Digital Financial Inclusion through Microfinance in Rajasthan: A Bibliometric Review with Contextual Evidence for Policy and Practice

Rimjhim Shekhawat[1],* ID **and Ruchi Jain[1]** ID

[1]IIS (deemed to be) University, Jaipur – 302020, Rajasthan (India)

*Corresponding Author Email: shekhawatrimjhimsingh@gmail.com

Abstract: This research represents a bibliometric assessment of how digital inclusion through microfinance is achieved in the state of Rajasthan, India by presenting evidence in terms of the literature available to help formulate sound public policy and advance the field of development practice. The bibliometric analysis employs published research studies that provide evidence about microfinance institutions; however, it does not employ primary field research conducted by the authors, i.e., there are no new qualitative or quantitative data collected by the authors to support the conclusions of this review. The analysis synthesises what has been written about the use of digital technologies, such as mobile banking, digital wallets and technology enabled lending platforms as they relate to increasing access to micro finance, transparency in micro finance transactions, and expanding the outreach of micro finance in the State of Rajasthan. The analysis also examines the relationship of secondary evidence regarding women, small entrepreneurs and low-income families with three Sustainable Development Goals (SDGs) 1 (access to financial resources), SDG 5 (gender equality) and, SDG 8 (decent work and economic growth).

The Bibliometric analysis maps trends in publications, identifies thematic clusters within the research body and generates keyword co-occurrences. Contextual evidence illustrates practical developments and the Results section distinguishes bibliometric patterns from contextual evidence drawn from cited studies. The analysis will provide micro finance institutions, and development practitioners with the evidence-based resources necessary to develop informed public policy and facilitate community development, although no direct data are presented to validate causal relationships.

Keywords: Microfinance, Digital Financial Inclusion, Sustainable Development, Financial Literacy, Women Empowerment, Rural Development

1. Introduction

Financial inclusion is a key facilitator of sustainable development, especially in the developing economies where huge proportions of the populace are unable to access formal financial services. In India, over 11 percent of adults are still unbanked, as the World Bank Global Findex database shows (Demirgüç-Kunt, 2021), rural areas, like Rajasthan, continue to experience severe obstacles, such as geographic isolation, limited banking network, and financial illiteracy (Das, 2021; Nagar, 2025). Such difficulties consist of geographic isolation, lack of banking facilities, low financial literacy, and socio-cultural impediments, especially among women and the marginalized population. Rajasthan is an example of such problems, as there is a wide range of socio-economic factors and the population is mostly rural, which is why this state is one of the most important to research the measures of financial inclusion.

Microfinance has been identified as being important to fill these gaps by offering small-scale financial services, including microloans, savings accounts, and insurance, to the low-income households. Implementation of digital technologies, mobile banking, Unified Payments Interface (UPI), digital wallets and fintech platforms have transformed microfinance by making it efficient, cost-effective, and broader. Digital microfinance programs in Rajasthan can provide access to underserved populations, empowerment of marginalized groups, and can be used to meet global development goals related to poverty (SDGs 1 No Poverty), gender equality (SDGs 5 Gender Equality), and decent work and economic growth (SDGs 8 Decent Work and Economic Growth).

An analytical focus is justified by the fact that Rajasthan has a different socio-economic and infrastructural setting as the state is significantly different in terms of its averages in the country. Rajasthan is a state characterized by wide rural geography, scattered population, and relative lack of female literacy, and with uneven digital access, which presents structural obstacles to financial inclusion not sufficiently reflected in all-India research. Microfinance in the state is also marked by a large concentration of the female borrowers, a high representation of the self-help groups and dependency on the branch-lite delivery models, which makes the move to digital platforms distinctly complicated. National bibliometric reviews have the disadvantage of homogenizing varying contexts and ignoring sub-regional differences in technology uptake, credit behaviour and institutional capability. Thus, to understand the way the scholarship is responding to these local issues, specifically the state of Rajasthan requires a specific bibliometric analysis to trace the various responses and the policy implications that are sensitive to the state of development in the state.

