J Data Sci. Info. Citation Studies., 2026; 5(3):344-360.
https://www.jcitation.org

Research Article

Bibliometric Analysis of Highly Cited Research on Financial Literacy and Fintech Adoption in Digital Banking

Ghouse Modin Nabeesab Mamdapur[1,*], Mallikarjun Kappi[2], Muthukrishnan Mayilsamy[3], Brij Mohan Gupta[4], Kesturu Sabil Ali[5], Rizwana Fathima[6], Aneesa Kundil Kadannalil[7]

[1]Department of Library and Information Science, Yenepoya (Deemed to be University), Mangaluru, Karnataka, INDIA.
[2]Department of Library and Information Centre, Government First Grade College, Hosapete, Karnataka, INDIA.
[3]Department of Library and Information Science, Dr. N.G.P. Arts and Science College, Coimbatore, Tamil Nadu, INDIA.
[4]Department of Library and Information Science, CSIR-NISTADS, Pusa, New Delhi, INDIA.
[5]Department of Library and Information Science Centre, St. Joseph's University, Bengaluru, Karnataka, INDIA.
[6]Department of Linguistics, Yenepoya Faculty of Allied Health Sciences, Yenepoya (Deemed to be University), Mangaluru, Karnataka, INDIA.
[7]Department of Commerce, MES Keveeyam College, Valanchery, Kerala, INDIA.

ABSTRACT

The rapid expansion of digital banking and fintech has increased the importance of financial literacy in shaping individuals' adoption and effective use of digital financial services. Understanding the intellectual structure, thematic evolution, and collaboration patterns of highly cited research can help identify the major drivers and emerging directions in this interdisciplinary field. This study aimed to map the intellectual structure, thematic evolution, and collaboration dynamics of highly cited research on financial literacy and fintech adoption in digital banking. It also sought to identify influential countries, journals, thematic anchors, and emerging research directions relevant to inclusive digital finance. A bibliometric analysis was conducted using 161 highly cited publications, each receiving at least 100 citations, retrieved from the Scopus database as of November 2025. The dataset covered publications from 2003 to 2024 and accumulated 36,527 citations, with a Citations-Per-Publication (CPP) value of 226.88 and a Relative Citation Ratio (RCI) of 1.00. Bibliometric and network analyses were used to assess publication growth, citation concentration, journal distribution, country-level productivity and influence, collaboration patterns, and thematic relationships based on keywords. The field showed limited research activity during its initial phase, followed by exponential growth between 2016 and 2020, coinciding with global digitalization and the expansion of mobile financial services. Journal articles accounted for 88.2% of the publications and represented the dominant form of scholarly output. Citation-slab analysis revealed a highly concentrated knowledge structure, with 16 publications receiving between 401 and 1,477 citations and collectively accounting for 39.4% of total citations. The United States, United Kingdom, and China were the leading countries in productivity and overall influence, whereas smaller research systems, including Singapore, Sweden, and Germany, demonstrated greater citation efficiency. Fintech, financial inclusion, digital finance, blockchain, and financial literacy emerged as key thematic anchors linking behavioural, technological, and regulatory perspectives. Research remained predominantly focused on high-income settings, highlighting a geographic imbalance in the evidence base. Emerging themes included sustainability, artificial intelligence, and ethical governance. Highly cited research on financial literacy and fintech adoption in digital banking has evolved rapidly, particularly alongside global digital transformation. Although major research powers dominate productivity and influence, smaller research systems may achieve greater citation efficiency. Thematic developments increasingly emphasise sustainability, AI, financial inclusion, and ethical governance, while the continued concentration of research in high-income countries indicates a need for greater attention to developing economies. These findings provide useful insights for researchers and policymakers seeking to promote inclusive, sustainable, ethical, and resilient digital financial ecosystems.

Keywords: Digital banking, Digital finance, Financial inclusion, Financial literacy, FinTech.

Correspondence:
Mr. Ghouse Modin Nabeesab Mamdapur
Research Scholar, Department of Library and Information Science, Yenepoya (Deemed to be University), Mangaluru-575018, Karnataka, INDIA.
Email: 20915@yenepoya.edu.in

Received: 10-01-2026;
Revised: 04-06-2026;
Accepted: 06-10-2026.

OPEN ACCESS

Manuscript TECHNOMEDIA

DOI: 10.5530/jcitation.20260003

Copyright Information :
Copyright Author (s) 2026 Distributed under Creative Commons CC-BY 4.0

Publishing Partner : Manuscript Technomedia. [www.mstechnomedia.com]

INTRODUCTION

The crossroads between financial literacy and FinTech adoption in digital banking is an important area to explore within global digitalization of finance. Financial literacy, as encompassing the factors which relates to skills and knowledge capability described attitudes as well from preamble behaviour include one's potential

to participate confidently in FinTech innovations such as mobile banking, Unified Payments Interface (UPI) digital wallets, online lending platforms etc (AlSuwaidi and Mertzanis, 2024; Janjanam and Subbalakshmi, 2025; Upadhyay *et al.*, 2024). This high impact research-based bibliometric study illustrates the intellectual development trajectory from the knowledge base of financial literacy to cutting-edge aspects of FinTech adoption, identifies thematic structures, hotspots and collaboration networks embedded in digital banking context (Yang *et al.*, 2023; Zou *et al.*, 2023).

The rise of e-banking, post-COVID by pivots and new technologies such as Artificial Intelligence (AI), blockchain has further heightened the need for improved financial knowledge to foster financial inclusion and reduce risk from cyber-attack as well as misinformation (Del Sarto and Ozili 2025; Gulati *et al.*, 2025). The known empirical studies frequently cited note that individuals with financial literacy have increased access to and use of services and better financial well-being, lesser inequality-particularly in developing economies where FinTech reduces the gap between traditional service links (Janjanam and Subbalakshmi, 2025; Sengupta, 2025); Sumesh *et al.* (2024). Country-level studies also identify nonlinear relationships between literacy and FinTech market expansion, conditioned by digital infrastructure and institutional factors (Yadav and Banerji, 2023; Yang and Zhang, 2022).

By concentrating only on high-cited papers that have a great impact on the scholarly community, this research charts frontiers in knowledge, prolific authors and institutions, and under researched domains (e.g., sustainability integration and behavioural moderators). By means of bibliometric techniques such as citation network analysis, co-word mapping and co-authorship visualisation, the study measures the publication patterns and intellectual development (Mallikarjuna *et al.*, 2025; Kappi *et al.*, 2025; Singhal *et al.*, 2024; Suganya and Nithya, 2025). These results provide policy makers, educators, and developers of FinTech targeted literacy interventions based on scientific evidence to promote their inclusive adoption and strong digital financial ecosystems.

