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MICRO-CREDIT ORIENTATION AND INVESTMENT EFFICIENCY. THE MODERATING ROLE OF FINANCIAL LITERACY

Ezra Cheruiyot Kirui [1*], Collins Kapkiyai[2], Catherine Muganda[3]
[1,2,3] *Moi University, Kenya*

ABSTRACT

***Aims**: This study sought to assess the moderating effect of financial literacy on the relationship between micro-credit orientation and investment efficiency of Small and Medium Enterprises (SMEs) in Kericho County, Kenya. Specifically, it examined how micro-credit accessibility, utilization, and conditions influence investment efficiency, and whether financial literacy alters these relationships.*

***Study Design:** The study adopted an explanatory research design to explore causal relationships among the variables.*

***Place and Duration of Study:** The research was conducted in Kericho County, Kenya, covering all five sub-counties, between May and December 2024.*

***Methodology:** The study targeted all 5,813 registered SMEs in Kericho County. Using stratified random sampling, 385 SMEs were selected for the sample. Data was collected through structured questionnaires administered to SME management. Reliability was confirmed using a Cronbach's alpha threshold of 0.7. Data analysis was carried out using SPSS version 26. Descriptive statistics (means, frequencies, standard deviations) and inferential techniques, including Pearson's correlation and multiple regression analysis, were employed.*

***Results:** Microcredit accessibility (β=-0.028, p=0.001), utilization (β=0.209, p=0.000), and conditions (β=0.800, p=0.000) significantly affected investment efficiency. Financial literacy significantly moderated the relationship between microcredit accessibility (ΔR^2=0.246, p=0.011) and conditions (ΔR^2=0.045, p=0.000) with investment efficiency, but not utilization (ΔR^2=0.316, p=0.177). The moderated model explained 89.8% of variance (R^2=0.898).*

***Conclusion:** Microcredit orientation components significantly influence SME investment efficiency, with financial literacy enhancing accessibility and conditions' effects. Equipping SME owners with financial skills is crucial for improving decision-making and resource utilization, supporting sustainable economic growth.*

KEYWORDS: *Micro-Credit Orientation, Investment Efficiency, Financial Literacy, Micro-credit accessibility, utilization, Conditions.*

1. INTRODUCTION

In Kenya's Kericho County, small and medium-sized enterprises (SMEs) are increasingly at the forefront of local economic transformation. Traditionally renowned for its vibrant tea industry, the region has seen a noticeable diversification in recent years. Sectors such as retail, hospitality, agro-processing, and transport have witnessed a surge in SME activity, creating jobs, raising incomes, and reducing poverty. As the national government and county authorities strive to meet development goals (including the ambitious Vision 2030) SMEs have emerged as a cornerstone of inclusive growth. However, despite their growing significance, many of these businesses remain on shaky financial ground, grappling with low investment returns, stalled growth, and fragile sustainability.

One of the most pressing issues facing SMEs in the region is their inability to translate financial access into tangible business gains. The concept of investment efficiency (defined as the effective allocation of financial resources to generate optimal returns) is central to enterprise success. Yet for a large proportion of SMEs in Kericho County, efficiency remains elusive. A report by [4] revealed that 72% of manufacturing SMEs in the county recorded returns on capital employed below 5%, and only 13% surpassed the 10% mark. These figures highlight a disturbing pattern of underperformance, despite increased availability of financial tools such as microcredit.

Microcredit, long promoted as a catalyst for enterprise growth in low-income regions, offers SMEs the capital they need to invest in equipment, expand operations, or launch new ventures. In Kenya, mobile banking platforms and a robust network of microfinance institutions have made microcredit more accessible than ever. However,

access alone has not guaranteed improved business outcomes. Many entrepreneurs struggle with understanding loan terms, managing cash flows, or identifying high-return investment opportunities. This raises a critical question: is microcredit falling short, or are SMEs ill-equipped to harness its potential?

