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THE ROLE OF MICROFINANCE INSTITUTIONS IN ADDRESSING FINANCIAL BARRIERS AND SUPPORTING SME GROWTH IN RURAL NYARUGENGE DISTRICT, RWANDA

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Abstract: Small and medium-sized enterprises (SMEs) are essential for innovation, job creation, and poverty reduction in developing economies, yet many in Rwanda continue to face financing challenges that limit their growth. In Nyarugenge District, where SMEs drive local commerce, high financial barriers, limited credit access, and inadequate financial literacy hinder their sustainability. This study examines how financial constraints, financial literacy, and access to microfinance services influence SME growth. A quantitative approach was applied using structured questionnaires distributed to 180 purposively selected SMEs. The instrument, adapted from validated studies and contextualized for Rwanda, measured access to microfinance, financial barriers, financial literacy, and SME growth. Data were analyzed using SEM in SmartPLS 4, including reliability and validity assessments, and hypothesis testing. Findings show that access to microfinance services significantly enhances SME growth, while financial barriers negatively affect it. Financial literacy had the strongest positive influence, underscoring its importance in effective financial management and entrepreneurial success. The study concludes that improving SME financial literacy and reducing financing barriers are essential for sustainable growth, and recommends that policymakers and microfinance institutions design integrated programs that expand credit access and strengthen managerial capacity to boost SME competitiveness in Rwanda.

Keywords: *Microfinance Institutions, SMEs, Financial barriers, financial literacy, Rwanda*

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1. Introduction

Small and medium-sized enterprises (SMEs) are widely recognized as the backbone of Rwanda's economy, contributing significantly to employment creation and income generation (National Institute of Statistics of Rwanda (NISR), 2020). Despite their importance, many SMEs continue to face persistent challenges in accessing formal finance, including high collateral requirements, elevated interest rates, and limited managerial capacity (Beck & Demirgüç-Kunt, 2006). Similar financing constraints have been documented across developing economies, where restricted access to credit limits SME growth and competitiveness (Ayyagari, Demirgüç-Kunt, & Maksimovic, 2011). These challenges are particularly acute in rural areas, where formal banking services are limited and informal financing remains the primary source of capital (World Bank, 2018).

In response to these constraints, microfinance institutions (MFIs) have expanded rapidly in Rwanda with the objective of enhancing financial inclusion. However, evidence suggests that the impact of MFIs differs significantly between urban and rural contexts. National financial surveys indicate that rural enterprises remain more dependent on mobile money platforms and informal lending groups, while urban SMEs benefit more from structured financial services (Demirgüç-Kunt, Klapper, & Singer, 2017). This rural and urban divide mirrors global trends reported in the Global Findex Database, which highlights persistent inequalities in access to formal financial services in low-income regions (Demirgüç-Kunt et al., 2018). Furthermore, rural SMEs often face additional obstacles related to income volatility and collateral limitations, which reduce their eligibility for formal credit (International Finance Corporation (IFC), 2017).

Beyond financial access, limited financial literacy further constrains the ability of SME owners to effectively utilize available financial services. Entrepreneurs with inadequate financial knowledge often struggle to understand loan conditions, evaluate financial products, and manage borrowed funds efficiently, thereby reducing the potential benefits of microfinance (Lusardi & Mitchell, 2014). These limitations raise important questions about whether access to credit alone is sufficient to stimulate SME growth, particularly in rural settings.

From a policy perspective, this issue is highly relevant to Rwanda's development agenda. The Vision 2050 strategy emphasizes private-sector growth, especially among SMEs, as a central driver of economic transformation (Ministry of Finance and Economic Planning, 2020). Achieving this goal depends not only on expanding access to finance but also on reducing structural financial barriers and strengthening entrepreneurs' financial capabilities.

Despite a growing body of literature on SME financing in Rwanda, empirical evidence at the district level, especially in rural and semi-urban contexts such as Nyarugenge District remains limited. Existing studies tend to focus on national trends or urban-based enterprises, offering limited insight into how access to microfinance, financial barriers, and financial literacy interact to influence SME growth at the local level (Kibera & Bagchi, 2012). This study addresses this gap by simultaneously examining these factors using a structural equation modeling (SEM) approach with SmartPLS.

