

Mapping Digital Financial Inclusion and FinTech Studies in India: Bibliometric Trends and Future Directions+

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Abstract

The rapid development of digital financial technology has changed how financial services are accessed, used, and benefited from in India, changing the financial inclusion paradigm. To assess the intellectual structure, thematic development, and fields of emergent research in digital financial inclusion, fintech, and banking performance, a bibliometric synthesis of 338 peer-reviewed articles published in the literature between 2012 and 2025 was conducted. The study uses Biblioshiny to identify a clear trend in the literature: the shift from early interest in online banking, trust, and risk to later attention to digital lending, mobile wallets, and fintech ecosystems. According to the research, the discipline is still in disarray with little synthesis between behavioral adoption research, systemic banking performance research, and sustainability-focused research. However, publication output has rapidly increased due to policy benchmarks like demonetization and the coronavirus-fueled digital explosion. Global comparative findings are limited by patterns of collaboration, which show strong local networks but poor global connections. Additionally, trend analysis indicates a significant potential for future research and a relative lack of themes in resilience, green finance, and green innovation. According to the studies, digital financial inclusion research in India has generally emerged as a thriving and policy-relevant field. However, to address more challenging issues related to stability and competitiveness, the field needs to become more integrated and globally connected to the financial system's sustainability.

Keywords: Fintech, banking results, bibliometric analysis, financial innovation, digital financial inclusion,

Introduction

Adopting digital financial inclusion (DFI) as a strategic focus to ensure inclusive economic growth, poverty reduction, and financial system stability has fundamentally changed India's financial sector. Making inexpensive, easily accessible, and high-quality formal financial services available via digital channels, including smartphones, internet banking, interoperable payment systems, Aadhaar-based biometric verification, and fintech developments, is known as digital financial inclusion. One of the world's fastest-growing digital economies has been modeled after India's innovative programs, which include the Pradhan Mantri Jan Dhan Yojana (PMJDY), Aadhaar e-KYC, Unified Payments Interface (UPI), and Aadhaar Enabled Payment System (AePS). These technologies have the potential to overcome traditional barriers that have long kept large segments of the population outside of the official banking

system, such as geographic distance, a lack of infrastructure, and financial illiteracy (National Payments Corporation of India, 2025; Press Information Bureau, 2024).

Of all these innovations, India's 2016 real-time payment system of the National Payments Corporation of India (NPCI)—UPI—has become the keystone for India's digital financial system. UPI facilitates instant, secure, low-value interbank payments and payment flows across numerous use cases, ranging from person-to-person (P2P) to person-to-merchant (P2M), bill payments, and merchant acquisition. The platform's pace of scale is unmatched globally, showing the potential of digital public infrastructure to facilitate inclusion. For instance, according to NPCI's latest data, UPI processed over 19.4 billion transactions worth ₹25.08 lakh crore in July 2025 alone, marking record highs in volume and value (see Table 1). Periodic volumes rose from 118 billion transactions in 2023 to 172 billion in 2024. Value transacted grew 35% to ₹247 lakh crore, reflecting not only the depth but also the rising breadth of digital payments into economic activity on a day-to-day basis (National Payments Corporation of India, 2025; Entracker, 2025; CNBC TV18, 2025).

Table 1: UPI Transaction Volume and Value Growth

Year/Month	Transaction Volume (Billions)	Transaction Value (₹ Lakh Crore)
2023 (Annual)	118	183
2024 (Annual)	172	247
July 2025	19.47 (monthly)	25.08 (monthly)

Source: National Payments Corporation of India (2025)

India's march towards formal financial inclusion goes on. Reserve Bank of India's Financial Inclusion Index rose to 67 in March 2025, making progress on the Access, Usage, and Quality fronts (Reserve Bank of India, 2025). The World Bank's Global Findex Database (2025) states that 89% of Indian adults currently have a bank account, much greater than in 2011, and as high as approximately 85% in the case of women's accounts, with a greatly diminished gender gap (see Table 2). The Centre's flagship program, PMJDY, till August 2025, has had more than 56 crore active accounts, and women hold approximately 55% of the accounts, two-thirds of which are living in rural or semi-urban areas (Press Information Bureau, 2025; Financial Express, 2024).