LITERATURE REVIEW

Key studies have identified financial literacy forums in the foreground of influencing individual attitudes towards (digitalised) financial behaviour. Household survey-based empirical research suggests the following: a positive correlation between financial literacy levels and electronic money/ mobile payment use; a negative relationship with speculative cryptocurrency holding among risk-averse people (Kakinuma, 2023; Lyons *et al.*, 2022). Evidence from large developing countries also suggests that increased access to digital finance directly increases the positive impacts of literacy on consumption smoothing, risk managing and financial resilience by means of expanding formal financial services (Yang *et al.*, 2023; Yang and Zhang, 2022). Follow-up research has investigated the mechanisms by which financial literacy influences FinTech adoption using the Technology Acceptance Model (TAM). These studies show that literate increases perceived usefulness and ease of use which mediate attitudinal influence toward mobile banking, digital wallets apes among others (Gulati *et al.*, 2025; Gupta *et al.*, 2023). In addition, digital financial literacy - combining financial knowledge with technological skills and security awareness - is increasingly crucial in emerging economies, helping to break down obstacles for older adults, for rural households and other vulnerable groups. Cross-national analysis of 114 countries reveals a strong, non-linear positive link between national literacy and FinTech market development after adjusting for macroeconomic conditions (Babu and Kishore, 2025; Trotta *et al.*, 2026).

Bibliometric and scientometric analyses trace this field's intellectual structure, capturing surge/crescent in post-2015 publications and their thematic concentrations (financial inclusion, regulation, consumer protection). In such networks, U.S., Chinese and Indian institutions dominate, and hotspots are artificial intelligence, blockchain, robo-advisory and social media influences (Abouraia and Al Morsey, 2020; Choudhary and Thenmozhi, 2024). AI and machine learning research focuses on fraud detection, credit-risk modelling and predictive analytics making use of big-data algorithms (Goodell *et al.*, 2021; Pattnaik *et al.*, 2024). Blockchain analyses school applications in safe payments and smart contracts (Kumar *et al.*, 2022; Muthukrishnan *et al.*, 2024). Studies on digital finance and inclusion emphasise that FinTech can expand access through digital credit and micro-savings, but at the same time highlight increased capacity requirements (Fatima *et al.*, 2024; Vasishta and Singla, 2024). More recent extensions involve sustainable finance, ESG investing and banking transformation, evidencing methodological improvements in text mining analytics and network analysis (Desy *et al.*, 2024; Gulati and Singh, 2024; Kulshrestha, 2023; Pandey, 2025; Pandey *et al.*, 2024). Notwithstanding these contributions, gaps persist. Longitudinal information on the longer-term welfare effects of FinTech is scant, as is comparative work across low-income settings. Feedback from usage and literacy change deserves further study as well as issues of algorithmic fairness and privacy (Dwivedi *et al.*, 2025; Sethi *et al.*, 2025). A bibliometric examination of highly-cited work for financial literacy and FinTech adoption can bring attention to influential contributions, methodological tools, and underexplored areas that should be considered in developing inclusive digital ecosystems.

METHODOLOGY

The analysis employed a quantitative scientometric study to dissect citation trends and intellectual structures in most cited research on financial literacy vis-a-vis FinTech integration in digital banking. The Scopus database was searched on

November 26, 2025 using search terms (See Appendix A) to obtain bibliographic data. A total of 5153 articles were initially retrieved, and purposive sampling was used to select 161 (3.12%) documents with at least hundred citations; these were considered highly cited. These indicators included TP, TC, citations per paper (CPP=TC/TP), Average Authors Per Paper (AAPP=total authors/TP), Productivity Per Author (PPA=TP/total authors) together with RCI values of the set of 8400 articles; CAGR; and RGR.

Data cleaning and descriptives were performed in Microsoft Excel. Network analyses used VOSviewer (v1.6.20) for co-authorship, co-occurrence, and institutional mapping. Word clouds were generated via Biblioshiny (v4.1; Bibliometrix R package), and trend visualisations via Jupyter Notebook (v6.0.1) with Python scripts. The complete Scopus search strategy employed for data extraction was as follows: Scopus String: TITLE-ABS-KEY ("financial literacy" OR "financial knowledge" OR "financial capability" OR "financial education" OR "financial awareness" OR "financial attitude*" OR "financial behaviour*" OR "financial skill*" OR "financial well-being*" OR "financial resilience" OR "financial security*" OR "financial decision-making*" OR "financial planning*" OR "personal finance" OR "money management*" OR "financial inclusion*" OR "inclusive finance" OR "financial service*" OR "access to finance" OR "financial empowerment" OR "digital financial inclusion*") AND TITLE-ABS-KEY ("digital banking*" OR "mobile banking*" OR "internet banking*" OR "online banking*" OR "e-banking*" OR "digital payment*" OR "mobile payment*" OR "UPI" OR "mobile wallet*" OR fintech OR "digital finance") AND PUBYEAR > 2002 AND PUBYEAR < 2026 AND (LIMIT-TO (LANGUAGE, "English"))

RESULTS

Annual Evolution of Core Bibliometric Indicators in Highly Cited Research

The longitudinal analysis of annual bibliometric indicators (Table 1 and Figure 1) reveals fluctuating scholarly output and citation dynamics from 2003-2024. TP remained sporadic early on (1-5 annually), surging to a peak of 32 in 2020 before declining progressively to 26 (2021), 21 (2022), 13 (2023), and 1 (2024). TC exhibited cyclical peaks at 1,857 (2009), 703 (2011), 3,556 (2017), and 7,143 (2020).

CPP spanned from 110.00 to 703.00, with the actual maxima 619.00 (2009) and 703.00 (2011), showing that seminal works keep shaping future research agendas for long years. The authors total and the International Co-Authors Papers (ICP) grew, respectively, from low levels of 9.3% (2005) to maximum values during the last two years 98 ICPs (2020), with a peak of 50 ICP and 51 TA-30 in stage IA who achieved independently scholar/aid/student at Cancun Tachikawa (2013). The First-Position authors (FP) emerged in the post-2010 era and peaked at 17 (2020). Influential years (RCI > 1.0; 2005, 2007-2009, 2011, and 2016-2018) (max 3.10 in 2011) were followed by those below RCI 1.0 after the year of prediction. Authorship metrics remained stable, with AAPP at 2.98 overall (range of 2.5-3.5) and PPA at 0.34 (~0.3-0.5). Growth indicators also showed a volatility: Compound Annual Growth Rate (CAGR) achieved maximum of 0.143 (in 2020) as compared to early negative values, reaching at −0.079 (in 2024), with an overall value -5.10%; Relative Growth Rate (RGR) fluctuated from -2.565 to +1.609 in the time series, showing peak in 2008, 2016 and 2020 (total sum -0.051). In 161 articles with a total of 36,527 citations (average CPP=226.88), these trends represent early seminal impact, mid period expansion and recent normalisation.

Document-Type Analysis of Highly Cited Research

Journals articles can be discerned as the most significant component of the corpus, forming 142 pieces (88.2%) receiving 33,067 citations (CPP=232.87; RCI=1.03), highlighting their significance in academic impact (Table 2). It is clear from the presence of quality, medium and high range reviews (the top ten were included) in all quartiles that, even with only 10 papers being assessed, reviews do have a similar impact per paper to them seeing new light (TC=2,323; CPP=232.30; RCI=1.02) which feedback the narrative literature research and justify their inclusion in emerging literature stoking expositions and taking advantage in publication economy. Conference papers (n=4; TC=505; CPP=126.25; RCI=0.56) and editorials (n=2; TC=294; CPP=147.00; RCI=0.65) were less significant propagators of knowledge developed. Books (n=2; TC=232; CPP=116.00; RCI=0.51) and the book chapter (TC=106; CPP=106.00; RCI=0.47) were least efficiently cited, relatively minor contributions by non-journal formats to high-level FinTech-financial literacy research efficiencies. International collaboration (%ICP) was highly variable: articles topped the list at 40.14% (57/142 ICP); this percentage was followed by reviews (30.00%; 3/10), conference papers (25.00%; 1/4), and editorials of all types (50.00%; 1/2). DP first-position authorship was mostly for journal articles (69 FP) and editorials (1 FP). Over 161 outputs (which received 36,527 citations; mean=226.88CPP; and total RCI=1.00), articles and reviews were responsible for 94.4% of the output as well as receiving 96.2% of citations, underlining their dominance in this field.