This study aims to examine the role of microfinance institutions in addressing financial barriers and supporting the growth of small and medium-sized enterprises in Nyarugenge District, Rwanda. Specifically, the study seeks to:

1. To analyze the effect of access to microfinance institutions on the growth of SMEs in Nyarugenge District
2. To evaluate the impact of financial barriers, including collateral requirements and interest rates, on SME growth; and
3. To assess the influence of financial literacy on the growth of small and medium-sized enterprises.

By addressing these objectives, the study provides empirical evidence to inform policymakers, microfinance institutions, and development practitioners seeking to strengthen SME performance in rural Rwanda.

2. Literature Review

This literature review examines key theoretical perspectives and empirical findings that explain how access to finance, firm-level resources, and entrepreneurial capabilities influence the growth of small and medium-sized enterprises. The discussion is grounded in Financial Intermediation Theory, the Resource-Based View (RBV), and Human Capital Theory, which

together provide a comprehensive framework for understanding the roles of microfinance institutions, financial barriers, and financial literacy in SME development. These perspectives inform the formulation of testable hypotheses relevant to rural SMEs in Nyarugenge District.

2.1. Financial Intermediation Theory and Access to Microfinance

Financial Intermediation Theory explains how financial institutions reduce information asymmetry and transaction costs between borrowers and lenders (Levine, 2005). In developing economies, microfinance institutions (MFIs) play a critical intermediary role by designing lending mechanisms that accommodate entrepreneurs who lack collateral or formal credit histories. Empirical research in African contexts indicates that effective financial intermediation enhances access to credit for underserved enterprises and supports business expansion (Allen et al., 2014). For SMEs operating in rural districts such as Nyarugenge, MFIs facilitate access to financial resources through simplified procedures, flexible repayment arrangements, and targeted outreach, which can positively influence enterprise growth.

2.2. Resource-Based View and Financial Barriers

The Resource-Based View (RBV) posits that firm growth and sustained competitive advantage depend on the acquisition and effective utilization of valuable, rare, inimitable, and non-substitutable resources (Barney, 1991). Financial capital represents a fundamental strategic resource for SMEs, as it enables investment in production, innovation, and market expansion. Financial barriers, including high interest rates, strict collateral requirements, and complex lending procedures limit firms' ability to access and deploy this resource.

Within the RBV framework, such barriers constrain resource accumulation and weaken SMEs' capacity to compete and grow. In the Rwandan context, where internal financing is often limited, external financial constraints significantly restrict SMEs' ability to build productive capabilities. Consequently, financial barriers are expected to adversely affect SME growth.

2.3. Human Capital Theory and Financial Literacy

Human Capital Theory emphasizes that knowledge, skills, and competencies enhance productivity and long-term economic performance (Becker, 1993). In the context of SMEs, financial literacy constitutes a critical form of human capital that enables entrepreneurs to make informed borrowing decisions, manage financial resources effectively, and mitigate financial risks. Empirical studies consistently demonstrate that higher levels of financial literacy are associated with improved business performance, particularly in developing economies (Lusardi & Mitchell, 2014).

In Rwanda, where many SME owners operate without formal business training, financial literacy plays a central role in determining whether access to financial services leads to sustainable growth. Entrepreneurs with stronger financial knowledge are better positioned to evaluate loan conditions, manage debt obligations, and optimize the use of financial resources, thereby enhancing firm performance.

2.4. Empirical Studies on SME Financing

Previous empirical research confirms the relevance of financial access, financial barriers, and human capital in explaining SME performance. Cross-country evidence shows that SMEs are critical to economic development but remain severely constrained by limited access to finance (Beck, Demirgüç-Kunt, & Levine, 2005). Studies in East Africa indicate that

microfinance services can positively influence SME growth, although their effectiveness is often reduced by high interest rates and collateral requirements (Njeru & Memba, 2014; Beck & Demirgüç-Kunt, 2006).