Table 2: Financial Inclusion - Latest Account Ownership and Gender Gap

Year	% Indian Adults with Bank Accounts	Female Account Ownership (%)	Gender Gap (%)
2011	35	26	9
2021	78	76	2
2025*	89	85	4

*Estimated/Projected based on the latest World Bank and RBI data 2025

Nevertheless, regardless of strong growth in accounts and access, the issues of converting access to active, frequent usage continue. As estimated at mid-2025, 23% of PMJDY accounts were idle, demonstrating continuing requirements

for deepening usage and establishing long-term customer relationships (The Economic Times, 2025). This segmentation is important to commercial banks, which rely on frequent transaction behavior for fee income, mobilization of deposits, and information gathering for better credit risk management (see Table 3).

Table 3: PMJDY Account Status as of August 2025

Metric	Number (Crores)	Percentage (%)
Total Active Accounts Opened	56.04	100
Accounts Held by Women	30.82	55
Accounts in Rural/Semi-Urban Areas	37.36	67
Total Balance (₹ Lakh Crore)	2.5	–

Source: Press Information Bureau (2025)

Financial inclusion through technology channels has several effects on bank performance. Fee and non-interest income increase due to increased fees and non-interest income from electronic payment services and cross-sales. Operational efficiency increases as high-frequency transactions migrate from expensive branches and ATMs to automatic electronic channels, reducing cost-to-income ratios and enhancing profitability. Additionally, better transaction data enhances credit underwriting and monitoring, which can result in support for asset quality and bank stability. However, digital growth poses new threats like cyber fraud, running issues, and more aggressive competition from fintech players that require adaptive regulation and cybersecurity infrastructure (PwC India, 2024; National Payments Corporation of India, 2025).

India's overwhelming majority of nearly half of the global real-time payment volumes underlines the importance of recognizing how DFI affects bank performance. Therefore, weighing evidence on the impact of India's digital empowerment on the financial performance and stability of commercial banks is necessary.

The research advances by mapping bibliometry to combine fragmented evidence on India's DFI and its effect on commercial banks' financial performance between 2013 and 2025. Using Scopus-based science mapping, this paper derives thematic clusters like inclusion and digital rails (UPI, AePS, Aadhaar, e-KYK), bank efficiency and performance (ROA, ROE, NIM, fee income, cost-to-income), and stability and risk management (CAMEL indicators, Z-score, NPAs, liquidity). It evidences temporal changes in research focus from payment adoption and account holding to volume of transactions, fee income, efficiency, and risk management—fuelled by the COVID-19 pandemic's contribution to further stimulating digital adoption.

Literature Review:

India's digital financial inclusion development has been sufficiently recorded through mobile wallet usage, Aadhaar-based services, and Unified Payments Interface (UPI) channels (Thakur & Srivastava, 2014; Nidhi et al., 2020; Arora & Singh, 2021). They have significantly contributed to improving financially disadvantaged groups' access to financing. Researchers acknowledge the level of access gained, yet there is still little disagreement on current usage and transaction depth. For example, Chaudhary & Choudhary (2016) and Kapoor (2014) report that PMJDY has successfully improved account holding; yet, dormancy and infrequent usage difficulties show a gap between financial service access and active use. This conclusion is supported by bibliometric analysis, which reveals a prevalence of

terms like "banking" and "financial inclusion" but an overemphasis on themes related to "usage behavior" and "sustainability."

As peer-to-peer lending, internet credit platforms, and mobile payment infrastructures reshape India's financial hierarchy, fintech developments are also a common theme in literature (Kesharwani & Bisht, 2012; Sobti, 2019; Mukherjee & Bose, 2022). According to published research, banks that engage in fintech partnerships increase productivity and clientele (Kumar & Malhotra, 2019; Dandapani & Sathye, 2021). However, most of these evaluations overlook efficiency and adoption indicators at the expense of utterly ignoring system risk, credit quality, or long-term resilience. This skew is supported by bibliometric trends, which show that while "banking" and "fintech" are more prevalent as more recent keywords, "risk" and "stability" are far less common. This tilt suggests that the literature has concentrated more on the benefits of fintech integration than on the implications for financial stability.

Another axis that has not been examined is sociodemographic differences. Some studies draw attention to hurdles related to gender, education, and literacy (Singh & Roy, 2022; Arora & Singh, 2021). A greater understanding of the impact of elements like trust, risk perception, and attitude has been made possible by behavioral research based on TAM and UTAUT (Chauhan et al., 2019; Sharma & Sharma, 2019). Although the bibliometric mapping shows that phrases like "perceived risk" and "attitude" are clustered together, general behavioral finance issues like institution trust, societal norms, and financial literacy are not given as much thought. The user experience is not given enough thought, and the micro-determinants of inclusion are not sufficiently examined.

