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Financial Literacy, Credit Access, and Financial Decision-making: An Integrated Framework for Micro-enterprises

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Abstract.
Micro-level businesses function as essential components of worldwide economic development, particularly in developing nations. This systematic literature analysis investigates the interrelationship between financial literacy, credit access, and financing decisions in micro-scale enterprises through the establishment of an integrated theoretical framework. Through analysis of literature from 2018 to 2024 using the Scopus database, 13 relevant studies were selected from 219 articles after quality assessment. The study integrates the Theory of Planned Behavior as grand theory, with Behavioral Finance Theory, Signaling Theory, and Pecking Order Theory as bridge theories. The findings reveal that financial literacy positively influences both credit access and financial decision-making, with credit access serving as a mediating mechanism. The study contributes theoretically by extending these theories in micro-enterprise contexts and demonstrating how financial literacy functions as a signaling mechanism. This review offers both theoretical advancement through novel integration and practical insights for policymakers to design effective financial literacy programs and credit access mechanisms, supporting micro-enterprise success.

Keywords: credit access, financing decisions, financial literacy, micro-enterprises, systematic literature review

1. Introduction

Micro-level businesses function as essential components of worldwide economic development, particularly in developing nations. They generate substantial employment opportunities, reduce socioeconomic disparities, and drive economic advancement [1]. However, micro-enterprises often face substantial challenges in accessing finance and making appropriate financial decisions, which can impede their growth and sustainability [2]. Capital acquisition is a primary constraint, with access to bank credit or other financial institutions frequently hindered by lack of collateral, limited financial information, and stringent administrative requirements [3]. Poor financial administration and disorganized record-keeping also often make it difficult for micro-enterprises to manage cash flow and produce accurate financial statements [4]. Furthermore, inadequate financial literacy among micro-entrepreneurs constrains their capabilities to execute sound financial decisions and access financing [5].

Research establishes financial literacy operates as a crucial determinant influencing micro-enterprise performance [6]. Financial literacy encompasses individual knowledge and competence to construct appropriate financing decisions [7]. Empirical investigations reveal financial literacy strengthens effectiveness in delivering financial information, enables access to external capital, and accelerates enterprise growth [1].

The correlation among financial literacy with access to external financing is particularly crucial for micro-enterprise success. When micro-entrepreneurs possess strong financial literacy, they are better equipped to navigate credit applications, understand lending terms, and manage borrowed funds effectively [8,9]. This enhanced financial capability directly impacts their ability to access credit, which in turn enables companies to improve financial performance through funding operational activities and pursuing revenue enhancement opportunities [10]. Nevertheless, despite the potential benefits of strong financial literacy, micro-enterprises often face significant structural barriers in obtaining institutional financing due to insufficient asset guarantees, limited financial documentation, or high-risk perceptions from financial institutions [11]. These barriers persist even when entrepreneurs demonstrate improved financial capabilities, highlighting the complex challenges in the micro-enterprise financing landscape.

Appropriate financial decision-making is vital for micro-enterprise sustainability. Financial decisions are not always based on perfect rationality but are also influenced by psychological and behavioral factors [12]. This understanding is crucial in the context of micro-enterprises, where financial decision-making is often carried out by owners who may lack formal financial backgrounds.

Research gaps in the existing literature reveal several interconnected gaps. Regarding the correlation of financial literacy with credit accessibility, although most studies [6,13–20] found positive and significant effects, there are differences in the theoretical foundations used. Studies by Frempong et al [15] employed the Theory of Micro Economic, Meressa [20] used Resource-Based Theory, while other studies did not explicitly state their theoretical basis. Research gaps are also evident in the differences in research contexts, variations in sectors studied, and differences in banking system development levels across countries.

Beyond its impact on credit access, financial literacy also shows research gaps in its relationship with financing decisions, marked by inconsistent results. Research investigations from Fong alongside Sohilauw [21,22] demonstrate positive and significant effects using Resource-Based View and Pecking Order Theory. However, other research by Sulistianingsih et al [23], using Pecking Order Theory, found a negative and insignificant effect. Research gaps are also apparent in the differences in research subjects, variations in types of financial decisions studied, and geographical contexts between developed and developing countries that can affect the complexity of financing decisions.

