensive. Banks have little incentive to design sector-specific products for SMEs when they can lend to the government or large corporations with lower transaction costs.

Furthermore, the digital credit revolution has exacerbated the adequacy problem. Digital lenders compete on *speed* and *convenience*, not on *suitability*. An algorithm can approve a KSh 1,000 loan in 30 seconds, but that algorithm cannot assess whether a farmer needs a 9-month grace period. The very features that make digital finance accessible (automation, standardization) make it inadequate for complex SME needs.

5.3 The Systems Theory Interpretation: Negative Feedback Loops

Applying Systems Theory, the inadequacy of financial products creates a negative feedback loop that traps SMEs in subsistence. The cycle operates as follows:

i. SME takes an inadequate loan (too short, too small).

ii. Loan terms do not match cash flow, causing repayment stress.

iii. SME diverts funds from productive investment to debt servicing.

iv. SME cannot grow, so asset base remains small.

v. Small asset base limits access to larger, better-structured loans.

vi. Return to Step 1.

Breaking this cycle requires an external intervention that changes the structure of available products, not just the marketing of existing ones.

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

This paper has demonstrated that financial adequacy—the suitability, sufficiency, and reliability of financial products for specific SME needs—is a significant but underappreciated determinant of financial performance in Kenya. While 76.7% of SMEs report that financial services are available, only 59.7% report that those services *fully* meet their needs. The gap between availability and adequacy is where growth stalls. Qualitative evidence reveals four chronic mismatches: duration (short-term loans for long-term assets), size (loans too small to matter), sector (generic products for specific value chains), and bundling (credit without savings or insurance). From a Systems Theory perspective, inadequate inputs produce suboptimal outputs, trapping SMEs in negative feedback loops of subsistence and debt.

6.2 Recommendations

For Financial Institutions (Banks, SACCOs, FinTechs):

i. Develop value-chain-specific loan products. Instead of a single SME loan product, create distinct products for agriculture (with seasonal repayment schedules), manufacturing (with equipment financing tenors of 24-36 months), and retail (with revolving working capital lines). The marginal cost of product differentiation is low compared to the potential reduction in default risk.

ii. Bundle credit with micro-insurance. For every loan disbursed to an SME, automatically enroll the borrower in a low-cost insurance product covering fire, theft, or death. The premium can be added to the interest rate. This protects both the borrower (from catastrophic loss) and the lender (from default due to borrower shock).

iii. Offer "stepped" loan products. Design products where the loan size increases automatically with successful repayment history. A first-time borrower might receive KSh 10,000 for 3 months. After three on-time repayments, the limit increases to KSh 25,000, then KSh 50,000. This solves the size mismatch problem while managing lender risk.

For Policymakers (CBK, MSEA, National Treasury):

i. Establish an SME Product Certification Mark. Create a voluntary certification (e.g., "SME-Suitable") that financial products can earn if they meet minimum adequacy criteria: minimum loan size relative to sector average, repayment flexibility (grace periods, seasonal schedules), and bundled insurance. Display this mark prominently in bank branches and mobile apps.

ii. Mandate product suitability disclosure. Require lenders to disclose, for each loan product, the *intended use case* (e.g., "working capital for retail" vs. "asset financing for manufacturing"). If an SME takes a loan for a use case different from the intended one, the lender must document why the product was still considered suitable. This creates accountability.

iii. Subsidize product innovation through a challenge fund. Allocate KSh 100 million for a competitive grant program where financial institutions can apply for funding to develop and pilot-test adequacy-focused products (e.g., 24-month agricultural loans with 6-month grace periods). Successful pilots can be scaled with government backing.

For SME Owners and Associations:

i. Collectivize to demand better products. Individual SMEs have little bargaining power, but industry associations (e.g., Kenya Flower Council, Kenya Association of Manufacturers) can negotiate with banks

for customized products for their members. SMEs should join and actively participate in these associations.

ii. Document inadequacy systematically. When a loan product fails to meet your needs (wrong duration, wrong size, wrong schedule), document the mismatch and report it to MSEA or the CBK's financial consumer protection department. Regulatory action requires evidence.

6.3 Limitations and Future Research

This study's cross-sectional design limits causal inference. A longitudinal study tracking SME performance before and after the introduction of adequacy-focused products would strengthen the evidence base. Additionally, the study was conducted in Upper Eastern Kenya; replication in urban centers (Nairobi, Mombasa) and in other value chains (e.g., tourism, transport) would test the generalizability of the four inadequacy themes. Future research should also quantify the cost of inadequacy: what is the ROA penalty for using an inadequately structured loan? This would provide a powerful business case for product reform.

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