Relationships between banks and fintech also show a significant conceptual divergence. While some have reported forces of competition (Das & Karmakar, 2020), others have reported win-win collaboration (Mukherjee & Bose, 2022). Bibliometric keyword networks, however, reveal "fintech" and "banking" to be distinct clusters, not overlapping, affirming limited integration in research design. This implies that the literature has fallen short of explaining how collaboration, competition, or hybrid models between fintechs and banks affect innovation and risk in the Indian context.

Policy-oriented research highlights the pioneering role of initiatives such as PMJDY and Aadhaar payment systems (Kapoor, 2014; Sharma & Kukreja, 2013). Bibliometric data reveal, however, that although "India" is one of the most used keywords (131 times), cross-country comparative considerations are rare. It limits the sample, thus, to only contrast India's progress with peers such as China and Brazil, which also appear as emerging keywords but with much fewer citations. Hence, the literature is self-oriented with minimal effort to explore how India's trajectory is part of the world's fintech-led inclusion.

Lastly, resilience and sustainability are beginning to be associated with digital finance. Although this is uncommon, Nenavath (2022) relates fintech and green finance to environmental protection. Bibliometric literature identifies "innovation" and "technology adoption" as emerging growth fields, with no sustainability-oriented subject matter appearing. This exclusion represents a larger one: the contribution of digital financial inclusion to enabling sustainable banking, climate resilience, and green transitions has not been addressed.

Together, the literature and the bibliometrics suggest a fragmented intellectual landscape. Research covers policy analysis, technology adoption, and socio-economic inclusion, but is weakly integrated across them (Gomber et al., 2017; Arner et al., 2016). Co-citation and co-occurrence networks seem to group under management, economics, and IT, but with weak cross-disciplinary discussion. This implies that comprehensive frameworks that converge theories of behavioral adoption, financial stability issues, and policy implications to fashion inclusive digital financial knowledge and fintech within India need to be created.

Methodology

This paper applies a bibliometric method for scientifically mapping the intellectual terrain and research path of Digital Financial Inclusion, FinTech, and Bank Outcomes in India. Bibliometric analysis is extensively applied to synthesize vast amounts of scholarly literature, determine thematic trends, and identify research gaps (Aria & Cuccurullo, 2017; Donthu et al., 2021).

Data Source:

The information was retrieved from Scopus, a top-ranked and one of the most extensive peer-reviewed research databases. Scopus is used because it covers business, management, economics, and technology-related literature extensively and includes sophisticated bibliometric functionality.

Search Strategy

The search query was structured to obtain research on e-financial inclusion, fintech adoption, and bank performance, with specific mention of India and comparative and international views for the depth of context. The ultimate query drew keywords like:

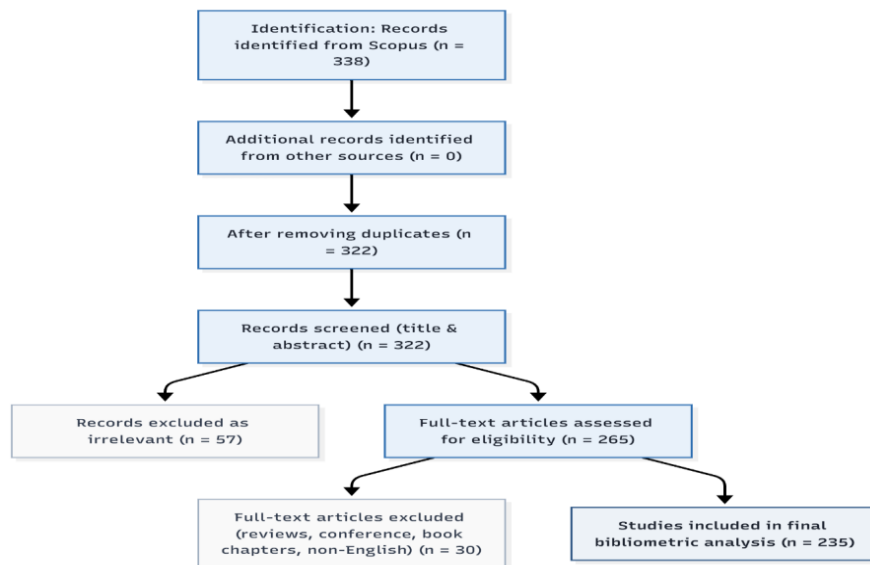
- *“digital finance” OR “financial inclusion” OR “fintech” OR “digital banking” OR “internet banking” OR “mobile banking” AND “India” OR “banking outcomes”*

The search was limited to recent, peer-reviewed journal papers published in English from 2012 through 2025. Conference papers, review articles, and book chapters were excluded to ensure comparability and source quality.