Meanwhile, the correlation of credit accessibility toward financial decisions, which forms the next link in the chain, also reveals research gaps in terms of theoretical application and research focus. Studies by Wasiuzzaman et al [24] used a combination of Modigliani coupled with Miller's Capital Structure Theory, in conjunction with Trade-off Theory, while another studies Muharam et al [25] employed Entrepreneurial Finance Theory. Although both found positive and significant effects, research gaps are evident in the different focus areas between capital structure versus investment-financing decisions, variations in factors affecting financing decisions from collateral to payment flexibility, and differences in country contexts showing variations in financial systems and regulations. Such identified gaps demonstrate importance of examining interconnections linking financial literacy, credit access, and financing decisions, while considering multiple contexts and contributing factors. The complexity of these relationships points to the need for an approach that can integrate the role of these three variables into a unified research model.

Based on these research gaps, this study advances credit access as linking mechanism connecting financial literacy toward financing decisions. Strong financial literacy can reduce information asymmetry [11,26], and enhance micro-enterprises' capability in the credit application process [8,9]. This is reinforced by Song et al [27] who through Signaling Theory explain that information transparency can reduce information search costs and facilitate credit transaction realization. Furthermore, the obtained credit access enables micro-enterprises to make more optimal financing decisions in accordance with Pecking Order Theory [28], despite facing challenges in collateral and credit worthiness [29,30]. Thus, credit access can serve as a bridge connecting financial literacy with financing decisions, where strengthening financial literacy creates dual impacts: direct influence on financing decisions alongside indirect effects by improving micro-enterprises' capability to access credit.

Based on the identified research gaps, there are three main problems that need to be addressed through an appropriate theoretical framework. The first problem is the information asymmetry between micro-enterprises and lenders [11], where micro-enterprises with low financial literacy struggle to provide accurate information and understand the credit application process [8,9]. To address this issue, Signaling Theory is relevant as it explains how financial literacy can help micro-enterprises provide positive signals through their ability to present accurate financial information to lenders. The second problem relates to how financial literacy influences financing decision-making processes, given the inconsistency in research findings where some studies found positive effects [21,22], while others found negative effects [23]. For this problem, the Theory of Behavioral Finance can explain how financial knowledge enables more objective and rational decision-making. The third problem concerns how credit access influences micro-enterprises' financing decisions, where although some studies found positive effects [24,25], there are still differences in mechanisms and contexts. Pecking Order Theory can explain how micro-enterprises make financing decisions after gaining credit access by considering the benefits and costs of external financing.

The complexity of micro-enterprise financing reveals several interconnected gaps. At the phenomenon level, micro-enterprises consistently face challenges in accessing formal credit and making financial decisions due to information asymmetry, limited collateral, and poor financial record-keeping [8,11]. This creates a theoretical gap as existing theories such as Signaling Theory and Pecking Order Theory were initially developed for larger enterprises with different characteristics. The gap becomes more complex with research inconsistencies, where some studies show positive relationships between financial literacy and financing decisions [22,31], while others find negative effects [23], with varying theoretical applications ranging from Theory of Micro Economic [15] to Resource-Based Theory [20]. The interaction between practical challenges, theoretical limitations, and empirical inconsistencies emphasizes the need for an integrated theoretical framework specifically designed for the micro-enterprise context.

Based on the identified research gaps and theoretical framework, this systematic review addresses these investigative questions:

RQ1: How does financial literacy impact credit accessibility in micro-enterprises?

RQ2: What significance does credit access demonstrate in micro-enterprise financial decision-making?

RQ3: How does financial literacy impact financing decisions in micro-enterprises?

RQ4: How significantly does credit accessibility connect financial literacy toward financing decisions in micro-enterprises?

Main objectives of this systematic review are to:

1. Synthesize existing empirical evidence on the relationships between financial literacy, credit access, and decision-making in financial matters in micro-enterprises
2. Develop an integrated theoretical framework explaining these relationships
3. Examine how credit accessibility functions as connecting element linking financial literacy toward financial decision-making
4. Provide evidence-based recommendations for policy development and subsequent studies

This research contributes to the academic literature in this field by integrating diverse theoretical perspectives into a unified framework, systematically analyzing the complex relationships between variables, identifying mediating mechanisms, and providing practical insights for improving micro-enterprise financial performance.

2. Literature Review

This section presents a systematic analysis of the theoretical foundations and key variables related to financial decision-making in micro-enterprises. The review is organized into three main sections: (1) grand theory, (2) middle-range theories, and (3) applied variables. This structure allows for a comprehensive understanding of how these theoretical components interact to explore how financial literacy, access to credit, and financial decision-making are interrelated in micro-enterprises.

2.1. Grand Theory

The Theory of Planned Behavior (TPB) acts as a key theoretical foundation for understanding the factors influencing behavior within decision-making processes [32]. This seminal theory postulates that human behavior emerges from the interplay of three fundamental psychological constructs: attitudinal evaluations, normative influences, and perceived behavioral constraints. In the domain of micro-enterprise operations, TPB provides a sophisticated analytical framework for examining the complex psychological mechanisms underlying financial decision-making processes.