This study seeks to present a bibliometric review, supported by contextual evidence on prior empirical findings about the subject, to both identify the extent to which digital financial inclusion using microfinance in Rajasthan is reflected in the literature and to draw policy and practice implications out of that. It touches particularly on the role of such technologies as mobile banking and fintech platforms, their socio-economic effects, and the problems of their upscaling. Through bibliometric analysis, the study is done in a systematic way of reviewing the world and regional literature to determine the patterns of publications, influential literature and gaps in the research. This research methodology offers a powerful paradigm to integrate information and give evidence-based suggestions to the stakeholders.

The study is relevant because of a number of reasons. To begin with, it fills a real gap in the literature as it aims at studying the state of Rajasthan where some specific demographic and gender factors along with infrastructural features require analytical treatment instead of the national level. Second, it gives a detailed discussion of how digital microfinance will lead to sustainable development especially among women and small entrepreneurs. Lastly, the results provide useful guidelines to policy-makers, MFIs and development practitioners interested in promoting financial inclusion in similar settings.

2. Literature Review

2.1 Digital Microfinance Models

The delivery of Microfinance has evolved as it transitioned from Group Lending and Meeting face-to-face to Digital approaches that allow for increased reach and efficiency. Microfinance's early development relied on Social Collateral and multiple physical meetings

to support the needs of low-income families, particularly women; therefore, their ability to offer assistance for entrepreneurial development and improve poverty standards was limited due to high transactional costs, a small geographic footprint, and difficulties in Monitoring clients in person. With Digitalisation of Financial Services, including Mobile Banking, Digital Wallets, Agent Networks, and Fintech Lending, the Microfinance Industry has been able to utilise Technology for Real-Time Transactions and provide access to instantaneous financial solutions through the use of Digital Data to Make Decisions about Lending.

In India, the development of National Programs to facilitate access to banking products has resulted in rapid transformation of this sector. The Pradhan Mantri Jan Dhan Yojana (PMJDY), for example, created access to formal Bank Accounts for more than 460 million customers by 2020 (Jha, 2025), while the UPI enabled over 2.3 billion transactions in one Month (Baj, 2023; Mulla & Nagargoje, 2025). While there is consensus among many researchers that Digital Platforms are improving Efficiency and Transparency within the Microfinance Sector, there remains a debate as to whether Digital Platforms are uniformly Benefiting the most disadvantaged clients or actually serve to exacerbate the challenges faced by those with limited Digital Capabilities.

2.2 Financial Inclusion and Gender

The literature has attributed much of the microlending inclusive access to women. Microlending has also been linked with a woman's ability to have greater economic participation, control in decision making in her home, and further developing a home-based micro-business. An institutional survey in Rajasthan showed that women are the majority of borrowers in the self-help groups monitored and in the micro-lending portfolios (Nagar, 2025; Sondhi & Yuvrajbhai, 2025). Digital channels are identified as being potentially empowering due to the privacy they afford users and the users view their digital accounts directly.

However, there are still conflicting views in the literature regarding the impact of digital financing on women. Several studies are warning that digital finance may exacerbate gender inequality if there are restrictions on women owning phones, low levels of digital literacy, or if male relatives are controlling access to the devices. Therefore, while microfinance is generally perceived as having a pro-gender orientation, the degree to which digital tools extend that benefit remains dependent on many conditions and continues to be contested.

2.3 Digital Divide and Rural Constraints

Studies on digital inclusion in India's rural areas consistently present structural barriers as challenges. Close to 60% of rural dwellers do not have sufficient digital skills (Ahmad et al., 2025; TRAI, 2022); in addition, the quality of connectivity can differ significantly from one district to the next. The result of this is that even when residents have bank accounts, there are many reasons why adopting mobile banking and fintech lending services is difficult for them. Reports about policies related to Rajasthan also indicate that there are significant geographic disparities among broadband service availability, as well as a lack of "last mile" agents and consumer protection mechanisms (Kumar et al., 2024).

On the other hand, researchers contend that the nature of rural households supports very different types of income-generating activities from those of urban marginals and, as such, may not be well-suited to algorithmic credit scoring methods. Proponents expect that the use of artificial intelligence and blockchain in lending will help include rural borrowers into the

lending market; critics suggest these technologies present significant risks in terms of over-indebtedness and issues related to data privacy. Therefore, researchers tend to agree that digital tools hold great potential, but their social impacts are still unclear in areas with limited resources.