Data Extraction

The original dataset had 338 articles from 2012 to 2025 across 235 sources (books, journals, and proceedings). Authors, affiliations, title, keywords, references, citations, and bibliographic metadata were pulled in CSV format for analysis per article.

Figure 1 PRISMA Flow Diagram of Study Selection



Bibliometric Analysis Tools

The study's primary tool, Biblioshiny for Bibliometrix (R-package), was used to compute descriptive statistics such as keyword frequencies, authorship trends, citation analysis, and annual growth rate. Additionally, Biblioshiny generated co-occurrence maps, trend topics, and thematic progression.

The Analytical Method

The following topics are included in the research analysis:

1. Descriptive Analysis: To develop a profile of the field, standard metrics such as growth rate, publication trends, and the most connected authors, institutions, and sources were calculated.
2. Performance Analysis: To measure the research performance, the top-cited publications, top-producing journals, and top institutions were calculated.
3. Science Mapping: Analysis of co-authorship networks. Co-occurrence and co-citation keyword analysis were used to identify thematic aggregations and collaborative networks.
4. Thematic Evolution: Trend topic analysis was employed to track the evolution of research themes over time (e.g., internet banking → mobile banking → fintech), and it revealed the intellectual trajectory

Reliability and Validity:

The database was initially cleaned of duplicates, irregular author names, and irrelevant records to facilitate robustness. Keywords were normalized to include variations (e.g., "FinTech" and "financial technology"). Quantitative metrics (citations, publications), in addition to qualitative revelations (thematic clusters, intellectual structures), were merged in line with standard bibliometric procedures (Donthu et al., 2021).

Results and Discussions

The bibliometric profile of the dataset provides a more complete understanding of the development trajectory of digital financial inclusion and FinTech literature in the Indian context. The main information table (Table 1) presents that 338 articles were published between 2012 and 2025 in 235 sources by 1186 authors. The industry's intensity is demonstrated by its 21.81% annual growth rate. However, the fact that only 20.71% of international collaboration occurs indicates that, despite India's dominance, there is enormous potential to strengthen global links. Overall, these numbers confirm that the field of digital financial inclusion is currently developing and rapidly maturing, but it has not yet reached full internationalization in the research scene.

Table 1. Main Information of the Dataset (2012–2025)

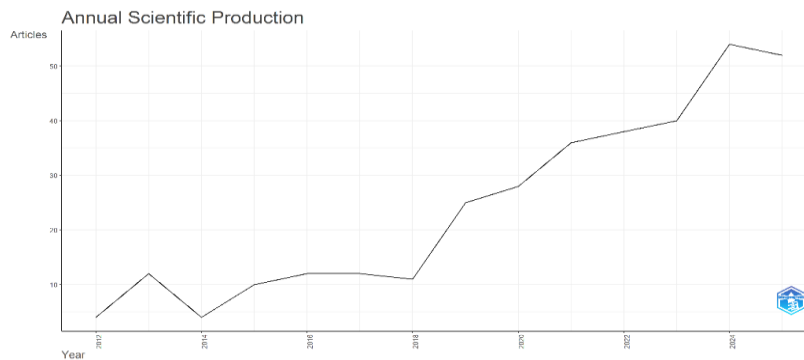
Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	2012:2025
Sources (Journals, Books, etc.)	235
Documents	338
Annual Growth Rate %	21.81
Document Average Age	3.86
Average citations per doc	20.64
References	2831

DOCUMENT CONTENTS	
Keywords Plus (ID)	1907
Author's Keywords (DE)	2926
AUTHORS	
Authors	1186
Authors of single-authored docs	22
AUTHORS COLLABORATION	
Single-authored docs	25
Co-Authors per Doc	3.91
International co-authorships %	20.71
DOCUMENT TYPES	
article	338

(Source: Author’s compilation using Biblioshiny R package)

The number of articles published yearly shows how quickly the area is expanding. Research was limited in the first period, from 2012 to 2015, and focused on customer confidence, perceived risk, and internet banking uptake. An important turning point occurred in 2016 when India's demonetization legislation brought digital payments and mobile wallets to the attention of academics. This influence was further enhanced during epidemic years when digital avenues became essential for obtaining finances. By 2020, there were more than 40 publications annually, indicating a change in focus from adoption behavior alone to the systemic impact of fintech ecosystems on banking.

