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Article Reviews

The Role of Fintech Lending in Financial Inclusion and Poverty Alleviation: A Systematic Review

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Abstract

Fintech lending has emerged as a transformative tool for expanding financial inclusion and reducing poverty. This study conducts a systematic literature review (SLR) of 39 articles published between 2010 and 2023, using Scopus as the primary database, to evaluate the impact of fintech lending on poverty alleviation across different socio-economic contexts. The findings reveal that fintech lending enhances financial accessibility through mobile money, digital microfinance, and alternative credit-scoring mechanisms, particularly benefiting underserved populations. However, challenges such as the digital divide, financial literacy gaps, and risks of over-indebtedness persist. Islamic finance models, including digital zakat and Shariah-compliant microfinance, have shown the potential to support poverty alleviation in Muslim-majority regions. Effective fintech implementation depends on adaptive regulatory frameworks, consumer protection measures and integration with traditional financial institutions. This study contributes to the literature by synthesizing global insights on fintech's role in poverty alleviation and identifying key success factors for sustainable financial inclusion. Policymakers and practitioners can leverage these findings to develop inclusive fintech ecosystems that mitigate risks while maximizing social and economic impact. Future research should explore the long-term effects of fintech lending and its role in environmental sustainability and regulatory advancements.

Keywords: *Financial Technology, Poverty Alleviation, Financial Inclusion, Systematic Literature Review, Digital Microfinance*

INTRODUCTION

Global poverty remains a significant challenge, affecting nearly 700 million people worldwide, with over 10% of the global population living on less than $1.90 a day in extreme poverty (Nasution et al., 2022). This situation disproportionately impacts children, rural communities, and conflict-affected regions, particularly in Sub-Saharan Africa and parts of South Asia (Ye et al., 2022; Buckley et al., 2021a). Despite various poverty reduction initiatives, financial exclusion has continued to hinder economic participation, especially in areas with limited traditional banking infrastructure.

The rapid rise of financial technology (fintech) has been transforming the financial industry, offering digital solutions to bridge financial gaps. The global fintech lending market has experienced explosive growth, exceeding $450 billion in 2023, with projected annual growth rates of over 25% through 2030. In developing countries, mobile money account adoption has grown exponentially, with Sub-Saharan Africa leading adoption, where nearly half of adults now use mobile money services. Fintech enhances and automates financial services, making them more accessible, affordable, and efficient, promoting financial inclusion as a key driver of poverty alleviation (Gallego-Losada et al., 2023). Among fintech innovations, digital lending platforms, mobile banking, peer-to-peer (P2P) lending, and alternative credit-scoring mechanisms have gained traction, particularly in emerging markets where traditional financial institutions fail to serve low-income populations (Salampasis & Mention, 2018; Rabbani et al., 2021a).

Fintech lending leverages advanced technologies—automated approval processes, artificial

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intelligence (AI), data analytics, and blockchain—to streamline lending operations, reduce fraud, and lower transaction costs (Ranabahu, 2022). These innovations have proven especially beneficial for borrowers in remote areas, increasing access to financial resources and improving overall economic participation (Nathan et al., 2022). Moreover, Islamic fintech solutions, such as digital zakat platforms and Shariah-compliant microfinance, have shown promising results in supporting financial inclusion among Muslim-majority populations. However, their role remains underexplored in fintech-driven poverty alleviation.

Despite its increasing prominence, fintech lending's long-term impact on poverty reduction remains unclear. Existing research primarily focuses on short-term financial inclusion benefits, with limited studies addressing its sustainability, risks of over-indebtedness and effects on marginalized groups (Hasan et al., 2021). Additionally, the lack of regulatory consistency in fintech lending raises concerns regarding consumer protection, financial stability and data privacy (Agarwal et al., 2022).

This study bridges these gaps by conducting a systematic literature review (SLR) of 39 studies published between 2010 and 2023, examining the role of fintech lending in poverty alleviation across diverse socioeconomic contexts. This study addresses the following research question: How does fintech lending contribute to poverty alleviation, and what factors influence its effectiveness across different socioeconomic contexts? By synthesizing global insights, this study aims to provide evidence-based recommendations for policymakers, fintech developers and financial regulators to create more inclusive, responsible and sustainable fintech ecosystems.

LITERATURE REVIEW

Poverty, Financial Exclusion, and the Emergence of Fintech

Poverty extends beyond income deficiency to multidimensional deprivations, including limited access to financial services. Financial exclusion affects approximately 1.7 billion adults globally, with the highest concentrations in developing regions of Sub-Saharan Africa and South Asia. This exclusion disproportionately impacts women, rural populations, and those with lower education levels, reinforcing existing socioeconomic disparities and limiting economic participation.

Financial inclusion has gained recognition as a sustainable mechanism for poverty reduction that enables income smoothing and capital accumulation for productive investments. However, conventional financial institutions often exclude low-income populations due to high transaction costs and inadequate infrastructure in remote areas. The emergence of fintech has democratized financial services through reduced costs, expanded reach and innovative risk assessment, overcoming traditional barriers, including physical distance, documentation requirements and minimum balance thresholds (Gallego-Losada et al., 2023; Nasution et al., 2022).