2.4 Gaps in Regional (Rajasthan) Literature

While there is a significant volume of research available that pertains to India as a whole, there has been limited academic research specifically focused on Rajasthan. Most of the currently published research tends to compile data across India, failing to take into consideration certain unique characteristics of Rajasthan such as its unique population density, geographic characteristics (deserts), and relatively lower percentage of female literacy (52%) when compared to the overall female literacy in India (70%) (Sharma et al., 2019; Singh, 2017). In addition, while state policy and practice reviews indicated that digital infrastructure varies considerably throughout the state and that the models used for providing microfinance are often branchless (Sondhi & Yuvrajbhai, 2025; Kumar et al., 2024), this information has not been widely integrated into the scholarly analysis of academic literature on microfinance in Rajasthan.

What is known concerns the rapid expansion of digital payment platforms and the strong presence of women borrowers through SHGs and MFIs. What is contested relates to the magnitude of welfare gains, indebtedness risks, and the inclusiveness of fintech scoring. What is missing is a systematic mapping of how research has addressed Rajasthan's particular challenges and institutional experiences. This study therefore undertakes a Rajasthan-centred bibliometric review to consolidate dispersed knowledge and derive policy-relevant directions.

3. Research Objectives

The aim of the study is to synthesize existing scholarship on digital financial inclusion through microfinance in Rajasthan using bibliometric and contextual secondary evidence.

  i.   To map the intellectual structure of research on digital microfinance and financial inclusion in Rajasthan through bibliometric indicators such as publication trends, citation networks, and keyword co-occurrences.

 ii.   To synthesize reported socio-economic outcomes in existing literature concerning women, small entrepreneurs, and low-income households, without undertaking primary impact assessment.

iii.   Identify key research themes (i.e., clusters) that represent Digital Technology and Outreach Mechanisms related to Sustainable Development Emerging from Reviewed Studies and Related to Digital Technologies.

 iv.   Consolidate Evidence from the Contextual Evidence Available from Case Studies on Microfinance Institutions in Rajasthan to Reflect Documented Practices and Experiences.

  v.   Identify Research Gaps and Areas of Contention in Research Relating to Digital Literacy, Infrastructure Constraints and Over-Indebtedness Found in the Previous Literature and in Past Scholarship.

 vi.   Derive Policy Implications and/ or Practical Interventions from Current Bibliometric and Former Work to Inform Stakeholders Involved with Digital Financial Inclusion in Rajasthan.

4. Research Methodology

A bibliometric analysis provides a systematic and quantitative framework for mapping a research domain's intellectual landscape. Bibliometric Analysis generates a quantitative framework for establishing the retention value of established research domains. A bibliometric analysis examines the effect of the relationship of frequency of publication on a chosen research domain via the use of analysis of the frequency of citation data and/or co-citation analysis from collection and analysis of published research with a common focus. Using Bibliometric Analysis as a Method of Analysis for Digital Microfinance's impact on the advancement of Financial Inclusion and Sustainable Development in Rajasthan, authors will conduct a bibliometric analysis using the above mentioned methodology to synthesise previously published empirical research and microfinance institution (MFI) documentation; it will not be the intention of authors to assert that any relationships have been established in this study as the objective of the bibliometric analysis is to expand the scope of understanding in terms of Digital Microfinance in order to provide stakeholders with practical and useful recommendations for implementing Digital Financial Inclusion in Rajasthan through Digital Microfinance and the associated challenges related to Financial Inclusion.

i.   **Database Selection:** The first step taken by the authors was to identify the most relevant literature through two popular academic data repositories, Scopus and Web of Science. These two databases were selected due to their extensive collection of peer-reviewed articles and for their high-quality results due to their established indexing processes in the Social Sciences and Economics area. Both repositories were well known, so they would allow for proper representation of all the studies related to Digital Finance.