Distribution and impact: Citation-slab of highly cited research

Citation-based analysis: The "citation-slab" (Table 3) highlights substantial differences in citation impact, authorship, funding and collaboration among the four slabs. The 100-200 citation trench threshold is dominant according to volume (103 papers, 64.0% of total) but presents moderate impact (CPP=133.40; RCI=0.59), medium authorship (TA=303), funding participation (44.66%; FP=46) and international collaboration (ICP=35; 33.98%).

The 201-400 slab (42 papers; 26.1%) shows enhanced influence (CPP=277.50; RCI=1.22), with elevated collaboration (ICP=20;

Table 1: Changes per annum and empirical values for main bibliometric variables in HC papers.

Year	TP	TC	CPP	TA	FP	ICP	%ICP	RCI	AAPP	PPA	CAGR	RGR
2003	3	673	224.33	9	0	1	33.33	0.99	3.00	0.33	0.000	0.000
2004	2	428	214.00	5	0	0	0.00	0.94	2.50	0.40	-0.333	-0.405
2005	2	493	246.50	6	0	2	100.00	1.09	3.00	0.33	-0.184	0.000
2006	2	283	141.50	6	0	2	100.00	0.62	3.00	0.33	-0.128	0.000
2007	1	306	306.00	3	0	0	0.00	1.35	3.00	0.33	-0.260	-0.693
2008	5	1212	242.40	10	0	2	40.00	1.07	2.00	0.50	0.109	1.609
2009	3	1857	619.00	8	0	0	0.00	2.73	2.67	0.38	0.000	-0.511
2010	1	149	149.00	4	1	0	0.00	0.66	4.00	0.25	-0.190	-1.099
2011	1	703	703.00	1	0	0	0.00	3.10	1.00	1.00	-0.158	0.000
2012	2	220	110.00	4	1	0	0.00	0.48	2.00	0.50	-0.047	0.693
2013	1	110	110.00	2	0	0	0.00	0.48	2.00	0.50	-0.116	-0.693
2014	2	342	171.00	9	1	2	100.00	0.75	4.50	0.22	-0.033	0.693
2015	2	288	144.00	6	1	1	50.00	0.63	3.00	0.33	-0.029	0.000
2016	5	1309	261.80	9	0	0	0.00	1.15	1.80	0.56	0.044	0.916
2017	12	3556	296.33	30	5	3	25.00	1.31	2.50	0.40	0.100	0.875
2018	14	4724	337.43	34	4	5	35.71	1.49	2.43	0.41	0.091	0.154
2019	10	2538	253.80	31	5	3	30.00	1.12	3.10	0.32	0.067	-0.336
2020	32	7143	223.22	98	17	15	46.88	0.98	3.06	0.33	0.143	1.163
2021	26	4521	173.88	90	16	14	53.85	0.77	3.46	0.29	0.126	-0.208
2022	21	3820	181.90	70	12	8	38.10	0.80	3.33	0.30	0.113	-0.214
2023	13	1742	134.00	39	7	3	23.08	0.59	3.00	0.33	0.071	-0.480
2024	1	110	110.00	5	0	1	100.00	0.48	5.00	0.20	-0.079	-2.565
Total	161	36527	226.88	479	70	62	38.51	1.00	2.98	0.34	-5.10%	-0.051

47.62%) and funding (FP=15; 35.71%). Higher tiers amplify impact exponentially: the 401-700 slab (11 papers; 6.8%) achieves CPP=494.09 (RCI=2.18), strong funding (FP=7; 63.64%), and collaboration (ICP=6; 54.55%), while the elite 701-1,477 slab (5 papers; 3.1%) records exceptional CPP=1,139.40 (RCI=5.02), despite lower collaboration (ICP=1; 20.00%) and funding (FP=2; 40.00%). This suggests landmark papers transcend structural advantages through intrinsic quality. Across 161 publications yielding 36,527 citations (mean CPP=226.88; aggregate RCI=1.00), citation impact escalates nonlinearly with slab progression, with top tiers (16 papers) generating 39.4% of TC despite comprising 9.9% of output. Funding and international collaboration correlate positively with impact up to mid-high tiers but diminish at the apex, highlighting distinct pathways to extraordinary influence.

International Co-authorship Structure of the Top 35 Contributing Countries

Table 4 identifies the top 37 contributing countries to research on financial literacy and fintech adoption in digital banking. Among 50 participants, China leads in output (TP=37) but shows moderate citation impact (CPP = 197.30), whereas the United States, with fewer papers (TP=31), attains the highest impact (CPP = 260.48) and collaboration rate (%ICP =74.19; RCI =1.15). The United Kingdom (TP = 29; CPP = 257.00) maintains strong, balanced collaboration, while Germany (CPP = 403.91) and Taiwan (CPP = 414.57) achieve high impact with limited output.

Medium sized contributors, Singapore (CPP=447.25; RCI=1.97) and Sweden (CPP=426.50; RCI=1.88), are also remarkably efficient. India (TP=12; CPP=134.17; %ICP=58.33; RCI=0.59.) has also shown up as important but relatively less influential on the region. Developing countries such as Pakistan, Chile, Lebanon and Bahrain register full international collaboration (%ICP=100) in the face of low productivity which can also be seen as dependence on global collaborations. The international collaboration network is presented in Figure 2 using VOSviewer for analysis of 35 countries with two or more articles among the fifty participating countries. The network contains 10 clusters, 96 links, and total TLS=145. Bibliometric data are wide ranging (TP=2-37; TC=231-8,075; TLS=0-34; links=0-17), qualifying diversity in productivity and collaboration intensity. The two core components are the USA and UK with 17 links each, followed by Australia (13) and China (12) in terms of structural centrality. The network consists of dense and loosely peripherally interconnected clusters: Cluster 1 (7 countries), Cluster 2

(6), Cluster 3 (5), Clusters 4-5 (4each), Clusters 6-7 (3 each), Clusters 8-10 (1 country each). The top dyadic collaboration is between China and the USA (five co-authored papers) followed by India-United States, Saudi Arabia-India, and Australia-India (three). Repeat involvement of China, the United States, India, Australia and Malaysia signal their integrating functions in a globally connected research environment underpinned by intense Asia-North America, Asia-Europe and Oceania-Asia connections.