Fintech Lending Models and Research Gaps

Fintech lending encompasses diverse models, including peer-to-peer lending platforms, mobile money services, and digital banks. These innovations operate without physical branches, reducing costs while expanding accessibility to underserved populations. Additionally, alternative credit scoring models utilize non-traditional data sources to evaluate creditworthiness, benefiting individuals lacking formal credit histories but demonstrating responsible financial behaviours through other channels (Salampasis & Mention, 2018; Rabbani et al., 2021a).

Despite growing research, significant gaps persist in understanding fintech's comprehensive impact on poverty alleviation. Most studies focus on short-term financial inclusion metrics rather than long-term economic well-being, neglecting potential risks such as over-indebtedness. There is also limited understanding of how fintech interacts with existing formal and informal financial systems, particularly in diverse socioeconomic contexts. This systematic literature review addresses these gaps by synthesizing existing knowledge, identifying patterns, and providing directions for future research and policy development (Hasan et al., 2021; Buckley et al., 2021a).

RESEARCH METHOD

This study employed a systematic literature review (SLR) with two primary objectives: to summarize the current research landscape concerning fintech and poverty alleviation and to identify existing research gaps. The methodology (Figure 1) involved a comprehensive electronic database search using Scopus. Initial keywords "Fintech" OR "Financial Technology" AND "poverty" yielded 160 articles, which were refined to 140 by applying a 2010–2023 publication filter. Additional refinement using subject area (Business, Management, & Accounting), source type (journal articles only), and document type (research articles only) further narrowed the dataset. The final selection process, which included screening titles, abstracts, and full-text content for relevance and methodological rigor, resulted in 39 highly relevant articles.

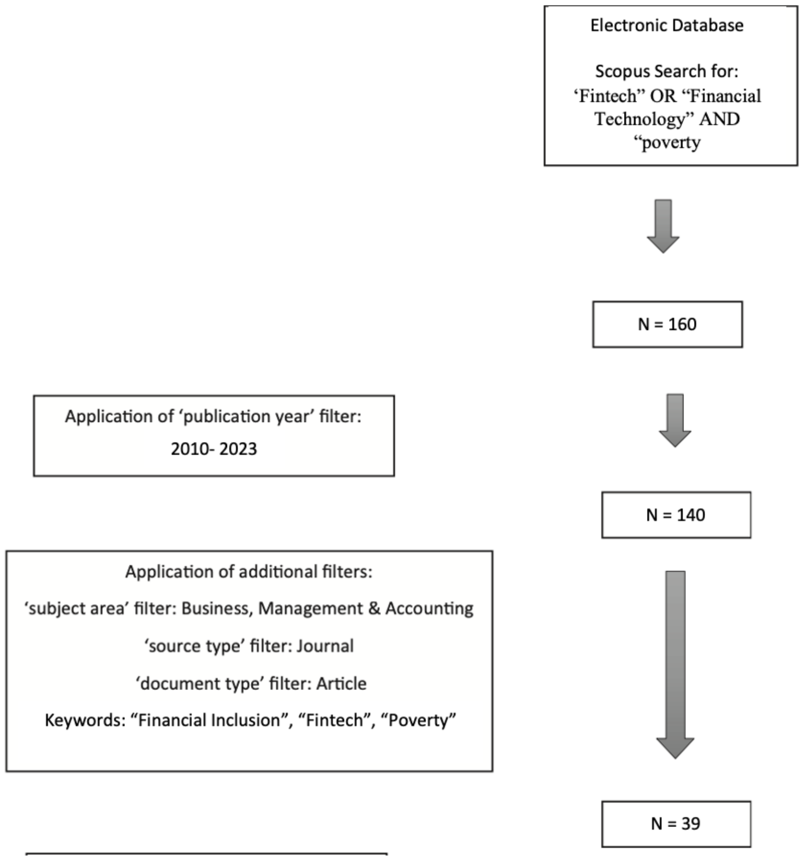

Figure 1. SLR Method

To provide a broader understanding of fintech's impact on poverty within the business field, a bibliometric analysis was conducted using the following advanced query: "Fintech" OR "Financial Technology" AND "poverty" AND (LIMIT-TO (SUBJAREA, "BUSI")), identifying 1,363 documents. Although only 39 articles were included in the final SLR, this broader dataset provided a contextual framework for assessing emerging themes and research trajectories.

The data selection followed strict inclusion and exclusion criteria to ensure quality and relevance. Only peer-reviewed journal articles in English were considered. Conference papers, book chapters, and non-peer-reviewed reports were excluded. Studies primarily focused on fintech applications without a direct link to poverty alleviation were also removed from the dataset.

The bibliometric analysis included keyword co-occurrence analysis, which identified dominant research themes; citation network analysis, which mapped influential studies and knowledge development; and geographic distribution analysis, which examined fintech adoption trends across different regions. Additionally, qualitative thematic coding was applied to extract insights related to financial inclusion, regulatory frameworks, digital literacy, risks, and socioeconomic impacts. This combined quantitative and qualitative approach ensured a structured, data-driven synthesis of fintech lending's contributions to financial inclusion and poverty alleviation. By systematically analyzing the existing literature, this study synthesizes critical insights into how fintech lending fosters financial inclusion, highlights key challenges and informs future research and policy development.