Other studies emphasize the importance of managerial capacity and financial skills in leveraging financial services effectively (Abor & Quartey, 2010). Despite this evidence, much of the existing literature examines financial access or financial literacy in isolation, offering limited insight into how these factors interact with financial barriers to influence SME growth. Moreover, district-level empirical evidence for rural and semi-urban contexts in Rwanda remains scarce (Kibera & Bagchi, 2012), highlighting the need for a more integrated analytical approach.

Hypotheses Development

Guided by the theoretical frameworks and empirical findings discussed, this study formulates the following hypotheses:

H1: Access to microfinance institutions has a positive and significant effect on the growth of small and medium-sized enterprises in Nyarugenge District.

H2: Financial barriers, including high interest rates and collateral requirements, have a negative and significant effect on SME growth.

H3: Financial literacy has a positive and significant effect on the growth of small and medium-sized enterprises.

3. Research Method

This study adopted a quantitative research design using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. PLS-SEM was selected because it is suitable for predictive research, accommodates medium-sized samples, and allows for the analysis of complex relationships among multiple latent constructs, making it appropriate for studies in management and entrepreneurship research (Hair et al., 2017).

The study was conducted in Nyarugenge District, Rwanda, where small and medium-sized enterprises play a significant economic role but continue to face challenges related to limited access to finance, low financial literacy, and restrictive lending conditions. Data were collected between May and July 2025 from a sample of 180 registered SME owners and managers operating within the district.

Purposive sampling was chosen to ensure that respondents had direct experience with microfinance services, thereby improving the relevance and validity of the data. This approach ensured that participants were capable of providing informed responses regarding access to microfinance, financial barriers, and financial decision-making practices relevant to SME growth.

The study examined four latent constructs: access to microfinance institutions, financial barriers, financial literacy, and SME growth. Access to microfinance institutions reflects SMEs' ability to obtain credit and benefit from flexible lending arrangements, while financial barriers capture constraints such as high interest rates, collateral requirements, and complex loan procedures. Financial literacy refers to entrepreneurs' knowledge and skills in managing financial resources, and SME growth was measured using indicators related to profitability, business expansion, and long-term sustainability.

Data were collected using a structured questionnaire adapted from validated instruments used in previous SME and microfinance studies. Responses were measured on a Likert scale ranging from strongly disagree to strongly agree. A pilot test involving 20 SMEs from a

neighboring district confirmed the clarity and reliability of the instrument, with Cronbach's alpha values exceeding the acceptable threshold of 0.70.

Data analysis was conducted using SmartPLS 4 following a two-stage procedure. first, the measurement model was assessed to evaluate reliability and validity using outer loadings, composite reliability, average variance extracted, and the heterotrait–monotrait ratio, while variance inflation factors were examined to detect multicollinearity. Second, the structural model was evaluated to test the hypothesized relationships through path coefficients, coefficients of determination (R^2), effect sizes (f^2), and predictive relevance (Q^2). Hypotheses were tested using a bootstrapping procedure with 5,000 resamples, and overall model fit was assessed using the standardized root mean square residual (SRMR).

Ethical considerations were strictly observed throughout the study. Participation was voluntary, informed consent was obtained from all respondents, anonymity was ensured, and ethical approval was granted by the relevant institutional review board.

4. Result and Discussion

Measurement Model Assessment

Table 1 presents the outer loadings for the indicators of the four constructs. All items demonstrated strong indicator reliability, exceeding the recommended threshold of 0.70 (Hair et al., 2017). Item D5 under Financial Literacy recorded the highest loading (0.875), while item B6 under Access to MFI showed the lowest acceptable loading (0.764). As all values fall within the acceptable range, the results confirm that each construct is adequately represented by its observed indicators, thereby ensuring the reliability of the measurement model.