The answer may lie in a frequently overlooked but essential factor which is financial literacy. Studies increasingly suggest that without the ability to interpret financial information, plan budgets, assess risk, and forecast returns, SMEs are unlikely to use microcredit effectively. Entrepreneurs who lack basic financial knowledge often misallocate borrowed funds, invest in unproductive ventures, or fail to meet repayment obligations, trends that undermine both business viability and credit sustainability. Conversely, SMEs whose owners demonstrate sound financial literacy are more likely to turn credit into capital gains, enhancing their investment efficiency and contributing to broader economic growth.

Globally, this interplay between credit access and financial literacy has drawn increasing academic interest. Research from Europe [3], China [7] and Nigeria [1] has confirmed that while microcredit can boost SME investment efficiency, its impact is amplified or constrained by the entrepreneur's level of financial literacy. Yet, within the Kenyan context, and more specifically in Kericho County, this relationship remains underexplored. Most existing studies have either focused on urban regions or examined the direct effects of microcredit, without considering how financial knowledge might moderate the outcomes.

This study seeks to fill that gap. Focusing on SMEs across all six sub-counties of Kericho, the research investigates how microcredit orientation which is defined through accessibility, utilization, and credit conditions relates to investment efficiency, and whether financial literacy strengthens or weakens that relationship. The study was grounded in three guiding theories: Financial Intermediation Theory, which highlights the role of financial institutions in enabling access to credit; Pecking Order Theory, which explains financing preferences among firms; and Human Capital Theory, which underscores the value of knowledge and training in improving decision-making.

The findings are intended to inform multiple stakeholders: from policymakers seeking to boost SME productivity, to financial institutions refining their credit models, and to development agencies designing targeted training programs. With over 5,800 registered SMEs and growing, Kericho County offers a fitting case for this inquiry. By shedding light on the financial behaviors and constraints of these enterprises, the study provides timely insights into how credit and knowledge can jointly drive sustainable economic development in Kenya and beyond.

2. LITERATURE REVIEW

2.1 Micro Credit Accessibility and Investment Efficiency

The availability of microcredit has been widely studied for its role in enhancing SMEs' investment efficiency. Müller, Behrendt, and Schmitz [9] examined SMEs in the EU and found that access to microcredit improved investment outcomes, particularly in technology and human capital. In a separate study in China,[7] concluded that prompt and flexible loan access enabled SMEs to invest more effectively in equipment and skilled labor, thus raising productivity.

In the African context, [1] showed that Nigerian SMEs with greater access to microcredit achieved better investment outcomes through investments in inventory and operational expansion. Similarly, [14] found that access to working capital through microcredit enhanced productivity and investment planning among Ugandan SMEs.

In Kenya, [11] noted that increased microcredit access enabled SMEs in Nairobi County to adopt new technologies and invest in productive assets. However, they also emphasized that the degree of financial knowledge among borrowers significantly influenced how loans were utilized. [16] echoed these findings, noting that microcredit facilitated business growth in rural Kenya, particularly when accompanied by timely capital allocation.
Ho_1; Micro credit accessibility has no statistically significant effect on investment efficiency of SMEs in Kericho County, Kenya

2.2 Micro Credit Utilization and Investment Efficiency

Microcredit utilization refers to how effectively funds are allocated by SMEs for investment. Ghosh and Ramesh [3] studied small firms across Europe and found that while microcredit improved working capital and operational efficiency, financial literacy moderated its impact on investment decisions. Financially literate firms were more strategic in using funds for long-term gains.

In the U.S., Kim and Park [5] conducted a longitudinal study and observed that business owners with financial skills achieved higher profitability due to better fund management. Similarly, Akintoye and Akinmoladun (2019) found that in West Africa, financially literate SME owners utilized microcredit more effectively, leading to enhanced business expansion and sustainability.

Regionally, [15] observed that Kenyan and Ugandan SMEs who used microcredit for targeted growth initiatives achieved greater investment efficiency. [12], in their Nairobi-based study, confirmed that well-managed credit usage led to better returns, especially among SMEs that integrated financial literacy into their operations.

[10] further confirmed that financial literacy played a key role in influencing how SMEs applied microcredit. Those with better knowledge of budgeting and investment planning achieved higher efficiency in using borrowed funds, emphasizing the role of education in driving financial outcomes.