The keyword co-occurrence analysis (Figure 3A and Table 5) involves 842 author keywords, of which the top 60 were filtered by TLS. These are distributed in 10clusters (288links, Total TLS=499) and mapped with VOSviewer using attraction value =1, repulsion=-3 for relieving the identification of themes. The number of keywords vary from 2to67, TLS range 2-140 and links range between1and44, showing high variation on the theme influence as well as thematic connectivity. Composition of the clusters Composed Clusters 1 and 2 (nine keywords foreach), for Cluster 3 and 4 (seven each) and, Cluster 5 and 7 (six keywords each) respectively for both, Clusters 8 and 9 (four each two) were composed and, Cluster 10 (one emerging term). Key topics such as fintech, financial inclusion, financial services, digitalization of money, blockchain and finance serve as These core areas underline its centrality to digital banking research and education in the area of financial literacy. Fintech (67 occurrences; TLS=140; links=44), financial inclusion (33; TLS=81) and financial services (38; TLS=95) are highly central, whereas digital finance, blockchain, financial literacy, artificial intelligence and mobile banking function as bridging concepts between the theme's digital transformation and financial inclusion. As a whole, the clusters illustrate a big picture research landscape with

Table 2: Distribution, citation performance and collaboration of document types in research likely to have high impact.

Year	TP	TC	CPP	TA	FP	ICP	%ICP	RCI
Article	142	33067	232.87	432	69	57	40.14	1.03
Review	10	2323	232.30	25	0	3	30.00	1.02
Conference Paper	4	505	126.25	11	0	1	25.00	0.56
Editorial	2	294	147.00	5	1	1	50.00	0.65
Book	2	232	116.00	4	0	0	0.00	0.51
Book chapter	1	106	106.00	2	0	0	0.00	0.47
Total	161	36527	226.88	479	70	62	38.51	1.00

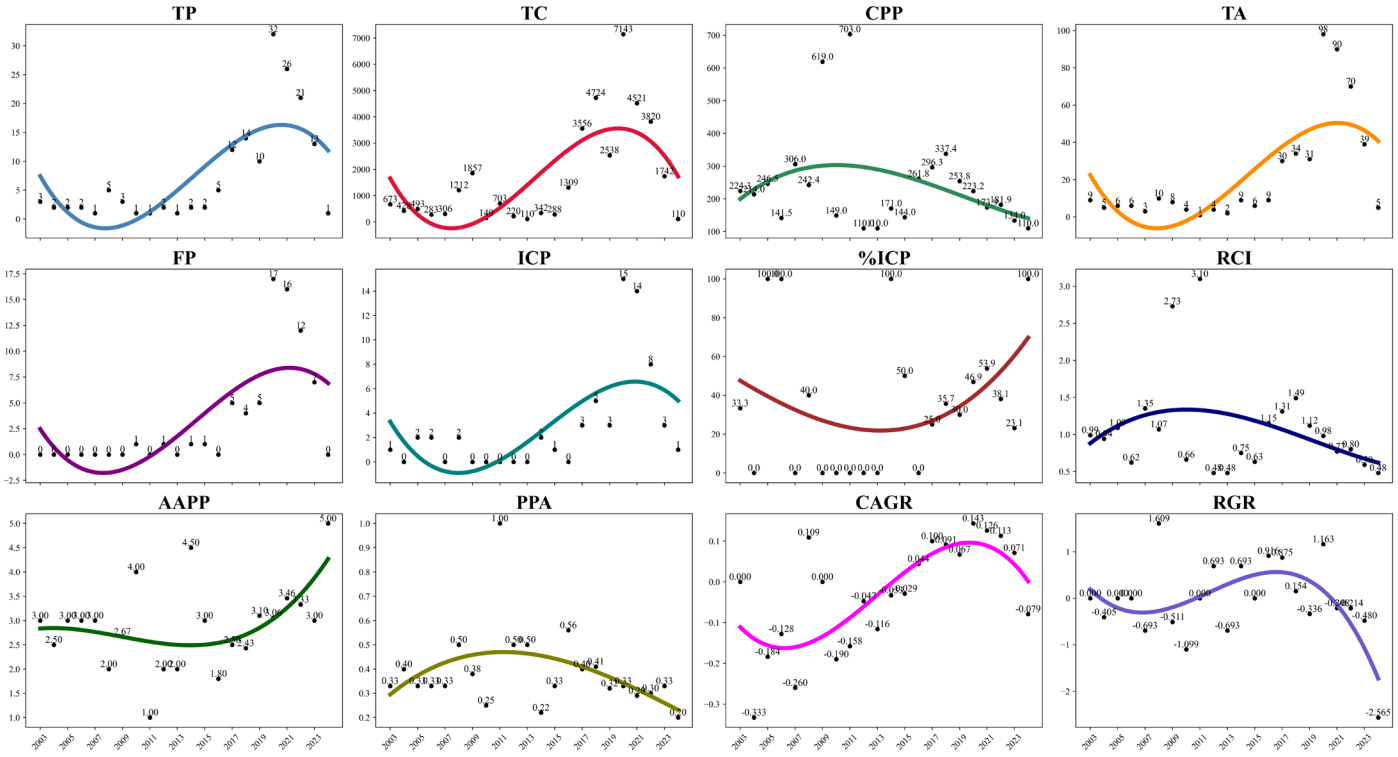

Figure 1: Proportional Distribution of Growth in Highly Cited Research Across Key Bibliometric Indicators.

various dimensions (financial technologies, consumer behaviour, inclusion, regulation) and emerging phenomena including cryptocurrency, data privacy, mobile payment, industry 4.0 and green finance.

The word cloud (Figure 3B), generated via Biblioshiny in R, visually reinforces these patterns, emphasising thematic concentration around fintech, financial inclusion, and digital finance as the intellectual core of the field.

Co-authorship Network of Prolific Authors in Highly Cited Research

The co-authorship structure of the field, derived from 437 authors, reveals that only 34 scholars meet the minimum threshold of two publications and therefore constitute the core author community analyzed here (Figure 4 and Table 6). The network map is divided into 18 clusters, 24 links, and a TLS of 46. Within this structure, Cluster 1 comprises Casaló Ariño, Luis V. Vicente, Flavián, Carlos, Guinalíu, M., and Torres, Eduardo I., while Cluster 2 includes De, Rahul; Herath, Tejaswini Teju; Pal, Abhipsa; and Rao, Hejamadi Raghav, indicating two tightly knit author groups with recurrent collaboration patterns. Clusters 3 to 6 contain three authors each, Clusters 7 and 8 include two authors each, and Clusters 9 to 18 are formed by single, relatively isolated authors, highlighting a fragmented collaboration landscape with a small number of cohesive subnetworks and several peripheral contributors.

The overall connectivity is still small (the TLS varies between 0 and 7, the links from 0 to 3), which indicates that in spite of the intellectual focus among highly cited authors only limited collaboration across groups takes place. In terms of productivity, Flavián, Carlos emerges as the most prolific and central author with four publications (TP=4), while Kauffman, Robert J.; Ozili, Peterson K.; Arner, Douglas W.; Buckley, Ross; Guinalíu, M.; and Banna, Hasanul each contribute three publications (TP=3), together forming the leading cluster of influential contributors to highly cited research on financial literacy and fintech adoption in digital banking.

The institutional co-authorship analysis (Figure 5 and Table 7) is based on 299 contributing affiliations, of which 54 institutions meet the minimum threshold of two publications, and the top 20 affiliations were selected according to their highest TLS. The VOSviewer-generated network, constructed using an attraction value of 4 and a repulsion value of -4, comprises 13 clusters, 11 links, and a total TLS of 18, indicating a relatively sparse yet thematically structured collaboration landscape.