Figure 1. Annual Scientific Production of Articles (2012–2025)

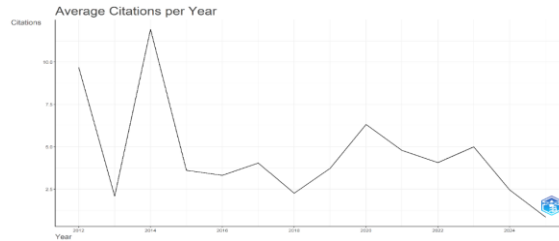


(Source: Author’s compilation using Biblioshiny R package)

Citation patterns provide an additional framework for assessing the significance of this body of work. With peaks in the years corresponding to significant works that continue to define disputes, the year-by-year mean for citations demonstrates modest but consistent acknowledgment. The fact that papers published in 2014 and 2020 are still often cited shows how recent pandemic-era publishing and early adoption studies have impacted subsequent research. This

pattern demonstrates that, despite the field's youth, its most important contributions are creating enduring intellectual connections.

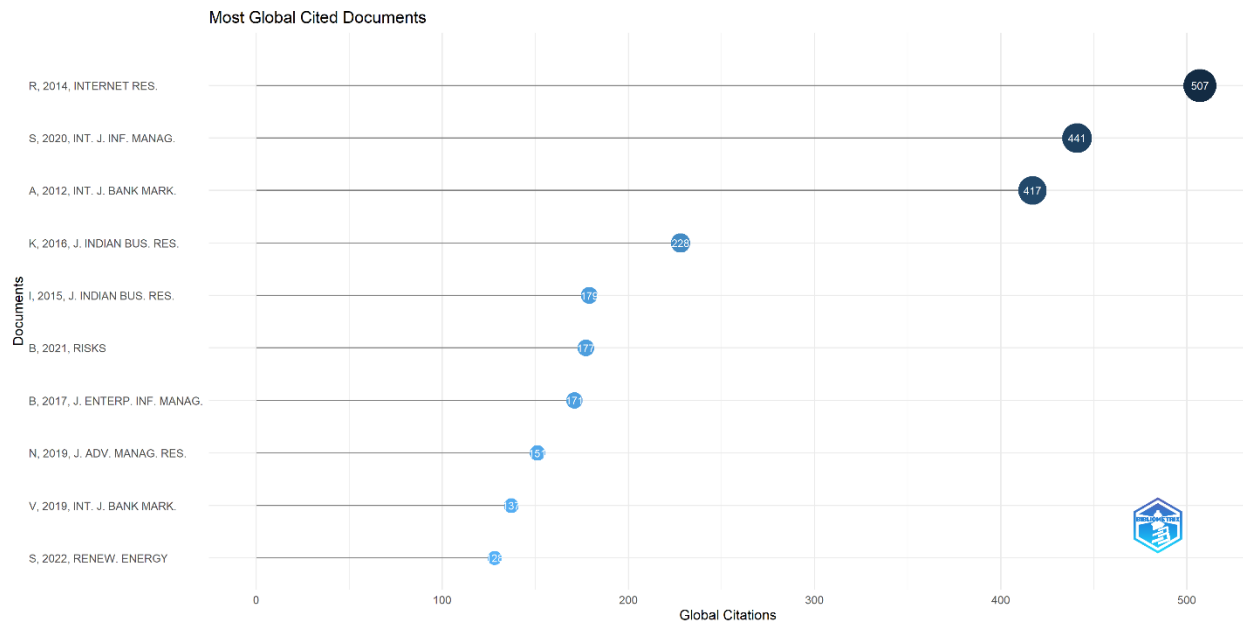
Figure 2: Average Citations per Year per Article



(Source: Author's compilation using Biblioshiny R package)

Taking into account the world's most cited publications increases the impact of these touchpoints. Important articles are S (2020, International Journal of Information Management, 441 cites) and R (2014, Internet Research, 507 cites). While the latter documented the unprecedented shift during the epidemic, the former established the initial digital acceptance and trust paradigms. In addition to setting the standard for scholarly advancement, these papers demonstrate that the most frequently referenced research aligns behavioral theories with actual banking and FinTech operations.