H_{o2}: *Micro-credit utilization has no statistically significant effect on investment efficiency of SMEs in Kericho County, Kenya*

2.3 Micro Credit Conditions and Investment Efficiency

Microcredit conditions which include collateral requirements, repayment schedules, and interest rates, is likely to have a direct impact on SMEs' ability to achieve investment efficiency. [25]) in China found that flexible loan conditions were strongly correlated with improved investment choices and operational performance among SMEs. In Canada, Smith and Evans [21] noted that SMEs with better access to collateral and flexible terms reported higher returns on assets. Tshabalala and Mhlanga [22], focusing on Southern Africa, found that favorable loan conditions, when coupled with strong financial literacy, significantly boosted SME investment returns.

Locally, Ochieng and Kinyua [18] observed that Kenyan SMEs benefited from favorable credit terms such as low interest rates and reasonable repayment schedules, which supported better capital planning and improved profit margins. [17], through qualitative interviews in central Kenya, found that many rural SMEs struggled with unsuitable loan terms and lacked financial knowledge, which undermined their ability to use microcredit efficiently.

H_{o3}: *Micro-credit condition has no statistically significant effect on investment efficiency of SMEs in Kericho County, Kenya.*

2.4 Moderating Effect of Financial Literacy

The role of financial literacy as a moderating factor in the relationship between microcredit and investment efficiency has gained increased attention. Lusardi and Mitchell [8] found that SMEs with higher financial literacy made more effective investment decisions, particularly when managing microcredit. Their study emphasized the link between knowledge of loan terms and improved returns.

Akinyemi and Ogundele (2021) in South Africa similarly concluded that financially literate SMEs were better equipped to handle credit and optimize investments. Their findings supported the development of financial education programs to enhance microcredit effectiveness.

In Kenya, Wambugu and Mwangi [23] demonstrated that financial literacy significantly influenced how SMEs accessed and applied microcredit, particularly in investment planning and risk management [11] further observed that literate SME owners not only improved credit utilization but also overcame challenges such as debt mismanagement and poor capital allocation.

H_{o4}: *Financial literacy has no moderating effect on the relationship between micro credit accessibility and investment efficiency of SMEs in Kericho County, Kenya*

3. METHODOLOGY

This study adopted an explanatory research design to examine causal relationships between microcredit orientation (accessibility, utilization, conditions), financial literacy, and investment efficiency among SMEs in Kericho County, Kenya [6]. The target population was 5,813 registered SMEs across the county's six sub-counties (Ainamoi, Belgut, Bureti, Kipkelion East, Kipkelion West, Sigowet/Soin). Stratified random sampling ensured proportional representation, using Yamane's formula ($n = N / (1 + N(e)^2)$, N=5,813, e=0.05), yielding a sample of 385 SMEs [20]. Of 385 questionnaires distributed, 349 were usable (90.6% response rate).

Data was collected via structured questionnaires administered to SME owners/managers. Variables were measured on a 5-point Likert scale (1=strongly disagree, 5=strongly agree): Microcredit Accessibility (e.g., ease of loan access, M=4.04); Utilization (e.g., fund allocation to investments, M=4.20); Conditions (e.g., repayment

flexibility, M=4.14); Financial Literacy (e.g., budgeting knowledge, M=4.03); and Investment Efficiency (e.g., ROI, M=4.33). A pilot study with 30 SMEs ensured validity, with expert review refining clarity. Reliability was confirmed (Cronbach's alpha: accessibility 0.952, utilization 0.899, conditions 0.825, literacy 0.901, efficiency 0.869, overall, 0.889). Ethical approval was obtained from the University of Nairobi's Ethics Review Board, with informed consent from participants.

Data analysis used SPSS version 26. Descriptive statistics (means, standard deviations, frequencies) summarized responses, while Pearson's correlation and hierarchical regression tested relationships and moderation effects. Assumptions were verified: multicollinearity (VIF<5), normality (Shapiro-Wilk, p=0.098), heteroscedasticity (White's test, p=0.329), and linearity (Ramsey RESET, p=0.147), ensuring robust results.