ii. **Search Strategy:** A structured keyword search process was established with keywords chosen from the Digital Financial Inclusion, Microfinance, Rajasthan, Sustainable Development, Mobile Banking, and Fintech. To further refine the search process, the authors selected and used Boolean operators (AND and OR). The search covered 2010-2025, allowing for both early and recent developments in Digital Finance. The search strategy developed resulted in a total of 347 records that were located in the two data repositories.

iii. **Search Strings and Screening Criteria:** The bibliographic search employed explicit Boolean strings to ensure replicability. The primary search query used in Scopus and Web of Science was: ("digital financial inclusion" OR "digital finance" OR "fintech inclusion") AND ("microfinance" OR "MFI" OR "self-help group" OR "microcredit") AND ("Rajasthan" OR "India") AND ("sustainable development" OR "poverty" OR "women empowerment"). Additional iterative searches were conducted using combinations such as, ("UPI" OR "mobile banking" OR "digital payments") AND "microfinance" AND "Rajasthan".

iv. **Inclusion criteria:**
   a. peer-reviewed articles, books, and policy reports published between 2010–2025;
   b. studies addressing digital finance or microfinance in the Indian context;
   c. publications containing explicit discussion of Rajasthan or providing transferable evidence relevant to Rajasthan;
   d. English-language sources with accessible full text.

v. **Exclusion criteria:**
   a. papers focused solely on commercial banking without microfinance linkage;
   b. studies unrelated to digital technologies;
   c. opinion pieces without empirical or analytical content;
   d. duplicates and non-retrievable documents.

vi. **Data Cleaning:** Duplicate records and non-retrievable documents were removed, and abstracts were screened against the inclusion and exclusion criteria described above. After full-text review, 206 publications were retained for bibliometric analysis.

vii. **Rajasthan-Specific Filtering:** The filtering process for state-specific relevance was conducted in a two-phase approach. Firstly, the inclusion of records with "Rajasthan" mentioned in the title, abstract or keywords and secondly, the screening of state-wide studies wherein only those to provide disaggregated evidence, case illustrations or policy discussion specific to the socio-economic status of Rajasthan where included. Publications which were limited to other states and do not provide transferable information were excluded. Of the 206 publications which were included in the final review, 68 were specific to Rajasthan and provided direct empirical evidence, case illustrations or policy analysis specific to the state. Another 54 were whole of India studies with disaggregated results or evidence that is specifically transferable to Rajasthan's socio-economic and infrastructure circumstances. While the remaining 84 publications provide conceptual and/or technological information relating to digital micro-finance and financial inclusion, the classification creates a strong regional focus to the bibliometric synthesis of each study. The bibliometric synthesis of each will enable a strong connection between Rajasthan and the national and international scholarly literature.

To carry out this filtering it was necessary to employ clearly outlined decision rules to arrive at the list of relevant studies for Rajasthan. The study was identified as being specific to Rajasthan if it met any one of the following conditions: (a) the empirical data were collected within districts or institutions located within Rajasthan; (b) the analysis focused primarily on MFIs, self-help groups, or state-run programmes based out of Rajasthan; (c) the policy evaluation included reference to initiatives of the government of Rajasthan; or (d) the case narratives are set within the historical, cultural or social and economic structure of the communities located in Rajasthan. Studies are considered relevant to the state when they do not focus solely on Rajasthan but provide (a) disaggregated data for the state within a larger dataset from India; (b) comparative analysis with Rajasthan as a sub-region, i.e., comparison of MFIs operating in the sub-region with those operating in other regions of India; (c) conceptual or technological ideas that may be applied to the rural or gender context of Rajasthan (and can therefore be used to improve the conditions of women and rural communities throughout the entire state).

viii. **Analytical Tools:** VOSviewer and Biblioshiny were used to analyze our refined dataset in detail. VOSviewer was a tool used to analyse co-words and co-citations between published articles to find intellectual connections between articles, and to find clusters of research articles related to one another. Biblioshiny was a tool used to create interactive

visualizations of article publication history, author attributions, and the impact of journals.