FINDINGS AND DISCUSSION

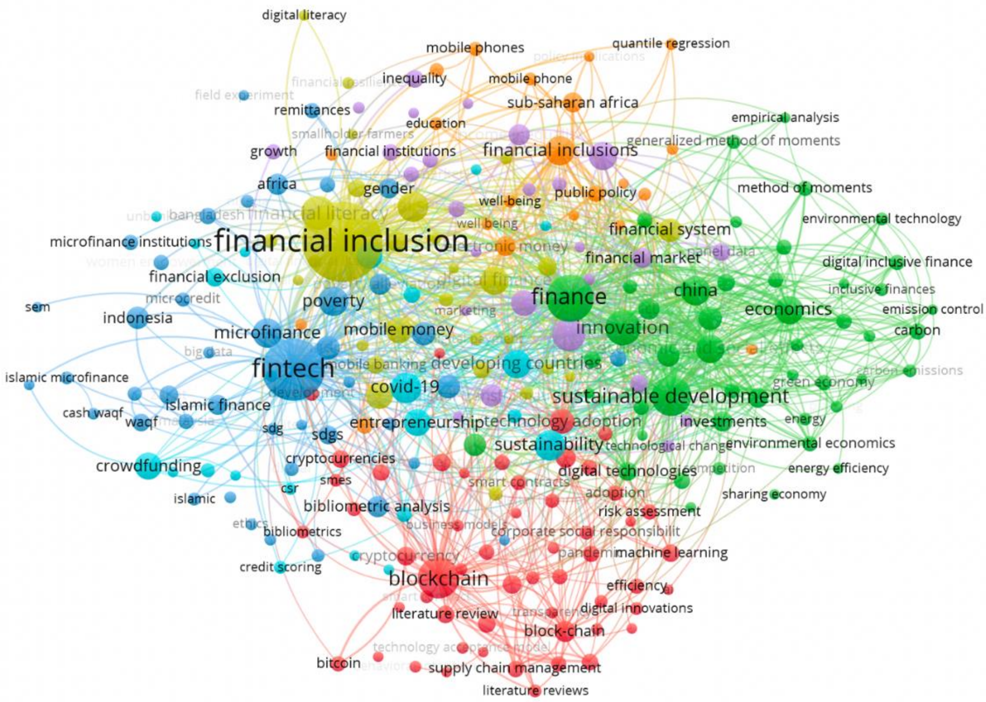

Figure 2. Bibliometric Result

The bibliometric analysis highlights that fintech lending significantly contributes to poverty alleviation through enhanced financial inclusion (Figure 2). The network map shows that 'financial inclusion' and 'fintech' are central themes, indicating the critical role of fintech in providing financial access. Fintech lending is closely associated with microfinance and innovation, demonstrating its role in offering efficient and affordable financial services to underserved populations. The connection between "poverty" and "financial inclusion" emphasizes that providing access to credit and financial services helps individuals and small businesses grow, ultimately reducing poverty. Additionally, the prominence of "mobile money" indicates the importance of mobile-based financial services in empowering the poor by offering secure and accessible ways to manage finances. Studies in developing countries, particularly in sub-Saharan Africa, underscore the relevance of fintech lending in areas with low financial inclusion and high poverty levels. To enhance the detailed understanding of these contributions, this research uses an SLR to comprehensively analyze existing studies and synthesize findings on the impact of fintech lending on poverty reduction globally.

Geographical Overview

Table 1. Overview of FinTech and Poverty Alleviation Research by Country/Region

Country/Region	Topics	Count	Citations
India	Digital identity (Aadhaar), Zakat, FinTech for poverty alleviation	4	Chowdhry et al. (2021); Rabbani et al. (2022); Beik et al. (2021); Ahmad et al. (2023)
Indonesia	Microfinance institutions and FinTech adoption	3	Yeow et al. (2018), Nathan et al. (2022), Ascarya (2022)
China	FinTech for poverty alleviation	2	Ye et al. (2022), Shang et al. (2024)
Bangladesh	Financial literacy and financial inclusion	1	Hasan et al. (2021)
Vietnam	FinTech adoption and financial health	1	Nathan et al. (2022)
Saudi Arabia and Egypt	ZakaTech adoption	1	Bin-Nashwan et al. (2023)
African countries	FinTech for poverty alleviation	1	Khaki et al. (2022)
ASEAN-5	Financial inclusion, FinTech, and poverty alleviation	1	Nasution et al. (2022)
European countries	Financial inclusion and crowdfunding	1	Baber (2021)
Global/Multiple countries	Financial inclusion, FinTech, and poverty alleviation	5	Demirguc-Kunt et al. (2017), Bollinger & Yao, (2018), Adbi & Natarajan, (2023), Agarwal et al. (2022), Gallego-Losada et al. (2023)

The geographic distribution of fintech lending research highlights significant regional variations in its impact on poverty alleviation. Studies have demonstrated that fintech adoption and financial inclusion strategies differ widely based on economic development levels, regulatory environments, and sociocultural factors. Table 1 provides an overview of fintech and poverty alleviation research by country or region, emphasizing key themes and contributing authors.