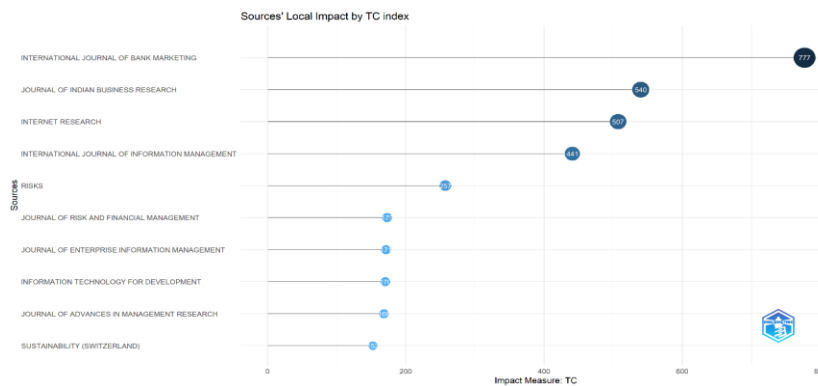
Table 2. Most Globally Cited Articles on Digital Financial Inclusion and FinTech



(Source: Author's compilation from Scopus data)

Several journals have emerged as highly influential, according to the examination of source influence with reference to the points of publishing. Two of the most prominent are the International Journal of Bank Marketing and the Journal of Indian Business Research, which suggests that this body of work exists at the intersection of financial services, management, and marketing. These publications' dominance suggests that, despite their increased respectability, FinTech and inclusion research are still confined to specialized platforms, potentially impeding diversification in broader interdisciplinary journals.

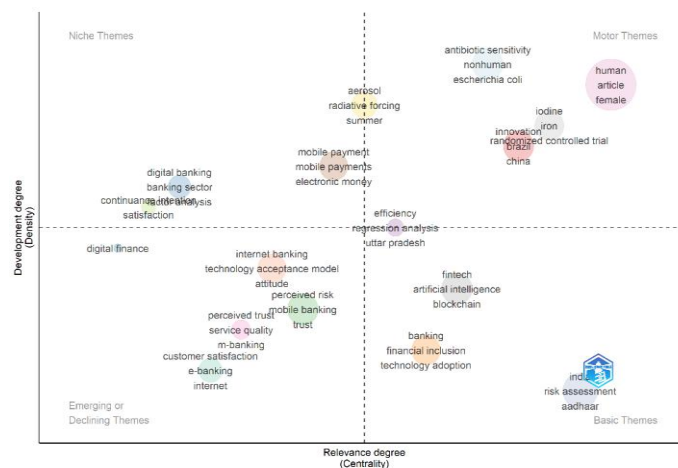
Figure 2. Source Impact (Bradford’s Law Distribution of Journals)



(Source: Author’s compilation using Biblioshiny R package)

The thematic organization of the subject, as realized in the thematic map, gives better insight into what the mind prioritizes. Fintech, innovation, and financial inclusion are motor themes that are well-elaborated and core. In contrast, themes of TAM/UTAUT models, risk perception, and trust are niche themes that are prominent but on the periphery. Internet banking seems to be an emerging or declining trend, indicating its decreased popularity in the face of mobile banking and e-wallets. Undercurrents like consumerism and financial literacy continue to form the bottom layer, although they continue to mature into separate streams of research.

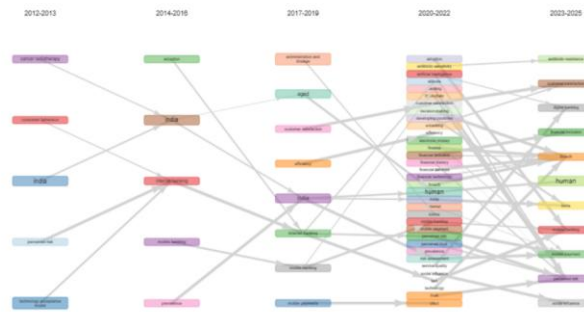
Figure 3. Thematic Map of Digital Financial Inclusion and FinTech Research



(Source: Author’s compilation using Biblioshiny R package)

The short-term thematic trend is reflected through the long-term thematic development. In 2012–2016, internet banking and TAM-based adoption research were the hallmark of studies. From 2016 to 2020, mobile wallets and payment platforms gained more importance, along with India's shift towards cashless transactions. For 2020–2025, the themes have broadened towards FinTech ecosystems, financial innovation, and inclusion. While sustainability, risk resilience, and systemic banking outcomes are underrepresented, this indicates a gap that could be filled by future work to close these critical gaps.

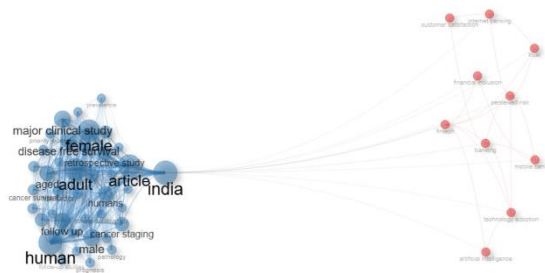
Figure 7: Thematic Evolution Over Time



Source: Author's compilation using Biblioshiny (2025).