2.2. Middle-Range Theories

Behavioral Finance Theory [33] transcends traditional rational decision-making paradigms by incorporating psychological dimensions. The theory demonstrates how cognitive biases and emotional factors systematically influence financial decisions, particularly relevant for micro-enterprises where owners often lack formal financial training [12]. Signaling Theory [34,35] explains information asymmetry management in financial markets, particularly how micro-enterprises can communicate financial information credibly to lenders. Song et al [27] demonstrate how enhanced transparency reduces information costs and facilitates credit transactions. Pecking Order Theory [28,36] delineates organizational financing preferences, progressing from internal funding through debt to external equity. Despite micro-enterprises' collateral and creditworthiness constraints [29,30], this hierarchy remains relevant to their financing decisions.

2.3. Applied Variables

2.3.1. Financial Literacy

Financial literacy refers to an individual's capacity to comprehend and efficiently utilize financial knowledge [7]. It significantly influences financial decisions and overall economic well-being. Empirical research underscores the significance of financial literacy skills with regard to daily money management, including budgeting, retirement planning, and selecting appropriate financial products [37]. Empirical evidence supports the fundamental significance of financial literacy within micro-enterprise settings [6,22,38,39].

Longitudinal research by Mitchell & Lusardi [38] establishes robust correlations between financial literacy and economic outcomes, while Hogarth & Hilgert [37] empirically validate its significance in quotidian financial management processes. Contemporary research by Ssekakubo et al [6] corroborates these findings, specifically identifying financial literacy as an essential factor in the growth of micro-enterprises and access to credit. Additionally, studies by Xu et al [39] and Sohilauw et al [22] demonstrate the pivotal role of financial literacy's instrumental role in facilitating optimal financial product utilization and decision-making processes.

2.3.2. Credit Access

Credit access refers to individuals' or small enterprises' capacity to secure funding from financial entities [8]. Strong financial literacy can facilitate credit access by providing a comprehensive understanding of various loan options and necessary conditions [40,41]. Contemporary research identifies significant structural impediments to micro-enterprise credit accessibility, including collateral inadequacy, information asymmetry, and regulatory constraints [3]. Stiglitz & Weiss's [11] seminal work elucidates how information asymmetry engenders credit rationing phenomena, despite borrowers' willingness to accept premium interest rates. Beck et al [42] and Berger & Udell [43] provide comprehensive analyses of financing patterns and capital market dynamics in organizational growth cycles. Empirical evidence from Wilfred et al [10] demonstrates positive correlations between credit accessibility and organizational financial performance. Furthermore, research by Ayadi et al [29] and Nkundabanyanga et al [30] identifies systemic barriers in formal credit markets.

2.3.3. Financial Decision-Making

Financial decision-making encompasses sophisticated processes of resource allocation optimization, incorporating both operational and strategic considerations [44]. This multifaceted construct encompasses capital structure decisions, investment portfolio optimization, working capital management, profit distribution policies, and risk management strategies [45]. Within micro-enterprise contexts, financial decisions assume particular significance due to their direct impact on operational efficiency and revenue enhancement potential [2].

2.3.4. The Interrelationship Among Financial Literacy, Credit Accessibility, and Financing Decisions

The interrelation of financial literacy, credit accessibility, and financing decisions among micro-enterprises is a complex one that involves the interaction and influence of these factors on financial decision processes. Synergy in financial literacy alongside credit accessibility, commonly referred to as the interaction among financial literacy and credit accessibility, influences the quality of financing decisions. Financial literacy improves comprehension regarding credit products and their requirements [4,41], while good credit access enables the application of financial knowledge for optimal financing decisions [19].

Financial literacy plays a significant role in shaping financing decisions, which is another crucial aspect of this relationship. It describes how financial literacy proficiency shapes the process and results in financing decisions. Higher levels of financial literacy are associated with a better ability to evaluate financing benefits and risks [22], and good financial literacy supports more effective use of financial information in financing decisions.

Lastly, the impact of credit access on financing decisions describes how the ease and frequency of credit access influence financing choices and strategies. Easy credit access increases flexibility in choosing the amount and type of financing [43] Frequent access to credit is linked to a better ability to manage and make use of external financing [42].

The theoretical foundations discussed earlier provide a comprehensive framework for understanding these relationships:

1. TPB explains the psychological foundations underlying financial behavior in micro-enterprises.

2. Behavioral Finance Theory explains the impact of financial literacy on decision-making by considering cognitive and emotional factors

3. Signaling Theory demonstrates how financial literacy serves as a mechanism to reduce information asymmetry and improve credit access.