In developed economies, fintech primarily enhances existing financial services through alternative financing models, AI-driven credit scoring, and open banking frameworks (Baber, 2021; Fasnacht, 2018). While these innovations improve efficiency and accessibility, they often target middle-class consumers and small businesses rather than the unbanked poor. In contrast, studies from developing economies—particularly South Asia, Southeast Asia, and Sub-Saharan Africa—highlighted fintech's transformational role in poverty alleviation, with mobile money platforms like M-Pesa in Kenya and Gojek's digital lending in Indonesia significantly expanding financial access (Khaki et al., 2022). However, concerns persist regarding over-indebtedness, financial illiteracy, and weak consumer protection regulations (Hasan et al., 2021).

A growing body of research explores Islamic fintech solutions in Muslim-majority regions, such as Indonesia, Malaysia and Saudi Arabia, where Shariah-compliant fintech models, including digital zakat and Islamic microfinance, have increased financial inclusion by aligning with local cultural and religious values (Bin-Nashwan et al., 2023). However, challenges remain in scaling these models due to regulatory inconsistencies and technological constraints (Muneeza & Mustapha, 2021). Despite the growing body of literature, Latin America and Central Asia remain underexplored, and most studies lack longitudinal data to assess fintech's long-term impact on poverty reduction. Many studies focus on short-term adoption trends rather than evaluating financial behaviors, wealth accumulation, or economic resilience.

Financial Inclusion: A Context

Table 2. Key Topics in Financial Inclusion and FinTech Research

Financial Inclusion Context Topic	Primary Focus Areas	Count	Citations
Digital Financial Services	Mobile banking and payments; E-wallets and digital money; Internet banking	4	Nathan et al. (2022), Nasution et al. (2022), Demirgüç-Kunt et al. (2017)
FinTech Innovations	Artificial Intelligence in finance; Blockchain technology; Big data analytics	5	Rabbani et al. (2021), Khairi et al. (2023), Thomason et al. (2018), Yeow et al. (2018)
Islamic Finance	Zakat technology (ZakaTech); Islamic microfinance; Shariah-compliant FinTech	5	Bin-Nashwan et al. (2023), Muneeza & Mustapha, (2021), Ahmed et al. (2021), Beik et al. (2021)
Government Initiatives	National financial inclusion programs; Regulatory sandboxes for FinTech; Digital identity systems	3	Nathan et al. (2022), Chowdhry et al. (2021)
Microfinance and Microcredit	Online microfinance platforms; Microcredit for entrepreneurship; Group lending models	3	Bollinger and Yao (2018), Adbi and Natarajan, (2023)
Financial Literacy and Education	Digital financial literacy programs; Financial education through technology; Consumer protection in digital finance	3	Beik and Arsyianti (2021), Hasan et al. (2021), Buckley et al. (2021)
Sustainable Development	FinTech for SDG achievement; Green finance and technology; Financial inclusion for poverty alleviation	4	Dananjayan et al. (2023), Shang et al. (2024), Ye et al. (2022), Buckley et al. (2021)
Alternative Financing	Crowdfunding platforms; Peer-to-peer lending; Impact investing	3	Baber (2021), Fasnacht (2018)

The expansion of financial inclusion has been largely driven by the rise of digital financial services, which have played a transformative role in broadening access to financial systems. Mobile banking, e-wallets, and Internet banking have become essential in enabling underserved populations to make transactions, access credit, and manage savings through digital platforms. Studies by Nathan et al. (2022), and Nasution et al. (2022) highlight how these technologies reduce financial barriers, particularly in remote and rural areas where traditional banking infrastructure is limited. Demirgüç-Kunt et al. (2017) further emphasized that Internet banking has increased financial access globally, allowing individuals to participate in financial markets regardless of geographical constraints. However, despite these advancements, disparities persist due to limited digital literacy, unequal smartphone penetration, and inconsistent internet connectivity, which hinder the most vulnerable populations from fully benefiting from these services.

In addition to digital banking, fintech innovations leveraging artificial intelligence (AI), blockchain, and big data analytics have further expanded financial inclusion by improving the accuracy of credit assessments, reducing fraud, and offering personalized financial solutions. Rabbani et al. (2021) highlighted the potential of AI-driven lending platforms, which use alternative data to assess creditworthiness, particularly for individuals without formal financial histories. Meanwhile, Khairi et al. (2023) and Yeow et al. (2018) discussed how big data analytics enable microfinance institutions to enhance risk assessment and optimize loan distribution, making fintech lending more accessible and efficient. Although these innovations have gained traction in developed economies, their adoption in developing regions remains hampered by regulatory uncertainties, infrastructure limitations, and concerns about data privacy.

Islamic finance has emerged as another critical avenue for financial inclusion, particularly in regions with significant Muslim populations. Integrating Shariah-compliant fintech solutions, such as ZakaTech and Islamic microfinance, has allowed ethical financial practices to align with modern technology, thereby fostering inclusion among individuals who might otherwise avoid conventional banking due to religious constraints. Bin-Nashwan et al. (2023) examined the role of Islamic microfinance in extending financial services to the underbanked while maintaining adherence to religious principles. Additionally, Beik et al. (2021) and Muneeza and Mustapha (2021) highlighted how digital zakat platforms improve the efficiency and transparency of charitable fund distribution, strengthening social safety nets and contributing to poverty alleviation efforts. Despite its potential, Islamic fintech faces challenges in regulatory standardization, scalability, and integration with mainstream financial systems, which limits its broader impact.