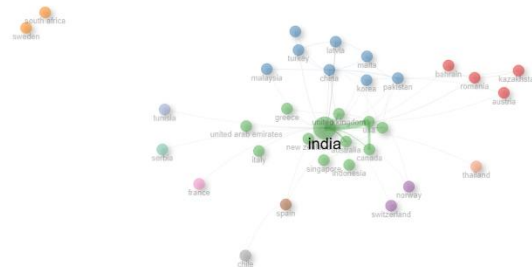
The collaborative patterns support these theme conclusions. There is a clear grouping in the author cooperation networks; one cluster addresses behavioral adoption, another financial inclusion policy, and a third focuses on fintech and bank performance. Indian universities such as Christ, Amity, and Symbiosis are well-known, according to institutional networks. Only about one-fifth of articles are co-authored with authors from other countries, indicating a low level of international collaboration. Although India is a massive hub for digital finance, this low-key cross-border collaboration shows that its research community is still not well-connected to international networks.

Figure 4. Keyword Co-occurrence Network



(Source: Author's compilation using Biblioshiny R package)

Figure 5. Author Collaboration Network



(Source: Author’s compilation using Biblioshiny R package)

Researching trend subjects provides a more thorough explanation of the industrial mechanisms. Internet banking, danger, and trust were the most popular keywords between 2012 and 2016, and they said a lot about how new digital banking was in India, due to regulatory actions that supported digital payments, mobile banking, and wallet penetration, followed by them between 2016 and 2020. Since 2020, fintech has been the most popular term, usually used with ecosystems, digital financing, and innovation. This indicates that while research interest has been keeping up with India’s economic development, there are still significant gaps in the field: topics like sustainability, resilience, and green finance are still not widely discussed.

Table 3. Trend Topics Over Time (2012–2025)

Term	Frequency	Year (Q1)	Year (Median)	Year (Q3)
technology acceptance model	9	2013	2015	2019
internet banking	15	2015	2017	2018
priority journal	18	2015	2018	2020
aged, 80 and over	8	2013	2018	2019
attitude	8	2016	2018	2021
mobile banking	19	2016	2019	2021
treatment outcome	12	2018	2019	2024
follow-up studies	11	2016	2019	2021
humans	36	2017	2020	2021
middle aged	31	2018	2020	2022
prevalence	15	2019	2020	2022
india	131	2018	2021	2023
human	70	2019	2021	2023
article	66	2019	2021	2023
perceived risk	33	2018	2022	2023
cohort analysis	18	2021	2022	2024

human tissue	14	2021	2022	2024
banking	20	2021	2023	2023
technology adoption	12	2021	2023	2025
innovation	9	2017	2023	2025
fintech	44	2022	2024	2024
brazil	8	2024	2024	2024
china	8	2024	2024	2024

Source: Author's compilation using Biblioshiny (2025).

Three main conclusions may be drawn from the figure and table analysis. First, the field has grown significantly and diversely, evolving alongside India's technological advancements and policymakers. Second, adoption studies, policy analysis, and fintech-bank performance are emerging separately and not convergently, indicating that the intellectual architecture is broken but evolving. Third, despite its potential, the space appears to be somewhat disengaged from the global discourse on digital finance and equitable growth due to a lack of international cooperation and discussions framed with sustainability. In order to promote a more integrated vision of digital financial inclusion and other indigenous uses in India, it will be necessary to overcome behavioral, institutional, and structural frames.

Implications:

The study's conclusions have broad ramifications beyond scholarly research and speak to the worries of practitioners and legislators involved in digital financial inclusion. The bibliometric map demonstrated how research has advanced along three main parallel tracks: policy-driven financial inclusion, behavioral adoption models, and fintech-facilitated banking revolution. Divergence among these streams suggests the absence of an integrated perspective, even though each has produced knowledge uniquely. Regarding theory, it is important to depart from well-known adoption models such as TAM and UTAUT, which are helpful but cannot map the systemic effects of digitalization on bank resilience and financial stability due to their limitations from earlier research. In order to provide more practical models for comprehending customer behavior, regulatory environments, and bank performance, future research could combine institutional theory, systems thinking, and financial intermediation literature.