4. RESULTS AND DISCUSSION

4.1 Descriptive Statistics

The study surveyed 385 small and medium enterprises (SMEs) in Kericho County, Kenya, with 349 usable responses (90.6% response rate), to examine the relationship between microcredit orientation, financial literacy, and investment efficiency. Table 1 presents the demographic characteristics of the respondents. Of the 349 respondents, 55.3% (193) were male, and 44.7% (156) were female, ensuring balanced gender representation. The largest age group was 32–38 years (37.8%, 132 respondents), followed by 25–31 years (24.4%, 85 respondents), 39–45 years (20.6%, 72 respondents), 46 years and above (10.3%, 36 respondents), and 18–24 years (6.9%, 24 respondents). Education levels included 29.5% (103 respondents) with degree-level education, 28.1% (98 respondents) with diplomas, 22.6% (79 respondents) with certificates or below, 13.2% (46 respondents) with master's degrees, and 6.6% (23 respondents) with PhDs. Experience levels showed 23.2% (81 respondents) with 16–20 years, 22.9% (80 respondents) with 11–15 years, 21.5% (75 respondents) with 6–10 years, 21.2% (74 respondents) with over 21 years, and 11.2% (39 respondents) with below 5 years. Business types were 51.9% (181) small enterprises and 48.1% (168) medium enterprises. This diverse sample enhances the study's representativeness for Kericho SMEs.

Table 1. Demographic Statistics

		Frequency	Percent
Gender of the Respondent	Male	193	55.3
	Female	156	44.7
	Total	**349**	**100.0**
Age of the Respondent	18-24 Years	24	6.9
	25-31 Years	85	24.4
	32-38 Years	132	37.8
	39-45 Years	72	20.6
	46 Years and Above	36	10.3
	Total	**349**	**100.0**
Academic Achievement	Certificate and Below	79	22.6
	Diploma	98	28.1
	Degree	103	29.5
	Masters	46	13.2
	PhD	23	6.6
	Total	**349**	**100.0**
Experience	Below 5 Years	39	11.2
	6 - 10 Years	75	21.5
	11 - 15 Years	80	22.9
	16 - 20 Years	81	23.2
	Above 21 Years	74	21.2
	Total	**349**	**100.0**
Nature of Business	Small Enterprise	181	51.9
	Medium Enterprise	168	48.1
	Total	**349**	**100.0**

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4.2 Correlation Results

Pearson's Product Moment Correlation analysis was conducted to assess the strength and direction of relationships between microcredit orientation variables (accessibility, utilization, conditions), financial literacy, and investment efficiency among 349 SMEs in Kericho County, Kenya. Table 2 presents the correlation matrix. All variables showed significant positive correlations with investment efficiency: microcredit accessibility ($r=0.479$, $p<0.01$), utilization ($r=0.405$, $p<0.01$), conditions ($r=0.913$, $p<0.01$), and financial literacy ($r=0.616$, $p<0.01$). Strong intercorrelations among predictors were noted, particularly between accessibility and utilization ($r=0.850$, $p<0.01$), indicating potential multicollinearity, which was later ruled out (VIF<5). The strongest association was between conditions and efficiency ($r=0.913$), suggesting favorable loan terms significantly drive SME performance.

Table 2. Correlation Results

	TC	MD	AB	ENE	TE
Tax Compliance	1				
Mediation	.565*	1			
Arbitration	.572*	.604	1		
Early Neutral Evaluation	.506*	.539	.417*	1	
Taxpayer Education	.489*	.511*	.498*	.512*	1

4.3 Regression Results

Hierarchical regression analysis assessed how microcredit accessibility, utilization, conditions, and financial literacy influence investment efficiency among 349 SMEs in Kericho County's six sub-counties, Kenya. The analysis tested direct effects (Model 1) and financial literacy's moderating role (Model 2), focusing on rural SMEs in a tea-driven economy, unlike urban-focused studies (Njeru et al., 2021). Table 3 summarizes the results.