Cluster 1: cluster of University of Hong Kong, UNSW Sydney, Heinrich-Heine-Universität Düsseldorf and University of Luxembourg This largest network can be interpreted as intense inter-institutional collaboration between world-class research institutions. Clusters 2-5 with two affiliations each, whereas Clusters 6-13 with single entities, reflecting the majority and minority of contributors' connectedness across the overlay research community network. In relations to collaborative impact, University of Hong Kong appears as the most central organisation with 8 co-authorship links closely followed by UNSW Sydney with 7 links, whereas Heinrich-Heine-Universität Düsseldorf and University of Luxembourg provide 6 linkages each, asserting that these two universities continue their strong international involvement in this research field. Together, these institutions work as crucial structural nodes that closely connect otherwise isolated points of affiliation, with a major emphasis in the Asia-Europe and Europe-Oceania research corridors. As seen in the publication and citation travail indicator distributions, from TP=2 to 4 and TC=366-2,354 with CPP values from 120.67 to 1,177 show comparable diversity in institutional impact and collaboration visibility quantification across the top twenty affiliations shown. Overall, the network illustrates a small set of globally powerful universities that dominate the high impact academic dialogue on financial literacy, fintech innovation and digital banking systems.

Source productivity and impact of the top 22 journals in highly cited research

According to the source-wise analysis (Table 8), 107 journals contribute with publications to the literature; however, only twenty-two of these that have two or more papers are considered as core top-end venues. These leading 22 sources present a huge difference in knowledge impact, with TP ranging from 2 to 10, TC between 206 and 2,457 citations; CPP from range of 103.00 to range of 743.50 which indicated that a large degree of contrast exists among journals in respect of visibility and citation frequency. International Journal of Bank Marketing and Finance Research Letters are the two most prolific outlets with 10 articles and 7 articles, respectively; accumulating more than 1,800 cites

Table 3: Citation-slab distribution, citation influence, authorship characteristics, funding participation, and collaboration patterns in highly cited research.

Citation Slab	TP	TC	CPP	TA	FP	%FP	ICP	%ICP	RCI
100-200	103	13740	133.40	303	46	44.66	35	33.98	0.59
201-400	42	11655	277.50	132	15	35.71	20	47.62	1.22
401-700	11	5435	494.09	34	7	63.64	6	54.55	2.18
701-1477	5	5697	1139.40	10	2	40.00	1	20.00	5.02
Total	161	36527	226.88	479	70	43.48	62	38.51	1.00

Table 4: Bibliometric indicators and collaboration metrics for the top 35 countries contributing to highly cited research.

Country	TP	TC	CPP	FP	ICP	%ICP	RCI	TLS	Links	Cluster
China	37	7300	197.30	24	16	43.24	0.87	25	12	3
United States	31	8075	260.48	11	23	74.19	1.15	34	17	4
United Kingdom	29	7453	257.00	15	14	48.28	1.13	27	17	3
Australia	15	3327	221.80	6	12	80.00	0.98	23	13	2
India	12	1610	134.17	3	7	58.33	0.59	17	10	7
Malaysia	11	1651	150.09	6	7	63.64	0.66	14	10	1
Germany	11	4443	403.91	8	6	54.55	1.78	13	9	2
France	9	2449	272.11	3	6	66.67	1.20	5	5	3
Hong Kong	8	1824	228.00	4	6	75.00	1.00	12	7	3
Spain	8	1585	198.13	2	4	50.00	0.87	4	2	6
Switzerland	7	2162	308.86	2	2	28.57	1.36	3	3	5
Taiwan	7	2902	414.57	4	2	28.57	1.83	2	2	3
Canada	6	858	143.00	3	4	66.67	0.63	7	5	4
Pakistan	5	867	173.40	1	5	100.00	0.76	9	6	1
Chile	4	677	169.25	0	4	100.00	0.75	7	5	6
Finland	4	923	230.75	2	3	75.00	1.02	5	5	5
Lebanon	4	651	162.75	1	4	100.00	0.72	11	9	1
Singapore	4	1789	447.25	2	3	75.00	1.97	5	5	4
Sweden	4	1706	426.50	1	4	100.00	1.88	5	4	5
Italy	3	441	147.00	1	2	66.67	0.65	6	5	6
Netherlands	3	505	168.33	2	3	100.00	0.74	4	3	2
South Africa	3	649	216.33	0	0	0.00	0.95	0	0	10
Bahrain	2	265	132.50	0	2	100.00	0.58	4	4	7
Bangladesh	2	358	179.00	1	2	100.00	0.79	5	4	1
Denmark	2	400	200.00	1	2	100.00	0.88	4	4	2
Estonia	2	348	174.00	0	2	100.00	0.77	2	1	5
Hungary	2	272	136.00	1	2	100.00	0.60	6	6	1
Indonesia	2	292	146.00	1	1	50.00	0.64	2	2	1
Jordan	2	287	143.50	1	1	50.00	0.63	2	2	1
Latvia	2	267	133.50	0	0	0.00	0.59	0	0	8
Luxembourg	2	804	402.00	2	2	100.00	1.77	7	4	2
New Zealand	2	634	317.00	0	2	100.00	1.40	2	2	4
Nigeria	2	393	196.50	1	0	0.00	0.87	0	0	9
Oman	2	231	115.50	0	2	100.00	0.51	5	7	7
Viet Nam	2	300	150.00	0	2	100.00	0.66	5	3	3

each. Journals such as Electronic Commerce Research and Applications (CPP=491.40), International Journal of Information Management (CPP=414.00), and Journal of Management Information Systems (CPP=743.50) have a high-impact factor, highlighting its importance for the development of knowledge in the area under study considering financial literacy, fintech innovation and digital banking.

The graphs also highlight wide-scope variations in ICP, which varies from 0% to 100%. Z Journal of Management Information Systems (100%); Journal of Retailing and Consumer Services (50%) were identified with full international collaboration and no publication outlets e.g., Electronic Commerce Research and Applications, Research Policy, China Agricultural Economic Review, Financial Innovation, and Tec novation displayed nil