4. Pecking Order Theory explains how micro-enterprises make financing decisions based on available credit access options.

This theoretical integration suggests three key mechanisms:

1. Financial literacy functions as both a knowledge base for decision-making and a signaling mechanism for credit access.

2. Credit access serves as both an outcome of financial literacy and an enabler of effective financing decisions

3. The relationships between these variables are dynamic and context-dependent, influenced by micro-enterprise characteristics and environmental factors

3. Material and Methods

3.1. Research Protocol

This systematic literature review is conducted following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. A predefined framework was designed to encompass the search approach, eligibility criteria, and techniques for data extraction.

3.2. Search Strategy

The literature search was conducted using Publish or Perish software connected to the Scopus database for publications between 2018-2024. Three search strategies were employed:

1) Financial literacy and credit access relationship:

- "financial literacy" AND ("credit access" OR "credit accessibility") [16 articles]

- "financial literacy" AND "financing access" AND ("informal business" OR "small enterprise") [200 articles]

2) Financial literacy and financial decision relationship:

- "financial literacy" AND ("financial decision" OR "financing decision") [3 articles]

3) Credit access and financial decision relationship:

-Multiple keyword combinations [0 articles]

Total initial articles identified: 219

3.3. Inclusion and Exclusion Criteria

3.3.1. Inclusion Criteria

The criteria for inclusion were systematically created to assure the selection of relevant and high-quality articles that directly address the research objectives. Articles were selected based on the following specific criteria: Scopus-indexed articles published between 2018-2024, written in English language, discussing at least two research variables, focused on micro business/SME context, and employing clear quantitative methodology.

3.3.2. Exclusion Criteria

The systematic analysis omitted studies which failed to align with quality criteria: publications in languages other than English, research concentrated on large enterprises rather than micro-enterprises/SMEs, purely qualitative methodologies, investigations lacking robust empirical evidence, along with literature that had not undergone peer review evaluation, such as symposium proceedings, textbook sections, and unvalidated manuscripts.

3.4. Screening Process

After applying inclusion/exclusion criteria, 13 relevant articles were identified:

- 9 articles on financial literacy-credit access relationship
- 3 articles on financial literacy-financial decision relationship
- 1 article on credit access-financial decision relationship

The detailed screening process and article selection flow following PRISMA guidelines is illustrated in Figure 1, which shows the systematic identification, screening, eligibility assessment, and final inclusion of articles for this review.

4. Results

4.1. Descriptive Analysis of Selected Studies

Based on the systematic review, although we initially searched for articles published between 2018-2024, we found 13 relevant articles published between 2018-2023 that analyzed research findings on the connections between financial literacy, credit access mechanisms, and financial decisions in micro-enterprises. Despite our comprehensive search extending to 2024, no relevant articles meeting the inclusion criteria were found for 2024 at the time of this review. Table 1 presents a comprehensive overview of these studies, including their theoretical foundations, methodologies, and key findings. The investigation demonstrates various conceptual frameworks and research methods, with the majority of studies (12 of 13) indicating positive associations among variables, in contrast, research revealed an inverse relationship between financial understanding and funding choices.