While fintech has made substantial contributions to financial inclusion, research gaps remain in evaluating its long-term sustainability, financial literacy interventions' effectiveness and regulatory frameworks' ability to balance innovation with consumer protection. This study synthesizes these insights and identifies key opportunities and challenges in leveraging fintech for sustainable and inclusive financial ecosystems.

Antecedents

Financial literacy plays a critical role in shaping individuals' ability to engage with fintech lending services effectively. The antecedents of financial literacy include knowledge of financial products and services, understanding basic financial concepts, and personal financial management skills. Hasan et al. (2021) emphasized that a deep understanding of various financial products and the associated risks and benefits enhances one's ability to use fintech lending services. Additionally, Demirgüç-Kunt et al. (2017) argued that comprehending key financial concepts, such as interest, inflation, and risk diversification, helps individuals make more informed decisions when using these platforms. Beik and Arsyianti (2021) further highlighted that personal financial management skills, such as budgeting, financial planning and debt management, improve the capacity to manage fintech loans effectively. These antecedents collectively contribute to greater financial empowerment and responsible use of fintech lending, supporting broader financial inclusion.

Financial Literacy

Financial literacy significantly influences individuals' ability to engage with fintech lending, as it encompasses key aspects like knowledge of financial products, understanding basic financial concepts and personal financial management skills (Table 3). Hasan et al. (2021) highlighted that familiarity with financial products and their associated risks enhances users' capacity to use fintech lending services effectively. Demirgüç-Kunt et al. (2017) emphasize that understanding essential financial concepts, such as interest rates, inflation, and risk diversification, helps individuals make more informed decisions. Additionally, Beik and Arsyianti (2021) point out that personal financial management skills, including budgeting, financial planning and debt management, improve borrowers' ability to manage loans obtained through fintech platforms. These factors positively contribute to a user's competence in navigating fintech lending environments. Existing research does not adequately address how fintech firms can incorporate financial education to ensure responsible borrowing behaviors, which represents a key gap this study aims to explore.

Table 3. Financial Literacy Antecedents

Typology	Antecedents	Sub Factor	Citation	Association with Fintech Lending
Financial Literacy	Knowledge of financial products and services	- Understanding various financial products - Knowledge of risks and benefits	Hasan et al. (2021)	Positive: Enhances ability to understand and utilize fintech lending services
	Understanding basic financial concepts	- Interest concepts - Inflation - Risk diversification	Demirgüç-Kunt et al. (2017)	Positive: Helps make better financial decisions when using fintech lending
	Personal financial management skills	- Budgeting - Financial planning - Debt Management: A review of the literature	Beik and Arsyianti (2021)	Positive: Improves ability to manage loans from fintech lending platforms.

Technology Access

Access to technology plays a crucial role in facilitating the use of fintech lending platforms. Key antecedents include smartphone ownership, internet access and digital skills (Table 4). Nathan et al. (2022) emphasized that the type and capabilities of smartphones directly enable users to access fintech lending apps, making these devices a vital gateway to digital financial services. Nasution et al. (2022) highlighted the importance of reliable internet access, where connection quality and cost significantly influence users' ability to engage with online fintech platforms. Additionally, digital skills, such as the ability to use applications and overall digital literacy, enhance users' capacity to navigate and effectively utilize fintech lending platforms, further promoting financial inclusion. However, while existing studies have discussed fintech's role in promoting financial inclusion, they often overlook structural barriers related to digital accessibility.

Table 4. Technology Access Antecedents

Typology	Antecedents	Sub Factor	Citation	Association with Fintech Lending
Technology Access	Smartphone ownership	- Type of smartphone - Smartphone capabilities	Nathan et al. (2022)	Positive: Allows access to fintech lending apps
	Internet access	- Connection quality - Access cost	Nasution et al. (2022)	Positive: Facilitates the use of online fintech lending platforms
	Digital skills	- Ability to use applications - Digital literacy	How et al. (2020)	Positive: Enhances ability to navigate and use fintech lending platforms

Factors Shape Fintech Lending Preferences and Adoption Behaviors.

Table 9. Cultural and Religious Context Antecedents

Typology	Antecedents	Sub Factor	Citation	Association with Fintech Lending
Cultural and Religious Context	Adherence to Sharia financial principles	- Understanding Riba - Preference for Sharia products	Muneeza and Mustapha (2021)	Positive/Negative: Can drive adoption of Sharia-compliant fintech lending while limiting conventional fintech usage
	Cultural norms related to finance	- Views on debt - Communal values	Beik et al. (2021)	Positive/Negative: Can influence fintech lending adoption depending on prevailing norms

Challenges Identified

Fintech lending faces several challenges that hinder its effectiveness, particularly in vulnerable populations (Table 10). A significant barrier is the financial literacy gap, where a lack of understanding financial concepts prevents individuals from making informed borrowing decisions (Hasan et al., 2021; Beik & Arsyianti, 2021; Nathan et al., 2022). Without adequate financial knowledge, borrowers may struggle to evaluate loan terms, leading to mismanagement of credit and higher default rates. Additionally, the digital divide remains a persistent issue, as disparities in access to technology continue to exclude lower-income groups from fintech services (Nasution et al,. 2022; Khaki et al., 2022; Afjal, 2023). These gaps disproportionately affect rural populations, women, and older adults individuals, limiting their ability to engage in digital financial services.