ix.   **Thematic Mapping:** The analysis of keywords and co-citations helped to develop a map of the digital microfinance themes in which the articles were published. The co-citation analysis also showed us which authors and publications have had the greatest impact on the development of the academic discussion on financial inclusion in Rajasthan over time.
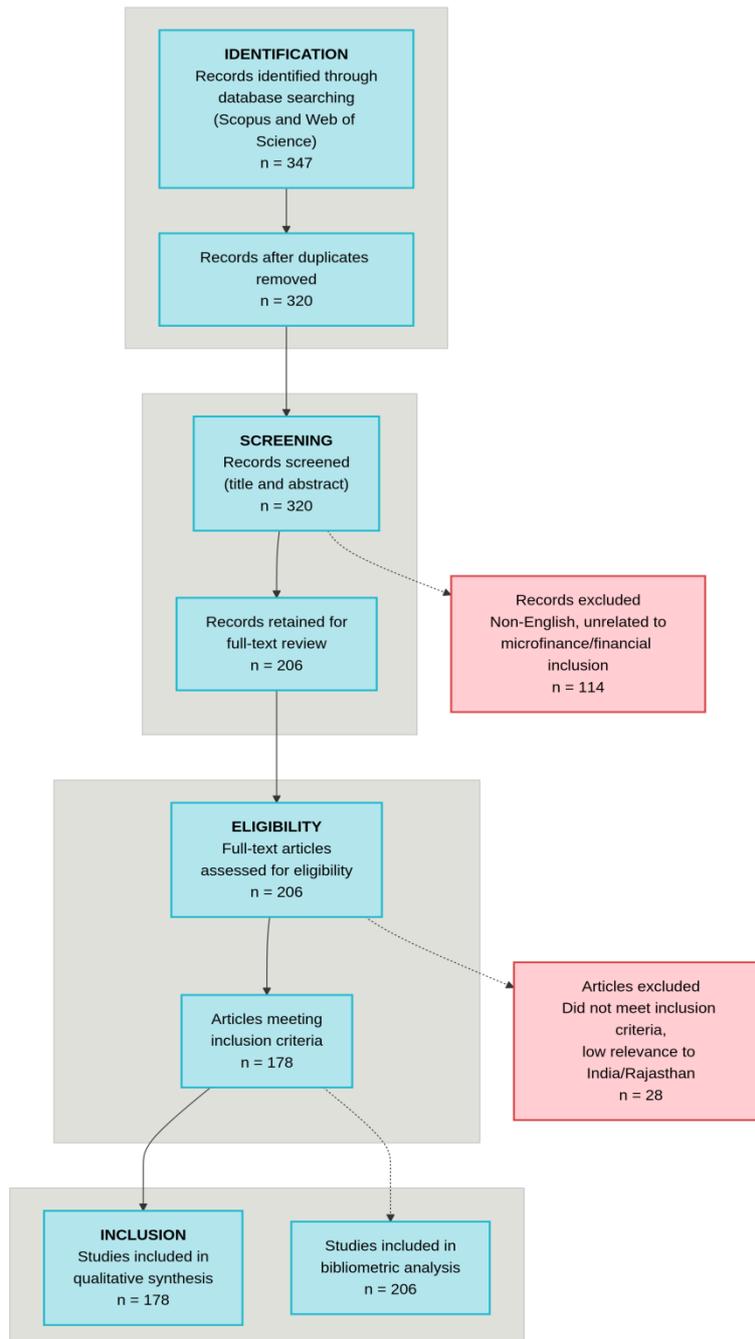

Figure 1: PRISMA 2020 Flow diagram: Study Selection and Screening Process of Digital Microfinance Literature Review.

To maintain methodological transparency and ensure that our methods could be replicated, we followed the PRISMA 2020 guidelines when conducting this study. Therefore, we used a PRISMA flow diagram (Figure 1) to ensure that only studies of the highest quality that were relevant to our subject matter were selected for inclusion in our review. We also conducted geographic and temporal analyses of the data to understand the findings in the context of the socio-economic conditions in Rajasthan. The complete selection process for the present review is shown in Table 1 according to the PRISMA 2020 guidelines.