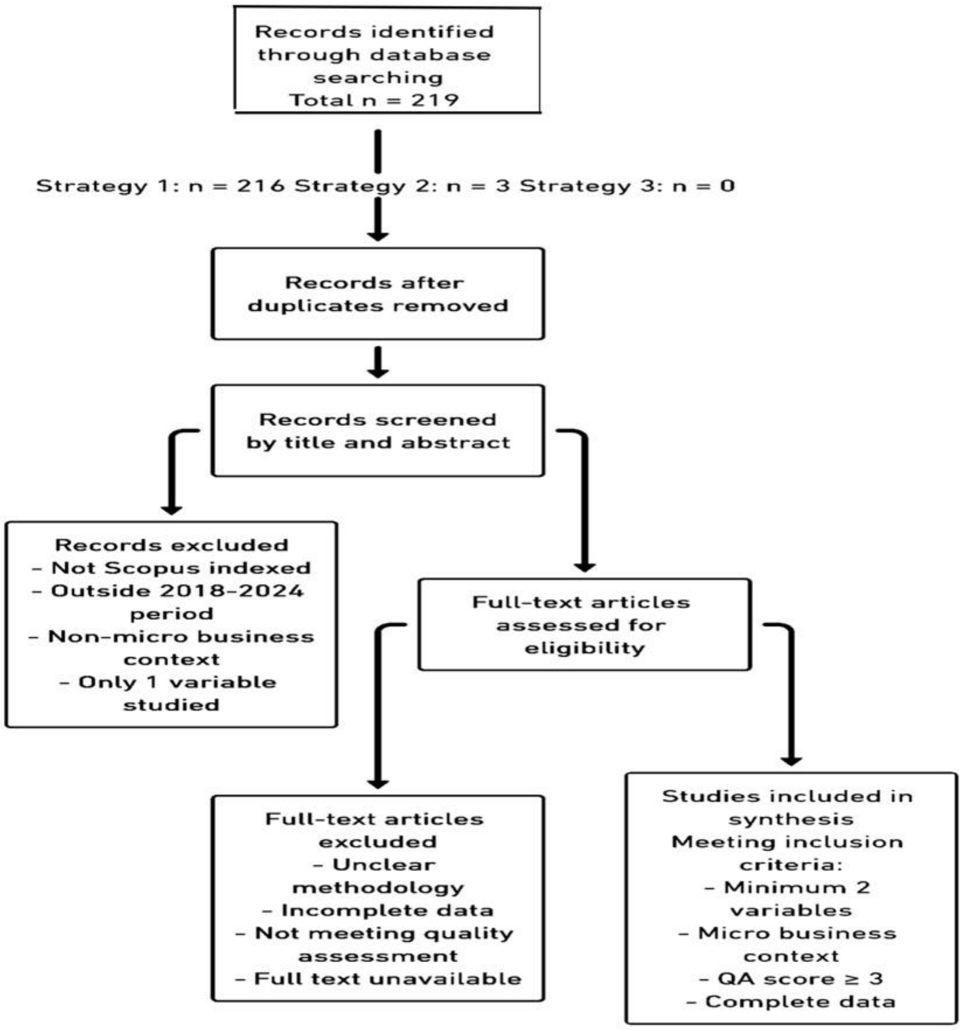

Figure 1: Data Sources and Processing Flow [Source: Author's work].

4.2. Theoretical Analysis and Framework Development

This research utilizes TPB as the grand theory, providing a comprehensive framework for understanding financial decision-making behavior in micro-enterprises. The bridge theories complement TPB in several ways: Financial Behavior Theory explains cognitive and psychological aspects influencing decisions; Signaling Theory demonstrates how financial literacy functions as a signal to lenders; and Pecking Order Theory explains financing preferences and choices.

The integration of these theories creates a comprehensive framework where:

1. The key aspects of the Theory of Planned Behavior, such as personal attitudes, social norms, and perceived behavioral control, influence the development of financial literacy and financial behavior patterns.

Table 1: Systematic Literature Review of Studies on Financial Literacy, Credit Access, and Financial Decision-Making in Micro-Enterprises (2018-2023).

No	Author (Year)	Title	Theory	Method	Findings
1	Hakim et al. (2018) [12]	Determining Factors That Contribute to Financial Literacy For SMEs	Not specified	OLS	Financial literacy positively affects credit access
2	Xu et al. (2019) [39]	Financial Literacy And Formal Credit Accessibility	Not specified	Logistic regression	Financial literacy positively affects bank loan acquisition
3	Wasiuzzaman & Nurdin (2019) [24]	Debt Financing Decisions of SMEs in Emerging Markets	Modigliani Miller's Theory, Trade-off Theory, Pecking Order Theory	Logistic regression	Funding access positively affects capital structure decisions
4	Fong et al. (2021) [31]	Financial Literacy and Financial Decision-Making at Older Ages	Not specified	Logistic & OLS	Better financial literacy improves decision-making.
5	Frempong et al. (2021) [15]	Financial literacy and finance service access	Theory of Micro Economic	Logistic regression	Financial literacy significantly influences financial access
6	Hasan et al. (2021) [16]	How Does Financial Literacy Impact on Inclusive Finance	Not specified	Logistic, probit & log-log regression	Financial literacy positively impacts financial access
7	Sohilauw et al. (2021) [22]	Financial Literacy, Rational Financing Decision, and Performance	Resource-Based View, Pecking Order	SEM	Financial literacy affects rational financing decisions
8	Srithirath & Sukcharoensin (2022) [17]	Financial Literacy and Credit Accessibility	Not specified	Binary logistic	Financial literacy positively affects credit access
9	Ssekakubo et al. (2022) [6]	Financial Literacy and Financial Performance: Credit Access Mediation	Not specified	Multiple regression	Financial literacy positively affects credit access
10	Raza et al. (2023) [18]	Financial Literacy and Credit Accessibility of Rice Farmers	Not specified	Multiple & logistic regression	Financial literacy positively affects credit accessibility
11	Widyastuti et al. (2023) [19]	Strengthening Formal Credit Access through Financial Literacy	Not specified	Not specified	Financial literacy positively affects formal credit access
12	Meressa (2023) [20]	Entrepreneurial Financial Literacy - Business Sustainability	Resource-Based Theory	SEM	Financial literacy impacts credit financing access
13	Sulistianingsih & Santi (2023) [23]	SME's financing decisions and Pecking Order pattern	Pecking Order Theory	SEM-PLS	Financial literacy negatively affects financing decisions