Table 1. Reliability coefficients (Outer Loading)

Variable-Question Mapping				Variable -corresponding coefficient			
Access to MFI	Financial Barriers	Financial Literacy	SME Growth	Access to MFI	Financial Barriers	Financial Literacy	SME Growth
B1	C1	D1	E1	0.816	0.759	0.836	0.788
B2	C2	D2	E2	0.788	0.827	0.827	0.834
B3	C3	D3	E3	0.8	0.853	0.825	0.828
B4	C4	D4	E4	0.809	0.793	0.824	0.836
B5	C5	D5	E5	0.807	0.855	0.875	0.824
B6	C6	D6	E6	0.764	0.787	0.775	0.793
		D7				0.805	

Collinearity Assessment

Collinearity was assessed using the variance inflation factor (VIF). As shown in Table 2, all VIF values were well below the threshold of 5.0 suggested by Hair et al. (2017) and the more conservative cutoff of 3.3 recommended by Diamantopoulos and Siguaw (2006). These findings confirm that predictor constructs contribute independently to the structural model and that multicollinearity is not a concern in this study.

Table 2. Variance Inflation Factor (VIF)

Variable-Question Mapping				Variable -corresponding coefficient			
Access to MFI	Financial Barriers	Financial Literacy	SME Growth	Access to MFI	Financial Barriers	Financial Literacy	SME Growth
B1	C1	D1	E1	1.897	1.815	2.487	2.091

B2	C2	D2	E2	2.018	2.143	2.342	2.434
B3	C3	D3	E3	2.237	2.761	2.344	2.373
B4	C4	D4	E4	2.186	2.187	2.512	2.318
B5	C5	D5	E5	2.062	2.736	3.152	2.549
B6	C6	D6	E6	1.751	2.088	2.133	2.214
		D7				2.219	

Construct Reliability and Validity

Table 3 presents the construct reliability and validity results. Cronbach's alpha values ranged from 0.887 to 0.921, exceeding the recommended threshold of 0.70 and indicating strong internal consistency (Nunnally & Bernstein, 1994). Composite reliability values ranged from 0.905 to 0.937, further confirming construct reliability (Hair et al., 2017). Convergent validity was established, as the average variance extracted (AVE) values exceeded the minimum criterion of 0.50 (Fornell & Larcker, 1981). Discriminant validity was assessed using the heterotrait-monotrait (HTMT) ratio, with all values below the conservative threshold of 0.85, confirming that the constructs are empirically distinct (Henseler, Ringle, & Sarstedt, 2015).

Table 3. Construct Reliability and Validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Access to MFI	0.887	0.905	0.913	0.636
Financial Barriers	0.897	0.909	0.921	0.661
Financial Literacy	0.921	0.925	0.937	0.68
SME Growth	0.901	0.908	0.924	0.668

Structural Model Assessment

Table 4 shows the results of the path coefficients. SME growth was positively and significantly impacted by access to MFI ($\beta = 0.265$, $p = 0.003$). The performance of SMEs is hindered by financial barriers, as evidenced by the negative and substantial effect of these barriers ($\beta = -0.339$, $p < 0.001$). The greatest positive influence was shown by financial literacy ($\beta = 0.409$, $p < 0.001$).

Table 4. Structural Path Coefficients

T-values, P-Values, STDEV, and Mean (M)						Confidence Interval	
	Original sample (β)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	2.5%	97.5%
Access to MFI -> SME Growth	0.265	0.275	0.09	2.949	0.003	0.098	0.443
Financial Barriers -> SME Growth	-0.339	-0.351	0.071	4.786	0	-0.484	-0.215

Financial Literacy -> SME Growth	0.409	0.407	0.083	4.929	0	0.239	0.565

Coefficient of Determination and Effect Sizes

The coefficient of determination (R^2) for SME Growth was 0.391 (adjusted 0.372), presenting that the model explains 39.1% of the variance in SME growth. This shows that the three predictors included in the model contribute meaningfully to explaining variations in SME performance. The effect size (f^2) analysis revealed different levels of contribution among the predictors. Financial literacy demonstrated the largest effect (0.270), followed by Financial Barriers (0.188) and access to MFI (0.113). These values highlight that while all predictors contribute to SME growth, their influence varies in magnitude.