In Model 1, microcredit accessibility negatively impacts efficiency ($\beta=-0.028$, $p=0.001$), rejecting H01. This suggests that easy loan access, coupled with high collateral demands, increases debt burdens, reducing returns, consistent with Financial Intermediation Theory's caution on over-borrowing risks [9]. Utilization positively affects efficiency ($\beta=0.209$, $p=0.000$), rejecting H02, as SMEs allocating credit to equipment or inventory enhance performance, aligning with Pecking Order Theory [3]. Favorable conditions strongly boost efficiency ($\beta=0.800$, $p=0.000$), rejecting H03, by easing repayment pressures, mirroring global findings [25]. Model 1 explains substantial variance ($R^2=0.848$, $F=642.824$, $p=0.000$).

Model 2 introduces financial literacy as a moderator. Accessibility's negative effect intensifies ($\beta=-0.267$, $p=0.011$, $\Delta R^2=0.246$), rejecting H04, indicating literacy mitigates but does not reverse debt risks. Utilization's effect becomes insignificant ($\beta=0.162$, $p=0.177$, $\Delta R^2=0.316$), accepting H05, suggesting literacy does not enhance utilization's impact, unlike in high-literacy contexts [19]. Conditions' positive effect strengthens ($\beta=1.069$, $p=0.000$, $\Delta R^2=0.045$), rejecting H06, as literate SMEs leverage flexible terms better, per Human Capital Theory [8]. Financial literacy's direct effect is insignificant ($\beta=0.110$, $p=0.177$), but its moderation role enhances overall model fit ($R^2=0.898$, $F=755.852$, $p=0.000$). These findings highlight literacy's critical role in optimizing microcredit for rural SMEs, addressing a gap in Kenya's microfinance literature, [23]. Microfinance institutions should offer targeted literacy programs and flexible terms to boost SME efficiency, supporting Vision 2030.

Table 3. Regression Results

Variable	Model (i)	Model (ii)
Constant	0.250 (0.134)	0.371 (0.153)
MA (Accessibility)	-0.028 (0.005)	-0.267 (0.105)
MU (Utilization)	0.209 (0.055)	0.162 (0.120)
MC (Conditions)	0.800 (0.021)	1.069 (0.044)
MA × FL	-	-0.211
MU × FL	-	0.110
MC × FL	-	0.979
R^2	0.848	0.898
ΔR^2	-	0.050
F	642.824	755.852
p (ANOVA)	0.000	0.000
Constant	0.250 (0.134)	0.371 (0.153)

Note: N=349. Model 1: Direct effects of microcredit accessibility (MA), utilization (MU), conditions (MC). Model 2: Adds financial literacy (FL) as moderator. Unstandardized coefficients (B) with standard errors in parentheses; interaction terms use standardized β

6. CONCLUSION

This study highlights the pivotal role of microcredit orientation in driving investment efficiency among 5,813 SMEs across Kericho County's six sub-counties, Kenya, distinct from urban-focused research. Microcredit accessibility hinders efficiency, as rural SMEs face high collateral demands, leading to potential over-borrowing risks, unlike urban studies where access often boosts performance. Effective utilization of microcredit enhances efficiency by enabling investments in equipment and inventory, critical for Kericho's tea-driven economy. Favorable loan conditions, such as flexible repayment terms, significantly improve scalability and financial outcomes, addressing a key gap in rural microfinance literature. Financial literacy amplifies the impact of accessibility and conditions, but not utilization, by equipping SMEs with skills to manage credit wisely, though low literacy levels among rural SMEs limit these benefits.

Integrating streamlined loan processes, utilization training, and flexible conditions into microfinance frameworks fosters SME growth. However, limited financial literacy reduces microcredit's effectiveness, underscoring the need for accessible education. KRA and microfinance institutions should prioritize mobile-based financial literacy campaigns to bridge knowledge gaps, alongside simplified loan terms, to enhance efficiency and support Vision 2030's economic goals. Future longitudinal studies and urban-rural comparisons could strengthen these findings, ensuring broader applicability.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies have been used.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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