Source: Author's work
*Note: The search period covered 2018-2024, but relevant articles were only found for 2018-2023.

2. The Financial Behavior Theory outlines how psychological factors and cognitive biases influence the way financial decisions are made.

3. Financial literacy serves dual functions: as a decision-making tool (Behavioral Finance) and as a signal to lenders (Signaling Theory)

4. Credit access acts as a mediating mechanism, influenced by financial literacy signals and influencing financing choices (Pecking Order Theory)

This theoretical integration suggests that:

1. Financial literacy development is influenced by behavioral factors (TPB) and cognitive biases (Behavioral Finance)

2. Enhanced financial literacy improves decision quality by reducing cognitive biases and providing better signals to lenders

3. Credit access serves as both an outcome of improved financial literacy and an enabler of better financing decisions

4. The process of making financial decisions is broadly influenced by the combined effects of behavioral tendencies, cognitive aspects, and institutional influences.

The visual representation in Figure 2 effectively captures the key components and their interrelationships within the integrated framework proposed in this research. The figure helps clarify how financial literacy, credit access, and financing decisions interact in the context of micro-enterprise performance.

This study adopts the Theory of Planned Behavior (TPB) as the foundational framework to comprehensively explore how individual attitudes, societal norms, and perceived control over behavior shape intentions and actions in financial decision-making within micro-enterprises. In this study, the Theory of Planned Behavior (TPB) functions as the primary theoretical basis for the entire conceptual model. However, a more detailed explanation is needed to clarify how these behavioral factors are linked to the actual process of making financial decisions within the framework of the Theory of Planned Behavior.

There are several theories that function as bridges between the grand theory and the applied theory. These theories provide more detailed explanations regarding aspects of financial behavior, signaling theory, and pecking order theory. Psychological and cognitive aspects, as outlined in the Financial Behavior Theory, play a role in shaping

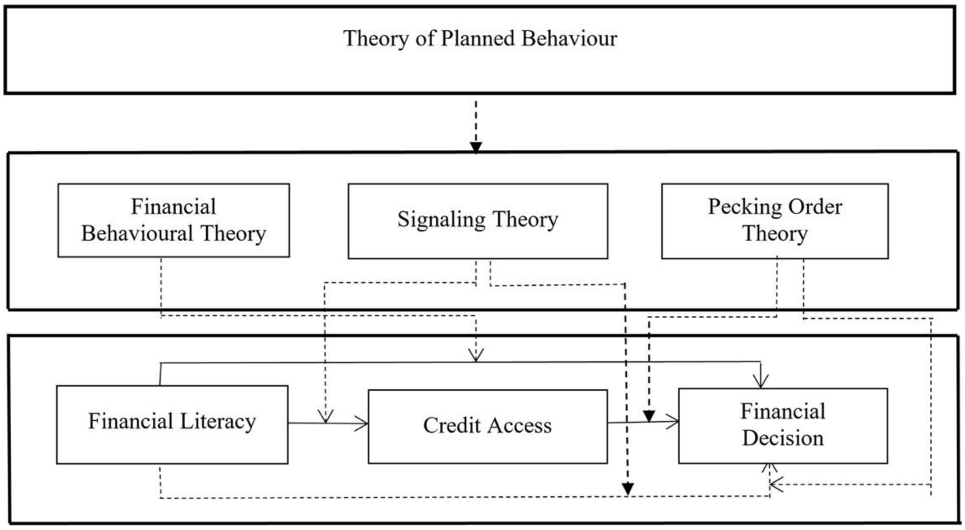

Figure 2: Conceptual Framework of Financial Literacy, Credit Access, and Financing Decisions Relationships in Micro-enterprise Performance [Source: Author's work].

the financial literacy of owners of micro-enterprises. The biases recognized by Financial Behavior Theory provide insights into how the financing decision-making process may become distorted, ultimately influencing the quality of the resulting decisions.