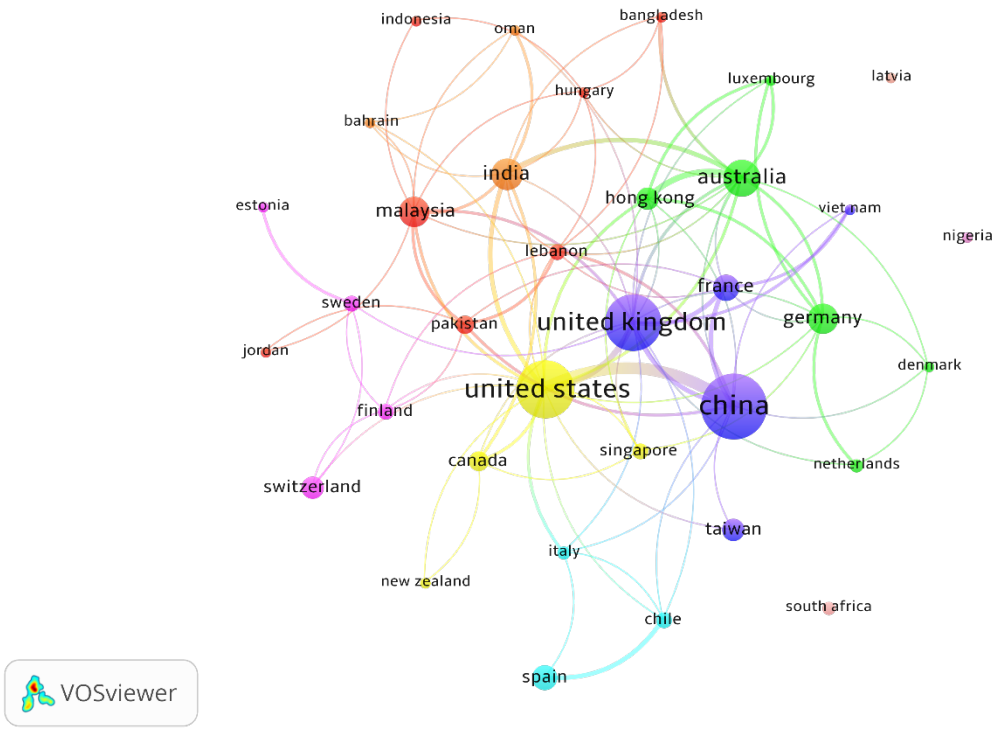

Figure 2: International co-authorship network of the top 35 countries in highly cited research.

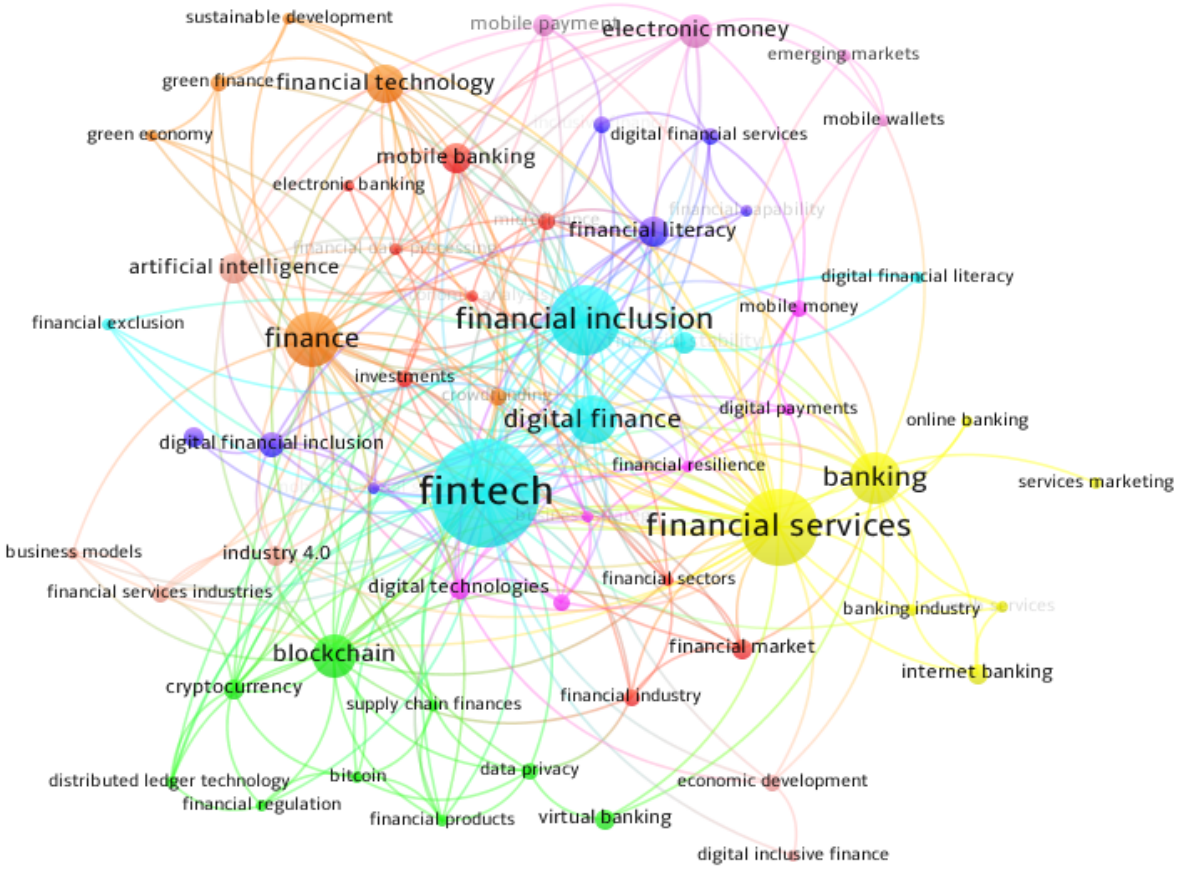

Figure 3A: Keyword co-occurrence network of the top 60 high-frequency terms in highly cited research.

Table 5: Distribution of occurrences, link strengths, and cluster assignments for the top 60 author keywords in highly cited research.

Keyword	Occ.	TLS	Links	Cluster	Keyword	Occ.	TLS	Links	Cluster
mobile banking	8	12	8	Cluster 1 with 9 keywords	digital technologies	4	18	13	Cluster 5 with 6 keywords
financial market	4	13	8		mobile money	3	12	8	
microfinance	3	12	10		digital transformation	3	8	7	
investments	3	9	9		financial resilience	2	10	10	
financial industry	3	10	7		business strategy	2	7	7	
financial sectors	2	10	9		digital payments	2	7	6	
economic analysis	2	8	8		fintech	67	140	44	Cluster 6 with 6 keywords
financial data processing	2	6	6		financial inclusion	33	81	31	
electronic banking	2	4	4		digital finance	18	40	22	
blockchain	15	50	33	Cluster 2 with 9 keywords	financial stability	5	12	4	
cryptocurrency	4	18	13		financial exclusion	2	5	4	
virtual banking	4	3	3		digital financial literacy	2	3	3	
data privacy	3	9	8		finance	22	68	32	Cluster 7 with 6 keywords
financial products	2	9	8		financial technology	12	27	15	
bitcoin	2	8	7		crowdfunding	3	10	8	
supply chain finances	2	8	7		green finance	3	8	6	
distributed ledger technology	2	7	6		sustainable development	2	5	5	
financial regulation	2	6	5		green economy	2	6	4	
financial literacy	8	18	13	Cluster 3 with 7 keywords	artificial intelligence	8	23	13	Cluster 8 with 4 keywords
digital financial inclusion	6	11	9		industry 4.0	4	15	11	
financing constraints	4	3	2		financial services industries	3	9	7	
digital financial services	3	9	7		business models	2	5	5	
inclusive finance	3	8	6		electronic money	10	30	14	Cluster 9 with 4 keywords
mobile financial services	2	6	6		mobile payment	5	14	8	
financial capability	2	4	3		emerging markets	2	4	4	
financial services	38	95	43	Cluster 4 with 7 keywords	mobile wallets	2	4	4	
banking	20	40	19		economic development	3	8	6	Cluster 10 with 2 keywords
internet banking	4	5	4		digital inclusive finance	2	2	2	
banking industry	2	7	5						
web services	2	5	4						
online banking	2	2	2						
services marketing	2	2	1						

international collaboration. The extracted networking data demonstrates the difference in authors' collaboration dependence on outlets. RCI values are in the range of 0.45-3.28, with Journal of Management Information Systems as the best performer (RCI=3.28). Particularly, all the journals except Journal of Consumer Affairs (Q2), Behaviour and Information Technology (Q2) and Foresight (Q4) are placed in Q1 indicating that the top-tier journals play an important role in spreading the researches that generated high citations within this field of study. Overall, these results suggest that knowledge acquisition is centred around a close core of elites, high-impact journals that are responsible for driving the epistemic emergence in the context of financial literacy and fintech adoption in digital banking.