For industry practitioners, the analysis demonstrates that the abrupt shift in research focus from online banking to mobile payments and, more recently, fintech ecosystems clearly reflects the concurrent shift in industry dynamics and customer expectations. Banks may miss out on the greater opportunity for digitalization to foster long-term engagement, security, and trust if they still view it as a means of providing services. Research shows that although fintech firms bring agility and innovation to the banking industry, their partnerships with traditional banks remain unexplored in terms of systemic stability, profitability, and outreach. The approach implies that banks and fintechs should maintain a balance between innovation and risk management to avoid jeopardizing the stability of institutions in their pursuit of financial inclusion.

The fact that while initiatives like PMJDY and Aadhaar have significantly expanded access, relatively little is known about how long-lasting these programs are in generating substantial usage and financial success is a reflection of policy improvement. The tendency for policy analysis to overlook the connection between inclusion and consumer or bank welfare is reflected in the islands of scattered intellectual elites. As a result, regulators will need to find models that not only increase access but also protect consumers, build resilience, and encourage ethical innovation.

Furthermore, despite India's rich and unique experience, it is rarely compared to peers elsewhere due to the lack of data for international comparisons. Comparative analysis can help policymakers understand India's relative advantages and disadvantages as well as place it in the larger context of rising economies. Finally, there is an urgent need shown in the near complete quiet surrounding sustainability. Incorporating green finance principles into digital inclusion initiatives can help guarantee that financial innovation not only drives inclusion but also sustains long-term societal resilience as global financial institutions align with development and climate policies.

Conclusions:

Through bibliometric and literature-based synthesis, this study has attempted to map the academic literature on fintech, digital financial inclusion, and Indian bank performance. An examination of 338 papers released between 2012 and 2025 shows how the body of research in this field has grown in both volume and diversity, attesting to the radical change in Indian finance brought about by the demands of digitization. The findings show a trend that aligns with India's technological and policy advancements: an initial emphasis on internet banking and technology adoption models, a subsequent surge in research on mobile wallets and payment systems following demonetization and the rapid growth of UPI, and a later increased emphasis on the fintech ecosystem and its impact on banking transformation and inclusion.

Research on consumer adoption and behavioral variables such as perceived risk, trust, and innovativeness is one of the most compelling discoveries. These studies have been helpful in explaining how consumers use digital financial services, although they have primarily concentrated on short-term adoption rather than long-term use. Apart from this, policy analysis has been highly successful in assessing the increase in access, particularly for government programs like PMJDY and Aadhaar. However, it rarely looks at the long-term effects of these programs on the quality of usage, financial inclusion, or bank performance.

Three categories of concepts adoption models, policy-driven inclusion, and fintech transformation operate in relative isolation, as the co-citation map clearly demonstrates a fractured intellectual landscape. Because behaviorist and policy methods do not translate well to the challenges of bank profitability, efficiency, and systemic resilience, intellectual fragmentation is replicated in the literature more broadly. As a result, the field of study has made significant but incomplete contributions, frequently missing the chance to fully realize the potential of creating synthesized viewpoints that can consider various digital financial systems.

This field has a strong domestic focus, with universities and Indian business schools spearheading initiatives, according to institutional and authorship analysis. International collaboration is often modest, but it is excellent at home. The rich Indian experience with digital financial inclusion, in other words, is still not entirely captured in a global comparative perspective, which limits its greater generalizability and applicability. Given the global nature of financial digitization, the absence of a comparative study is a missed opportunity for researchers and policymakers.

These findings demonstrate the flexibility and constraints of the present research landscape. The rise in publications demonstrates how important digital financial inclusion is to India's development agenda and how the academic community is paying attention to this issue. The area is still in its infancy, as seen by the gaps in international comparison, long-term perspectives, and thematic integration. The following research phase must focus on a more thorough understanding of digital financial inclusion, including consumer behavior, policy intervention, fintech innovation, and banking performance. In addition to being important for developing scientific intelligence, this kind of integration is also required to create practices and policies that will turn digital finance into a resilient, inclusive, and sustainable source of growth.

Future Scope of the study:

Many opportunities for further investigation can be suggested in light of these findings. First and foremost, research must go beyond monitoring access and utilization to examine long-term usage trends and their socioeconomic effects, such as family economic resilience and the growth of entrepreneurship. Second, studies must examine the effectiveness, profitability, and effects on systemic stability of fintech bank collaborations during economic stress. Third, it is evident that comparative studies are required in order to enhance the global relevance of current research by contrasting the Indian experience with that of other emerging markets. Finally, digital platforms could support climate-aligned financial innovation at the fascinating yet unexplored nexus of sustainability, green finance, and the issue of digital inclusivity.

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