In addition to accessibility issues, the ease of obtaining credit through fintech lending platforms increases the risk of over-indebtedness, particularly in the absence of robust credit assessments (Bollinger and Yao, 2018; Ranabahu, 2022). Borrowers may take on multiple loans without fully understanding their repayment obligations, leading to debt cycles that worsen financial instability. Regulatory challenges further exacerbate this issue, as insufficient consumer protections leave borrowers vulnerable to predatory lending practices (Buckley et al., 2021; Salampasis & Mention, 2018). The lack of standardized interest rate caps, inadequate dispute resolution mechanisms, and weak enforcement of lending regulations create risks, especially in emerging markets where financial oversight remains fragmented. Additionally, concerns over data privacy, exclusion of the poorest groups, high interest rates and cultural barriers highlight the need for a more inclusive and ethical fintech lending ecosystem. Addressing these challenges requires comprehensive financial education programs, stronger regulatory frameworks and innovations in fintech design that prioritize financial sustainability over short-term profit maximization.

Table 10. Dilemmas of Fintech Lending

Challenge/Dilemma	Description	Count	Citations
Financial Literacy Gap	A lack of financial understanding may hinder the effective use of fintech lending.	3	Hasan et al. (2021), Beik & Arsyianti, (2021), Nathan et al. (2022)
Digital Divide	The technology access gap between rich and poor groups	4	Nasution et al. (2022), Khaki et al., (2022), Afjal, 2023
Over-indebtedness Risk	Easy credit access may trap people whose incomes are below the federal poverty threshold in debt	2	Bollinger & Yao, (2018), Ranabahu, (2022)
Regulatory Challenges	Lack of proper regulation may lead to the exploitation of vulnerable borrowers.	3	Buckley et al. (2021), Agarwal et al. (2022), Salampasis & Mention, (2018)
Data Privacy Concerns	Risk of misuse of personal data in the credit assessment process	2	Chowdhry et al. (2021), Thomason et al. (2018)
The Exclusion of the Poorest	Fintech lending may not reach the poorest groups because of the minimum requirements.	3	Ye et al. (2022), Adbi & Natarajan, 2023, Khaki et al., (2022)
Cultural and Religious Barriers	Incompatibility with certain cultural or religious norms	2	Muneeza & Mustapha, (2021), Bin-Nashwan et al., (2023)
High Interest Rates	Some fintech lending platforms offer high interest rates that may burden poor borrowers.	2	Bollinger & Yao, (2018), Guo et al. (2023)
Lack of Personal Touch	The loss of personal interaction may reduce the effectiveness of supporting vulnerable borrowers	1	Yeow et al., (2018)
Sustainability of the Impact	Questions about the long-term impact of fintech lending on poverty alleviation	2	Dananjayan et al., (2023)

Discussion: Synthesis of Findings

Fintech lending presents significant potential for expanding financial inclusion by increasing access to financial services (Demirgüç-Kunt et al., 2017) and providing alternative funding sources for micro, small, and medium enterprises (MSMEs) and fostering business growth (Yeow et al., 2018). This financial accessibility can stimulate local economies by enabling greater participation in entrepreneurial activities and formal financial markets (Dananjayan et al., 2023). Additionally, fintech can play a transformative role in financial literacy enhancement, using digital platforms to educate users on responsible borrowing, savings, and investment strategies. However, despite its benefits, fintech lending also presents critical risks, including the potential for over-indebtedness due to easy access to credit (Bollinger & Yao, 2018) and the exclusion of the poorest groups who may lack digital access or fail to meet lending criteria (Khaki et al., 2022). Issues related to data privacy, cybersecurity threats, and disproportionately high interest rates further complicate the effectiveness of fintech lending models (Chowdhry et al., 2021; Guo et al., 2023). To mitigate these risks, regulatory measures are essential to ensure consumer protection and responsible lending practices (Agarwal et al., 2022). Additionally, financial education programs, technological innovations that reduce borrowing costs, and collaborations with traditional financial institutions are needed to create a more sustainable fintech ecosystem (Hasan et al., 2021; Wuaten, 2023).

Table 11. Opportunities, Risks, and Mechanisms in FinTech Lending for Financial Inclusion

Aspect/Risk/Factor/Mechanism	Description	Citation
Positive Potential		
Financial Inclusion	Increased access to financial services	Demirgüç-Kunt et al. (2017)
Access to Capital for MSMEs	Expanded funding opportunities for small businesses	Yeow et al. (2018)
Micro-economic Growth	Stimulation of local economic activity	Dananjayan et al. (2023)
Improved Financial Literacy	Enhanced financial knowledge through technology use	How et al. (2020)
Negative Risks		
Over-indebtedness	Easy credit access leading to excessive debt	Bollinger and Yao, (2018)
The Exclusion of Poorest Groups	Potential inability to reach vulnerable groups	Khaki et al. (2022)
Data Privacy Issues	Concerns regarding personal data security	Chowdhry et al. (2021)
High Interest Rates	Borrowers with potentially burdensome interest rates	Guo et al. (2023)
Balancing Factors		
Appropriate Regulation	Risk mitigation and consumer protection	Agarwal et al., (2022)
Improved Financial Literacy	Better informed use of financial services	Hasan et al. (2021)
Technological Innovation	Cost reduction and lower interest rates	Thomason et al., (2018)
Partnerships with Traditional Institutions	Extended reach through collaboration	Wuaten (2023)
Causal Mechanisms		
Positive Path	Fintech Lending -> Increased Financial Access -> More Economic Opportunities -> Potential Income Increase	Adbi and Natarajan, (2023)
Negative Path	Inadequate Financial Literacy -> Over-indebtedness Risk ->	Ranabahu, (2022)