Table 5. Coefficient of Determination Effect Sizes (f^2) and (R^2)

	Effect Size, f^2				R^2	R^2 adjusted
	Access to MFI	Financial Barriers	Financial Literacy	SME Growth		
Access to MFI				0.113		
Financial Barriers				0.188		
Financial Literacy				0.27		
SME Growth					0.391	0.372

Discriminant Validity

Discriminant validity was evaluated using the Heterotrait-Monotrait (HTMT) ratio. As demonstrated in Table 6, the HTMT values ranging from 0.086 to 0.479, were all significantly lower than the conservative cutoff point of 0.85 recommended by Henseler, Ringle, and Sarstedt (2015). This suggests that the constructs of financial barriers, SME Growth, access to MFI, and
financial literacy are all empirically separate and measure different aspects of the model, which strengthens the validity of the structural findings.

Table 6. Discriminant Validity-HTMT Ratio (Heterotrait–Monotrait

	Access to MFI	Financial Barriers	Financial Literacy	SME Growth
Access to MFI				
Financial Barriers	0.086			
Financial Literacy	0.141	0.108		
SME Growth	0.344	0.39	0.479	

Interpretation of Results

The analysis identified three significant insights. First, although having a small effect size, access to microfinance institutions (MFI) showed a favorable and statistically significant relationship with SME Growth**.** This indicates that credit access contributes to enterprise expansion but is not the sole determining factor. Second, financial barriers showed a negative and significant impact on SME Growth, reflecting how collateral requirements, high interest

costs, and procedural hurdles continue to hinder SME development, a finding consistent with research showing that such barriers are particularly binding for the smallest firms (McKenzie & Woodruff, 2015). Third, financial literacy emerged as the strongest predictor of SME Growth, demonstrating both the largest effect size and the most consistent contribution within the model. This finding aligns with evidence from other emerging markets, where entrepreneurs with higher financial knowledge are better equipped to adopt financial services and achieve business sustainability (Lusardi & Mitchell, 2014), such as in Indonesia, where financial literacy was directly linked to improved business practices and resilience to economic shocks (Cole, Sampson, & Zia, 2011). This emphasizes that entrepreneurs with stronger financial knowledge and management skills are better able to utilize financial services and mitigate constraints.

Collectively, these findings confirm the hypothesized relationships by illustrating that SME Growth depends on both the structural accessibility of financial resources and the internal capacity of entrepreneurs to manage them effectively.

5. Conclusion

This study examined the effects of financial barriers, financial literacy, and access to microfinance institutions on SME Growth in Nyarugenge District, Rwanda. The findings confirm all proposed hypotheses, demonstrating that financial barriers have a negative effect on SME Growth, access to microfinance institutions positively influences enterprise performance, and financial literacy is the strongest predictor among the examined factors. The results highlight that beyond the availability of credit, entrepreneurs' capacity to understand, manage, and apply financial knowledge is critical for sustaining SME Growth.

The main contribution of this study lies in providing district-level empirical evidence from a rural Rwandan context and in demonstrating that financial literacy can exert a greater influence on SME Growth than access to finance alone. By integrating financial access, financial barriers, and financial literacy within a single analytical framework, the study advances existing literature that often treats these factors independently and offers a more nuanced understanding of SME development in developing economies.

Policy Implications

The findings of this study have important implications for policymakers, microfinance institutions, and SME owners. Policymakers should prioritize the integration of financial literacy programs into national SME development and financial inclusion strategies, particularly in rural areas where financial constraints are more pronounced. Strengthening financial education initiatives can enhance entrepreneurs' ability to utilize credit effectively and reduce business failure rates.

Microfinance institutions are encouraged to complement credit provision with structured financial training and advisory services. By doing so, MFIs can improve loan utilization, reduce default risks, and enhance the long-term sustainability of SMEs. For SME owners, developing financial management skills is as important as accessing credit, as financial literacy improves their capacity to navigate financial barriers, manage debt responsibly, and support business growth.

Further Studies

While this study provides valuable insights, several avenues for further research remain. Future studies could compare rural and urban contexts to examine how the effects of financial

literacy and financial barriers differ across locations. Additional research could also incorporate non-financial factors such as technology adoption, market access, or institutional support to provide a more comprehensive understanding of SME Growth. Longitudinal studies would further help to assess the long-term effects of financial literacy and microfinance access on enterprise performance over time.

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