The authors supplemented their quantitative overview of digital transformation in MFIs through bibliometrics with qualitative insights from the case studies of Ujjivan and Satin Creditcare, two MFIs based in Rajasthan. These case studies provide context and depth to the research by examining how community-level outcomes are affected by the use of digital microfinance tools. While these MFI case studies serve to illustrate the broader trends discussed in the literature, they do not contribute independent primary evidence since they have not been systematically coded. Rather, they were selected based on previously published reports, institutional documents, or earlier studies to demonstrate the practices evidenced in the bibliometric analysis. Finally, bibliometric analysis and qualitative case study results yield a holistic view of the digital transformation of Rajasthan's microfinance industry via quantitative and qualitative context. Moreover, it provides a framework for capturing publication trends specific to a state, the experiences of individual MFIs operating within that state, and ongoing policy discussions.

5. Results

5.1 Bibliometric Findings

Findings from this sub-section are based on the Bibliometric dataset and the process of analysing this dataset as described in the methodology section. It was established that since 2016, there has been an increase in the number of academic publications on Digital Financial Inclusion, showing the increased interest in Fintech-based Microfinance. India represented a large portion of the global analysis, and 33% of the articles (68/206) reviewed were directly related to the State of Rajasthan. Thus, there is evidence of a developing state-specific research stream.

Journal productivity indicates that the majority of the published articles analysing Digital Microfinance, which concern Rajasthan, have been published in Developmental-facing journals, particularly Enterprise Development and Microfinance and Sustainability, demonstrating that the area is more focused on Inclusive Development than Financial Performance. Temporal Mapping demonstrates that the number of articles related to Digital Payment Platforms, UPI Integration, and Fintech Intermediating began being published more frequently after 2018, corresponding to the National Digitalisation initiatives.

Co-word analysis identified three dominant thematic clusters:

i.   **Digital Infrastructure and Accessibility:** Studies examining mobile banking, digital wallets, agent networks, and platform interoperability as mechanisms for expanding outreach.

ii. **Socio-economic Dimensions:** Research addressing gender inclusion, micro-enterprise support, and livelihood implications of digital microfinance.

iii. **Risks and Sustainability:** Scholarship discussing digital literacy gaps, consumer protection, algorithmic credit assessment, and regulatory challenges.

Co-citation mapping highlighted influential contributions on mobile finance and inclusive fintech, with strong linkages between Indian institutional research centres and international development scholarship. The bibliometric structure therefore reflects a field that is simultaneously technology-driven and development-oriented, with Rajasthan forming a visible sub-cluster within the Indian literature.

5.2 Contextual Evidence from Cited Studies

This summary presents some secondary evidence reported in the articles reviewed in this study. This summary summarizes the secondary evidence reported in the publications as information only. The secondary evidence in the articles presented here should not be thought of as the results of our bibliometric analysis.

Some of the articles focused on Rajasthan show the use of digital payments and mobile technology by MFIs and Self-Help Groups. Institutional case reports from Jaipur, Jaisalmer, and Udaipur have indicated improved service delivery and increased customer engagement since their implementation of digital payment systems. Other authors discuss how the introduction of mobile and digital technology has enabled the expansion of women-specific lending portfolios and app-based interfaces for both savings and repayment.

The continued challenges facing many rural areas of Rajasthan are also listed in the articles reviewed. Digital literacy, unreliability of internet access, and women's limited control over mobile phones will continue to influence patterns of digital service adoption in rural Rajasthan. Multiple studies warn of risks to both financial portfolios and client indebtedness if financial providers introduce digital credit products without providing adequate consumer education and information. Research into emerging technologies, such as AI-based credit scoring and blockchain, indicates possible improvements in operational efficiency, however, the evidence remains individual to the institution and dependent upon the local context.

The existing body of scholarship on Digital Microfinance (DMF) in Rajasthan provides a general overview of DMF as an evolving concept with elements of opportunity and conflict. This body of research supports and confirms the findings drawn from bibliometric clusters while highlighting the fact that each academic study has its own unique methodology, which determines the level of socio-economic impact.

6. Discussion:

The literature portrays DMF as relatively successful throughout Rajasthan, but this success is based on the review of existing literature which continues to be debated within academia. Many sources identify an increase in both administrative efficiencies associated with mobile banking and an increase in outreach via mobile banking. However, each of these effects is dependent on connectivity; consumer readiness; and the design of the institution, thus creating a lack of uniformity regarding the magnitude of these effects based on varying contexts and study methodology. The results of these perspectives relate to the SDG 1 and SDG 5; specifically, regarding the potential for poverty reduction and the empowerment of women who represent majority of MFI clients.