Signaling Theory serves as a link connecting the Theory of Planned Behavior (TPB) with the practical application of the theory. Signaling Theory illustrates how financial literacy, influenced by individual perceptions of control, social expectations, and personal attitudes as outlined in the Theory of Planned Behavior (TPB), can serve as a positive indicator for lenders. When micro-enterprises can demonstrate good financial literacy, this can increase their credit access. Better credit access will then influence the financing options available to micro-enterprises, which is the focus of the applied theory.

Moreover, the Pecking Order Theory functions as a link between the comprehensive framework of the Theory of Planned Behavior (TPB) and its practical implementation in financing decisions. In the Theory of Planned Behavior (TPB), financial decision-making intentions and actions are influenced by attitudes, social norms, and perceived control. Pecking Order Theory complements this by explaining the preferences of micro-enterprises in choosing funding sources after obtaining credit access. These preferences, based on risk and cost considerations, will then determine the financing decisions made by micro-enterprises.

The identification of these key variables and concepts from the literature forms a crucial foundation for developing the conceptual model. A thorough review of the literature has highlighted the significant influence of financial literacy, credit accessibility, and financing choices within the scope of micro-enterprises [4,6,22,39]. Furthermore, these studies provide strong empirical evidence supporting the interrelationships between these variables.

The applied theory explains how these three variables are interrelated. Good financial literacy influences credit access, while better credit access influences financing decisions and Financial literacy can also have an indirect impact on financing decisions by facilitating access to credit. Middle-range and applied theories offer a more in-depth explanation of financial behavior within the micro-enterprise sector.

Based on this explanation, the developed conceptual model shows that good financial literacy, facilitated by adequate credit access, can drive higher-quality and optimal financial decision-making among micro-enterprises. Micro-enterprise owners with high financial literacy are able to comprehensively understand formal financial products and increase credit access. These owners have the capability to make financing decisions that consider risks and benefits in a more holistic manner.

4.3. Analysis of Variable Relationships

An examination of the relationships among variables identifies four essential patterns found in the literature. First, numerous studies have consistently demonstrated a positive link between financial literacy and the ability to access credit [6,15–20,39,46]. This relationship is particularly robust as it is supported by multiple methodological approaches including regression analysis, structural equation modeling, and logistic models across different geographical contexts.

Secondly, research findings on the connection between financial literacy and financial decision-making show varied outcomes. While most studies found positive effects [22,31] suggest that increased financial literacy results in better financial decisions. However, one study found a negative correlation [23]. This inconsistency might be attributed to variations in how financial decisions were measured and different contextual factors across studies.

Third, the relationship between credit access and financial decisions, although less extensively studied, shows promising results. The limited direct empirical evidence [24] indicates that credit access positively influences financing choices, though these effects appear to be context-dependent, varying across different business environments and financial systems.

Fourth, the analysis identifies a significant gap in existing research related to the intermediary role of credit access in linking financial literacy with financial decision-making. This potential mediating mechanism, while supported by theoretical integration, has not been explicitly tested in previous studies, offering a new contribution to the existing literature.

5. Discussion

This systematic review highlights significant theoretical advancements and contributions concerning the relationships between financial literacy, access to credit, and financial decision-making within micro-enterprises. Our findings extend existing theories and provide new insights into how these relationships operate in the micro-enterprise context. The discussion is organized around four key theoretical contributions.

1) The Effect Of Financial Literacy On Access To Credit: Development of the Signaling Theory

This research extends Signaling Theory beyond its traditional applications by demonstrating how financial literacy functions as a unique form of signal in micro-enterprise lending contexts. While classical Signaling Theory focuses on formal credentials or observable characteristics as signals, our research shows that financial literacy can function as an effective alternative signal, particularly valuable in micro-enterprise contexts where traditional signals may be absent or weak. Signaling Theory is essential in illustrating how financial literacy serves as a favorable indicator to lenders, which may enhance access to credit [34,47]. Financial literacy is recognized as a critical factor affecting credit access in micro-enterprises, acting as a positive signal of a borrower's ability to handle finances efficiently. Research indicates that improving financial literacy among micro-entrepreneurs can enhance effectiveness in providing financial information and support access to external finance [1]. Access to credit is frequently determined by the applicant's understanding of credit products and loan criteria, with a deeper comprehension of financial concepts and requirements greatly enhancing access to credit resources [40,41].