Aspect/Risk/Factor/Mechanism	Description	Citation
	Potential Worsening of Poverty	
Balanced Approach	Effective Regulation + Financial Education -> Responsible Fintech Lending Use -> More Sustainable Positive Impact	Buckley et al. (2021)

This study builds upon previous research on mobile money services and Islamic finance as alternative mechanisms for financial inclusion. Research on mobile money platforms like M-Pesa in Kenya and Paytm in India highlights their role in integrating unbanked populations into the formal financial system by enabling peer-to-peer transfers, savings, and access to credit (Demirgüç-Kunt et al., 2017). Although these platforms have succeeded in developing economies, concerns remain regarding transaction costs, regulatory oversight, and cybersecurity risks (Chowdhry et al., 2021). This study expands on these findings by examining how mobile money lending can be better integrated with traditional financial institutions to ensure borrower protection while maintaining accessibility.

Islamic finance, particularly zakat and Shariah-compliant lending, has emerged as another critical mechanism for poverty alleviation. Innovations such as blockchain-based zakat collection and AI-driven distribution models improve the efficiency and transparency of zakat administration (Ahmed & Kasri, 2021; Rabbani et al., 2021). While these advancements demonstrate the viability of Islamic fintech, challenges such as regulatory inconsistencies across jurisdictions and limited public awareness of digital Shariah-compliant finance persist (Muneeza & Mustapha, 2021). This study adds to existing knowledge by exploring how fintech can bridge the gap between traditional Islamic finance and modern digital platforms, ensuring broader accessibility and compliance with ethical financial practices.

The impact of fintech lending on financial inclusion varies significantly across developed and developing economies. Technological infrastructure, regulatory environments and socio-economic conditions influence it. In developed economies, fintech lending often complements existing financial services by offering alternative financing models, such as peer-to-peer lending and AI-driven credit scoring (Baber, 2021). These innovations enhance financial efficiency but benefit middle-class consumers and businesses rather than low-income populations. Moreover, stringent regulatory frameworks in developed markets ensure consumer protection and financial stability, reducing risks associated with fintech adoption.

In developing economies, fintech lending is a primary financial access point for unbanked and underbanked populations, particularly in rural areas where traditional banking infrastructure is weak (Nathan et al., 2022). Mobile money services in Africa and South Asia have significantly improved financial inclusion, yet these regions still face challenges related to digital literacy, high borrowing costs, and inconsistent regulatory enforcement (Khaki et al., 2022). Moreover, gaps in financial inclusion persist within emerging fintech ecosystems, where informal financial practices compete with digital lending platforms. This study highlights the need for localized fintech models tailored to different socio-economic and regulatory environments, ensuring that fintech lending is not only accessible but also sustainable in diverse economic contexts.

A balanced approach to fintech lending requires the integration of regulatory safeguards, financial education and adaptive fintech models. While some economies have adopted regulatory sandboxes to test fintech solutions within controlled environments, many developing countries lack clear regulatory structures, leading to unregulated lending practices and increased consumer risk (Agarwal et al., 2022). Without strong legal protections, borrowers in digital lending markets remain vulnerable to predatory lending and unethical collection practices, undermining the financial inclusion goals of fintech. This study emphasizes the urgent need for cross-border regulatory cooperation to establish standardized consumer protection and lending frameworks that promote financial inclusion without exposing borrowers to excessive risk.

Furthermore, fintech firms must prioritize technological inclusivity by addressing digital literacy gaps and reducing borrowing costs through AI-driven efficiency gains. While many fintech platforms claim to promote financial inclusion, high service fees, restrictive eligibility criteria, and limited outreach to poorer groups hinder their true effectiveness. Future fintech development should focus on embedding financial education, improving user interfaces for less tech-savvy users and leveraging public-private partnerships to extend digital financial services to the most marginalized populations.

Table 12. Future research and the gap between them

Category	Future Research Themes	Description of Gaps and Needs
Deepening Existing Research	Impact on Different Segments, Longitudinal Studies, and Comparative Studies	Further analysis of specific demographic impacts, the sustainability of effects over time, and cross-regional adaptations.
Exploring New Areas	Integration of Emerging Technology, Fintech, Environmental Sustainability, and Psychological and Social Impacts	Investigate new technologies, the role of fintech in promoting environmental sustainability and its broader social effects.
Policy and Regulatory Developments	Regulatory Impact on Innovation and Consumer Protection	Assess how regulation affects fintech innovation and the adequacy of consumer protection laws in protecting fintech users.
Technological Accessibility and Infrastructure	The Digital Divide and Infrastructure Innovations	Address barriers to fintech access due to the digital divide and explore infrastructure improvements for better service delivery.
Cultural and Ethical Considerations	The Cultural Fit of Fintech Solutions and Their Impact on Traditional Financial Institutions	The alignment of fintech with local cultural norms and the changing role of traditional financial institutions in the fintech era.
Methodological Innovations	Use of Big Data and Mixed Methods Approaches	Use big data for targeted financial services and promote mixed methods to combine quantitative and qualitative research for a deeper understanding of fintech's impact.