The literature suggests concerns related to digital exclusion. Smartphone access, stable internet connectivity, and digital literacy are not on equal footing within Rajasthan based on

gender, age, and rural/urban areas (the "digital divide"). There are concerns that as more microfinance transactions move towards app-based delivery methods, women without independent access to mobile devices (women who do not control their own mobile phones) may be left behind, as will older borrowers who prefer a face-to-face method of support and collaboration generally associated with microfinance lending models. Historically, microfinance lending models enabled borrowers to seek resolution of their grievances and obtain support from their peers through the assistance of a mediator; the loss of this type of physical mediation reduces borrowers' opportunities to obtain redress and support from their peers.

In the literature, digital microfinance has the potential for a major socio-economic impact; however, the evidence available is varied across the studies reviewed. Although the studies reviewed provided an indication of a positive change in women's financial independence and enterprise development, they did not report similar types of outcomes from the same location. Many authors emphasized that the successful transition from traditional to digital microfinance will require many of the same elements as traditional microfinance: access to the marketplace, capacity building for training and education, and household decision-making processes. While digital microfinance may assist in developing economic resilience and sustainable livelihoods, a number of issues may limit its scalability. The lack of digital literacy, lack of reliable internet access, and increasing levels of client debt (an increase in the amount a borrower owes a lender) are common issues that prevent scalability in the use of digital microfinance. The degree of risk mentioned above varies by study and geographic area and tends to be context-specific.

Due to an increasingly complicated regulatory environment stemming from the Reserve Bank of India compliance issues that MFIs face, as well as new academic research that is emerging about possible data privacy risks and governance related to algorithms that accompany the use of fintech platforms, MFIs are also challenged by the impact of fintech on their current operational practices because of the increased reliance on consumer behaviours via data collection using alternative credit scores (alternative credit scoring) associated with a lack of transparency regarding consent for using those data and who has access to that information and what decision-making is associated with that information. In areas where digital literacy is limited, borrowers do not know how transaction histories are being used; therefore, the likelihood of borrowers experiencing economic discrimination, being surveilled, or having their data misused is increased. Overall, the existence of technology creates new roles as well as a change in the power balance between lenders and borrowers and requires that the lending systems in place be developed in accordance with new levels of accountability.

That being said, MFIs should consider developing digital literacy programs specifically for rural clients, especially for women. MFIs can also develop strategic partnerships with fintech companies that use technologies such as artificial intelligence and Blockchain to help with credit assessment and ensuring the security of financial transactions. Other Government initiatives such as PMJDY and Digital India can support MFIs to build an infrastructure capable of providing internet access to more people and increasing the number of individuals who are educated about finances. The initiatives taken by the MFIs, along with Government initiative support, will be more successful with effective data protection, use of explainable

credit algorithms, and providing clients with education about their digital rights to prevent human-made vulnerabilities in the technology.

While the digital microfinance ecosystems in Rajasthan and the Sub-Saharan African region are comparable, the socio-cultural context of Rajasthan is unique and cannot be directly compared to this region. Specifically, issues such as rural isolation and gender inequalities exist within the socio-economic structure of the state; therefore, any strategies employed in Rajasthan must account for these factors. Rather than simply assuming that digital connectivity will automatically provide access to finance, any programs or products delivered through mobile technology should explicitly incorporate measures to guard against exclusion risks and protect consumers' private information. As an example of this, community-trained trainers have demonstrated their effectiveness (in many cases as microfinance providers) in Kenya and could be adapted for a similar purpose in the state of Rajasthan to increase digital literacy.