2) Effect of Financial Literacy on Financial Decision-Making: A Contribution to the Theory of Behavioral Finance

This study further develops Behavioral Finance Theory by exploring how financial literacy affects financial decision-making by minimizing cognitive biases and improving financial comprehension. The theory explains how increased knowledge can reduce cognitive biases [33] and enable more rational decision-making. Behavioral Finance Theory explains how financial literacy enables individuals and businesses to understand various financing options and assess the advantages and disadvantages of each choice [44], leading to more rational and strategic financing decisions [48,49]. Studies indicate that individuals with strong financial literacy are more likely to make better investment and management decisions. [4,7], ultimately reducing financial risk and increasing business stability. This is especially significant in the case of micro-enterprises, where resources are limited and sound financing decisions can have a major impact on business sustainability.

3) Impact of Credit Access on Financial Decision-Making: Development of Pecking Order Theory

This research refines Pecking Order Theory by demonstrating how credit access influences the hierarchy of financing preferences in micro-enterprise contexts. The theory provides understanding of how micro-enterprises choose their funding sources based on a certain hierarchy, beginning with internal funds, moving to debt, and finally utilizing external equity [28,36]. Access to credit is a key factor in the financing decisions of micro-enterprises [10,19]. Companies can improve financial performance through credit access for operational activities and revenue enhancement [2]. Good credit access directly relates to improved financial performance, as additional capital enables investment in business opportunities and more effective risk management [19]. The availability of credit options influences how micro-enterprises make their financing choices, often modifying the traditional pecking order of financing preferences to adapt to their specific circumstances and constraints.

4) Theoretical Integration: The Role of Credit Access as a Mediator

The role of credit access as a mediator in the relationship between financial literacy and financing decisions offers a valuable theoretical contribution by merging different theoretical frameworks. According to Signaling Theory [34,47], high financial literacy provides positive signals to lenders, demonstrating good financial management capability. These signals increase lenders' confidence, thereby expanding access to credit [8]. Furthermore, in line with Pecking Order Theory [28,36], increased credit access expands the available financing options. The integration of these theories makes significant contributions by demonstrating how financial literacy functions as both a signal and decision-making tool, showing how credit access mediates between financial knowledge and financial decisions, and explaining how various theoretical perspectives complement each other in the context of micro-enterprises.

This theoretical integration is supported by evidence showing that financial literacy increases the likelihood of informal businesses obtaining bank loans and helps reduce risks associated with limited credit access [1,6]. This framework offers a solid basis for comprehending how financial literacy, access to credit, and decision-making are interconnected in the context of micro-enterprises, enhancing both theoretical insights and practical strategies for micro-enterprise growth. This study clarifies the relationship between financial literacy and credit access through the framework of Signaling Theory, and the link between credit access and financial decision-making through Pecking Order Theory, thus providing a comprehensive analysis of financial decision-making processes in micro-enterprises.

6. Practical Implications

The findings from this systematic review offer important practical implications for key stakeholders in the micro-enterprise ecosystem. For policy makers, our findings emphasize the need for targeted financial literacy programs and supportive credit access mechanisms, suggesting that policy initiatives should address both financial education and credit access simultaneously. For financial institutions, the findings underscore the importance of incorporating financial literacy as a positive indicator in the credit evaluation process, while adapting their methods to better account for micro-enterprise characteristics and supporting financial education initiatives. For micro-enterprise owners, our findings underscore the value of investing in financial literacy development as a strategic tool for business growth, emphasizing the importance of maintaining proper financial records, understanding financing options, and making informed financial decisions for sustainable business development.

This systematic review aimed to examine the relationships between financial literacy, credit access, and financial decision-making in micro-enterprises through a comprehensive theoretical framework. The analysis included 13 relevant studies published between 2018 and 2024. The findings yield several important theoretical contributions.

This study extends the application of the Theory of Planned Behavior (TPB) by elucidating how attitudes, social norms, and perceived behavioral control influence financial behavior, both directly and indirectly, through financial literacy and credit access. The combination of Financial Behavior Theory illustrates how cognitive and emotional biases affect financing decisions in micro-enterprises, whereas Signaling Theory clarifies how financial literacy acts as a positive signal to lenders, reducing information asymmetry. This study extends the application of the Theory of Planned Behavior (TPB) by demonstrating how attitudes, social influences, and perceived behavioral control affect financial behavior, both directly and indirectly, through financial literacy and access to credit. Furthermore, our adaptation of Pecking Order Theory demonstrates how financial literacy and credit access help micro-enterprises optimize their funding source selection.

The main contribution of this research lies in testing and enriching these theories within the micro-enterprise context, providing deeper understanding of financial behavior dynamics through an integrated theoretical framework. While this review offers valuable insights, limitations include its focus on English-language articles from 2018-2024 and quantitative studies. Future research should explore broader timeframes, include qualitative studies, and empirically test the proposed framework across different cultural and economic settings.

Conflict of Interest

The authors declare no conflict of interest.

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