Lifecycle Trajectories for the Top 10 Research with Highest Citations

The analysis of the citation-lifecycle for the top 10 highly cited research (Figure 6) also demonstrates that strong disparities exist

between historically-rooted and timely contributions on temporal aspects of citation accumulation, influence longevity, and growth momentum. The first reference, Lee (2009), has a consistently upward trajectory of citation momentum from 3 in the year following publication to a high point of 153 citations in 2024 and then tapered slightly downward to 140 citations in the following year, suggesting prolonged significance and ongoing circle-citation activity. Publications from 2011 to 2017, and in particular Lin (2011), Gomber *et al.* (2017) and Gabor and Brooks (2017) exhibiting moderate initial growth and then an increasing number of citations from 2017 onward, Lin (2011), who speaks with 83 citations in 2021, Gomber *et al.* (2017) with 175 citations in 2023, and Gabor and Brooks (2017) peaking at 104 citations in 2024 - on the back of new interest generated by modern fintech developments.



Figure 3B: Word cloud visualisation of the top 50 author keywords.

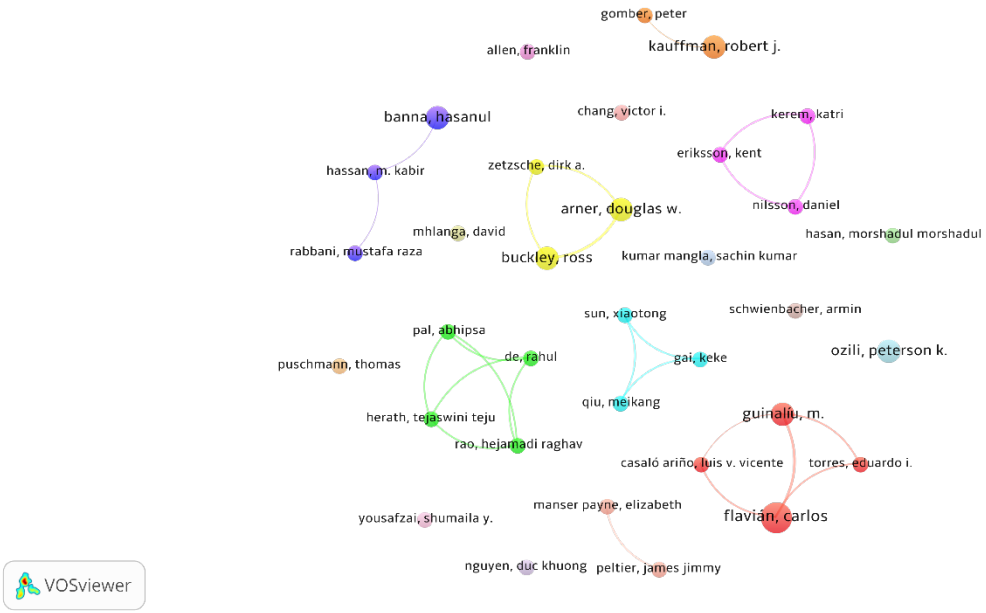

Figure 4: Co-authorship network of the top 34 authors with at least two publications in highly cited research.

Table 6: Productivity, citation impact, and co-authorship metrics of the top 34 authors with at least two publications in highly cited research.

Author (Scopus ID)	Affiliation (Country)	TP	TC	CPP	FP	ICP	%ICP	RCI	h-Index	g-Index	m-Index	PY-Start	TLS	Links	Cluster
Flavián, Carlos (6505957239)	Universidad de Zaragoza, Spain	4	970	242.50	1	2	50.00	1.07	4	4	0.19	2005	7	3	1
Kauffman, Robert J. (35083571300)	Singapore Management University, Singapore	3	1826	608.67	2	1	33.33	2.68	3	3	0.17	2008	1	1	7
Ozili, Peterson K. (56539968900)	Central Bank of Nigeria, Nigeria	3	1556	518.67	1	0	0.00	2.29	3	3	0.38	2018	0	0	15
Arner, Douglas W. (15046436800)	University of Hong Kong, Hong Kong	3	1139	379.67	3	3	100.00	1.67	3	3	0.33	2017	5	2	4
Buckley, Ross (55185207500)	UNSW Sydney, Australia	3	1139	379.67	3	3	100.00	1.67	3	3	0.33	2017	5	2	4
Guinalíu, M. (10044674100)	Universidad de Zaragoza, Spain	3	663	221.00	0	2	66.67	0.97	3	3	0.14	2005	6	3	1
Banna, Hasanul (47161011500)	Universiti Malaya, Malaysia	3	366	122.00	3	2	66.67	0.54	3	3	0.60	2021	1	1	3
Gomber, Peter (6603092979)	Goethe-Universität Frankfurt am Main, Germany	2	2354	1177.00	2	1	50.00	5.19	2	2	0.22	2017	1	1	7
Zetzsche, Dirk A. (35622920200)	University of Luxembourg, Luxembourg	2	804	402.00	2	2	100.00	1.77	2	2	0.33	2020	4	2	4
Chang, Victor I. (56926234700)	Teesside University, UK	2	645	322.50	2	1	50.00	1.42	2	2	0.33	2020	0	0	10
Casaló Ariño, Luis V. Vicente (15847695300)	Universidad de Zaragoza, Spain	2	613	306.50	1	0	0.00	1.35	2	2	0.11	2007	3	2	1
Puschmann, Thomas (6506557303)	Universität Zürich, Switzerland	2	572	286.00	1	0	0.00	1.26	2	2	0.22	2017	0	0	16
Schwienbacher, Armin (11839780000)	Université Côte d'Azur, France	2	562	281.00	1	1	50.00	1.24	2	2	0.40	2021	0	0	17
Mhlanga, David (57218104204)	University of Johannesburg, South Africa	2	498	249.00	0	0	0.00	1.10	2	2	0.33	2020	0	0	13
Gai, Keke (36655735200)	Pace University, USA	2	492	246.00	0	2	100.00	1.08	2	2	0.22	2017	4	2	6
Qiu, Meikang (57216130886)	Pace University, USA	2	492	246.00	0	2	100.00	1.08	2	2	0.22	2017	4	2	6
Sun, Xiaotong (57193082206)	Pace University, USA	2	492	246.00	0	2	100.00	1.08	2	2	0.22	2017	4	2	6
Yousafzai, Shumaila Y. (6507174310)	Cardiff Business School, UK	2	470	235.00	0	0	0.00	1.04	2	2	0.09	2003	0	0	18
Allen, Franklin (7102515412)	Imperial College London, UK	2	434	217.00	0	2	100.00	0.96	2	2	0.17	2014	0	0	9
Torres, Eduardo I. (8979394100)	Universidad de Chile, Chile	2	357	178.50	0	2	100.00	0.79	2	2	0.10	2005	4	2	1
Eriksson, Kent (7202997668)	Royal Institute of Technology, Sweden	2	348	174.00	0	2	100.00	0.77	2	2	0.10	2005	4	2	5
Kerem, Katri (8416285800)	Estonian Business School, Estonia	2	348	174.00	0	2	100.00	0.77	2	2	0.10	2005	4	2	5
Nilsson, Daniel (35477848000)	Swedish Institute of Management, Sweden	2	348	174.00	0	2	100.00	0.77	2	2	0.10	2005	4	2	5
Hasan, Morshadul M. (57210554019)	Nanjing Audit University, China	2	345	172.50	0	0	0.00	0.76	2	2	0.40	2021	0	0	11