This study comprehensively analyses fintech lending and its impact on financial inclusion. However, certain methodological constraints and potential biases should be acknowledged. One key limitation is the exclusive reliance on Scopus-indexed articles, which may introduce publication bias by excluding relevant studies from other databases or non-indexed sources, such as industry reports, government publications, or case studies from fintech organizations. Additionally, by limiting the search to English-language publications, the study may overlook important insights from research conducted in non-English-speaking regions, particularly in countries where fintech adoption is rapidly evolving but underrepresented in global academic literature.

The systematic literature review (SLR) and bibliometric analysis approach also present inherent constraints. While SLR provide a structured and replicable framework for synthesizing research, they rely on existing literature and cannot generate new empirical data. As a result, this study does not directly measure the real-world effectiveness of fintech lending interventions; instead, it analyzes how prior research has framed and assessed these issues. While helpful in identifying trends and knowledge gaps, bibliometric analysis has limitations in capturing contextual nuances, qualitative insights and the socio-cultural dimensions of fintech adoption. Future studies should complement bibliometric insights with primary data collection, field studies, and qualitative interviews with fintech users, lenders, and regulators to gain a more in-depth understanding of the lived experiences and challenges of fintech lending adoption.

Despite growing research on fintech lending, key gaps remain in assessing its broader societal impacts, particularly in addressing gender inclusion issues, rural development and long-term poverty reduction strategies. Future research should explore how fintech adoption varies by gender, particularly in developing economies where women face systemic barriers to financial access due to lower digital literacy, smartphone ownership disparities and socio-cultural restrictions on financial autonomy. Investigating how fintech can bridge gender finance gaps through targeted interventions—such as digital savings programs for female entrepreneurs or microloan platforms designed for female borrowers—would provide valuable policy insights.

Another critical area for further research is fintech's impact on rural financial ecosystems. While mobile money and digital lending platforms have expanded access in urban centres, rural areas face structural barriers, including limited internet connectivity, lower financial awareness, and dependency on informal credit systems. Empirical studies examining how fintech services can be adapted to meet the needs of rural users—whether through agent-based banking models, community fintech cooperatives or government-backed digital finance initiatives—are necessary to ensure more inclusive financial development.

Finally, longitudinal studies are needed to assess the sustainability of fintech-driven poverty reduction efforts. Most existing research focuses on short-term financial inclusion metrics, such as increased access to credit and digital transactions. However, less is known about whether fintech borrowing leads to long-term economic stability or whether it contributes to debt cycles and financial vulnerability over time. Future studies should track fintech borrowers across different economic segments and geographic regions to analyze whether fintech lending contributes to lasting economic empowerment or creates new risks of financial instability. Addressing these gaps would enable a more holistic understanding of fintech's role in sustainable financial inclusion and inform policy interventions that balance innovation with responsible financial governance.

CONCLUSIONS

Fintech lending presents a promising avenue for expanding financial inclusion and alleviating poverty by increasing access to financial services and stimulating micro-economic growth. However, its effectiveness is tempered by persistent gaps in financial literacy, digital accessibility challenges, and risks of over-indebtedness, particularly among vulnerable populations. This study highlights the need for a balanced approach integrating technological innovation with robust regulatory frameworks and financial education programs. From a theoretical perspective, this study reinforces the role of fintech as both an enabler and disruptor of financial stability, emphasizing the need for inclusive digital finance models that address structural inequalities. From a practical standpoint, these findings offer critical insights for policymakers to develop regulatory safeguards, for financial institutions to lower access barriers, and for fintech developers to design alternative credit-scoring mechanisms that better serve underbanked populations. Partnerships between governments, private sector actors, and international organizations can facilitate cross-border regulatory cooperation and standardization, ensuring that fintech expansion remains both ethical and sustainable.

LIMITATION & FURTHER RESEARCH

While this study provides comprehensive insights into fintech lending's role in poverty alleviation, its limitations include potential publication bias from exclusive reliance on Scopus-indexed articles and English-language publications, which may overlook important insights from non-English-speaking regions. Future research should focus on empirical studies that assess the long-term impact of fintech lending on economic resilience and gender inclusion in developing economies and rural financial ecosystems where structural barriers persist. Longitudinal studies are needed to track fintech borrowers across different economic segments and geographic regions to analyze whether fintech lending contributes to lasting economic empowerment or creates new risks of financial instability. Additionally, more research is needed on fintech's role in promoting environmental sustainability through green finance initiatives. Ultimately, while fintech lending holds significant potential, its success depends on thoughtful implementation that considers local contexts, addresses technological barriers and prioritizes user education and protection through ongoing research, policy adaptation and multi-stakeholder collaboration.

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