7. Conclusion

This is a bibliometric review summarizing the representation of digital financial inclusion using microfinance in Rajasthan in the scholarly literature and drawing some policy and practice implications. The research is based on bibliometric mapping and secondary evidence and thus fails to develop primary causal impacts. According to the literature review, the technologies, including UPI, mobile banking, and credit tools powered by AI, are linked to a broader reach of women and small business owners. Current research is organized into three thematic groups, including the digital infrastructure, socio-economic aspects, and implementation issues. MFIs based in Rajasthan report operational gains, but systemic obstacles such as low digital literacy, infrastructure, risk of indebtedness, and data-governance risks moderately offset these gains, and highlight the importance of putting in place measures to counter digital exclusion and information-security dangers.

To achieve progress, coordinated measures will be needed: investments in digital literacy, responsible fintech alliances, open algorithms, and inclusion strategies via community. The policymakers and MFIs must enhance the consumer protection and data-privacy models and increase the affordable connectivity. To investigate the implication of governance and the role of emerging technologies that are currently changing in enhancing inclusive finance in Rajasthan, future studies ought to focus on longitudinal and comparative state studies.

8. Limitations

There are various limitations of the study. It is limited to large academic databases and publications in English which might not cover government and NGO or practitioner-level reports, and local language research. The study is based on secondary data and bibliometric methods as opposed to primary fieldwork; hence, they cannot explain house-level experiences or institutional processes comprehensively. The deep orientation towards the state of Rajasthan, although suitable to the aim, restricts the extrapolation to other regions of India or to other countries with different infrastructures and policies. Bibliometric methods like the co-word and co-citation analysis rely on the keywords and citation behaviour of the authors and could not consider those emerging topics which have not yet become visible. The limitations suggest the necessity of further research incorporating bibliometric knowledge with primary and mixed-method research.

References

Ahmad, W., Raj, R., Shokeen, R., & Gupta, R. K. (2025). *Digital Literacy Policies: Initiatives for Equity and Inclusion. In Literacy Policies for Equity and Inclusion* (pp. 79-112). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-8427-5.ch004

Baj, M., Rane, Y., & Shinde, I. (2023). National Payments Corporation of India (NPCI): Overview of Innovations and Growth. *Journal of Applied Management-Jidnyasa*, *15*, 23-36. https://simsjam.net/index.php/Jidnyasa/article/view/173194

Das, S. (2021). RBI Annual Report 2020–21.

Demirgüç-Kunt, A., Klapper, L., Singer, D., & Ansar, S. (2021). Financial inclusion, digital payments, and resilience in the age of COVID-19. *World Bank Report*.

Jha, S. (2025). Expanding Financial Inclusion in India: Opportunities, Challenges, and Strategic Pathways. *PANCHAKOTesSAYS*, *16*, 16-34. https://doi.org/10.64456/panch2025v16i1.02

Kumar, D., Yadav, S. S., & Pandya, C. (2024). Initiation of Financial Inclusion in Rajasthan: Implication of the Pilot Project Launched in Rajsamand District of Rajasthan (India). *Regional Economic Development Research*, *5*, 20-33. https://doi.org/10.37256/redr.5220243679

Mulla, P. Y., & Nagargoje, B. K. (2025). India's Digitalization–Inclusion Link: An Empirical Study. *International Journal of Economic Practices and Theories*, 187-194. https://doi.org/10.52783/ijept.92

Nagar, U. (2025). Impact of Rural Banking and Financial Inclusion: A Case Study of Women Empowerment and Entrepreneurship in Rajasthan. *IJAIDR-Journal of Advances in Developmental Research*, *16*, 1-8.

Sharma, U., Jalan, S., & Singh, P. (2019). Ecological Analysis of Literacy in Rajasthan: An Application in Social GIS. *Journal of Global Resources*, *6*, 16-24. https://doi.org/10.46587/JGR.2019.v06i01.003

Singh, S. (2017). Socio-Economic Profile of Rural Rajasthan Village Study. *Socio Economic Profile of Rural India (Series III): Haryana, Punjab, J&K, Rajasthan and Himachal Pradesh*, pp. 290.

Sondhi, S., & Yuvrajbhai, B. V. (2025). An Econometric Analysis of Income and Expenditure of Rajasthan State. *Integral Research*, *2*, 60-73.

Telecom Regulatory Authority of India (2022). The Indian Telecom Services Performance Indicators, July–September 2022. TRAI, New Delhi. Retrieved from https://www.trai.gov.in on September 25, 2025.