Author (Scopus ID)	Affiliation (Country)	TP	TC	CPP	FP	ICP	%ICP	RCI	h-Index	g-Index	m-Index	PY-Start	TLS	Links	Cluster
Kumar Mangla, Sachin K. (55735821600)	O.P. Jindal Global University, India	2	328	164.00	0	2	100.00	0.72	2	2	0.25	2018	0	0	12
Nguyen, Duc K. (25633212500)	IPAG Business School, France	2	300	150.00	1	2	100.00	0.66	2	2	0.50	2022	0	0	14
Manser Payne, Elizabeth (57194785577)	University of South Dakota, USA	2	298	149.00	0	0	0.00	0.66	2	2	0.25	2018	2	1	8
Peltier, James J. (7006667934)	University of Wisconsin-Whitewater, USA	2	298	149.00	0	0	0.00	0.66	2	2	0.25	2018	2	1	8
Hassan, M. Kabir (58076530500)	University of New Orleans, USA	2	297	148.50	1	2	100.00	0.65	2	2	0.33	2021	2	2	3
Rabbani, Mustafa R. (57216123332)	University of Bahrain, Bahrain	2	265	132.50	0	2	100.00	0.58	2	2	0.33	2020	1	1	3
De, Rahul (14011831800)	Indian Institute of Management Bangalore, India	2	237	118.50	2	2	100.00	0.52	2	2	0.33	2020	6	3	2
Herath, Tejaswini T. (26422136600)	Goodman School of Business, Canada	2	237	118.50	2	2	100.00	0.52	2	2	0.33	2020	6	3	2
Pal, Abhipsa (57193541504)	Indian Institute of Management Kozhikode, India	2	237	118.50	2	2	100.00	0.52	2	2	0.33	2020	6	3	2
Rao, Hejamadi R. (7102999899)	University of Texas, USA	2	237	118.50	2	2	100.00	0.52	2	2	0.33	2020	6	3	2

From 2019 upwards, the map records new publications with the most significant increased growth trends. Gomber *et al.* (2018) demonstrate exponential growth of citation from 8 in 2018 to 345 in 2025, thus establishing itself as one of the fastest-growing and impactful works in the field. Likewise, Ozili (2018) continues to evolve gaining momentum from 2 citations in 2018 and attaining a climax of 305 citations in 2024 before saturating at 294 in 2025 as being highly visible in the field of digital finance and regulatory deliberations. The 2020 studies, Li *et al.* (2020), Chen and Bellavitis (2020); Chang *et al.* (2020) all find fast adoption despite their recency; which is also the case here. (2020) went from 2 citations in 2020 to 195 citations in 2023, Chen and Bellavitis (2020) peaked at 129 citations in 2025, and Chang *et al.* (2020) could be observed that was showing a constant up trend each year of the study period with maximum average citations of 120 in 2024. Mid-decade contributors also show rapid adoption Fuster *et al.* (2019) grew from 5 citations in 2019 to 182 in the year of reference 2025, representing a high growth trajectory related to digital lending and changing fintech market. Taken together, these patterns inform two broad life cycles: (1) that of foundational works which have long-horizon and receive steady citations over time (e.g., Lee, 2009; Lin, 2011), versus (2) those fast-growing short-horizon works from the period between 2017 and present date which benefited from the explosively growing fintech research ecosystems, the global digitalization movements, as well as swift post-pandemic adoption of financial technology.

DISCUSSION

This bibliometric investigation provides an overarching picture of the intellectual evolution pertaining to highly cited research in financial literacy, FinTech adoption and digital banking. Early studies on financial behaviour have matured into intricate analyses of technology-driven ecosystems. Annual features show the stagnation of output until 2015 and surge from 2016 to 2020, which is consistent with the emergence of mobile payments, internet banking and platform-based financial services in China. The sample of 161 highly cited papers, which received 36,527 citations between them (CPP=226.88; RCI=1.00), is a focused yet influential corpus that has influenced theory and policymaking in digital finance.

Journal articles are the major source in the corpus (88.2% of publications; CPP=232.87), and reviews (CPP=232.30) represent also a significant output, together representing more than 94% of total publication and more than 96% of citations generated on these topics. Citation-slab analysis uncovers a severely skewed distribution of impact: 16 articles in the citation range (401-1,477) account for 39.4% of all citations and achieve CPPs as high as RCI=5.02 (CPP value=1,139.40). Such high-impact "anchor" works, usually dealing with digital finance systems, regulatory

Table 7: Productivity, impact and co-authorship of the top 20 institutions contributing to highly-cited research.

Organisation	TP	TC	CPP	FP	ICP	%ICP	RCI	TLS	Links	Cluster
University of Hong Kong	4	1270	317.50	4	3	75.00	1.40	8	4	1
Universidad de Zaragoza	4	970	242.50	1	2	50.00	1.07	0	0	10
Universität Zürich	4	909	227.25	2	0	0.00	1.00	0	0	12
Peking University Beijing	4	542	135.50	3	0	0.00	0.60	0	0	9
UNSW Sydney	3	1139	379.67	3	3	100.00	1.67	7	3	1
University of Texas San Antonio	3	599	199.67	2	2	66.67	0.88	1	1	2
Lebanese American University	3	477	159.00	0	3	100.00	0.70	0	0	8
Universiti Malaya	3	366	122.00	3	2	66.67	0.54	0	0	11
Wuhan University	3	362	120.67	2	0	0.00	0.53	1	1	5
Goethe-Universität Frankfurt Am Main	2	2354	1177.00	2	1	50.00	5.19	1	1	3
Singapore Management University	2	1464	732.00	2	1	50.00	3.23	1	1	3
Heinrich-Heine-Universität Düsseldorf	2	804	402.00	2	2	100.00	1.77	6	3	1
University of Luxembourg	2	804	402.00	2	2	100.00	1.77	6	3	1
Southwestern University of Finance and Economics	2	769	384.50	2	1	50.00	1.69	1	1	5
Handelshögskolan I Stockholm	2	708	354.00	1	2	100.00	1.56	0	0	7
Xi'an Jiaotong-Liverpool University Suzhou	2	646	323.00	2	2	100.00	1.42	0	0	13
Capital University of Economics and Business, Beijing	2	587	293.50	2	1	50.00	1.29	0	0	6
Shenzhen University	2	517	258.50	1	1	50.00	1.14	2	2	4
Arizona State University	2	507	253.50	1	1	50.00	1.12	1	1	2
Pace University	2	492	246.00	0	2	100.00	1.08	1	1	4

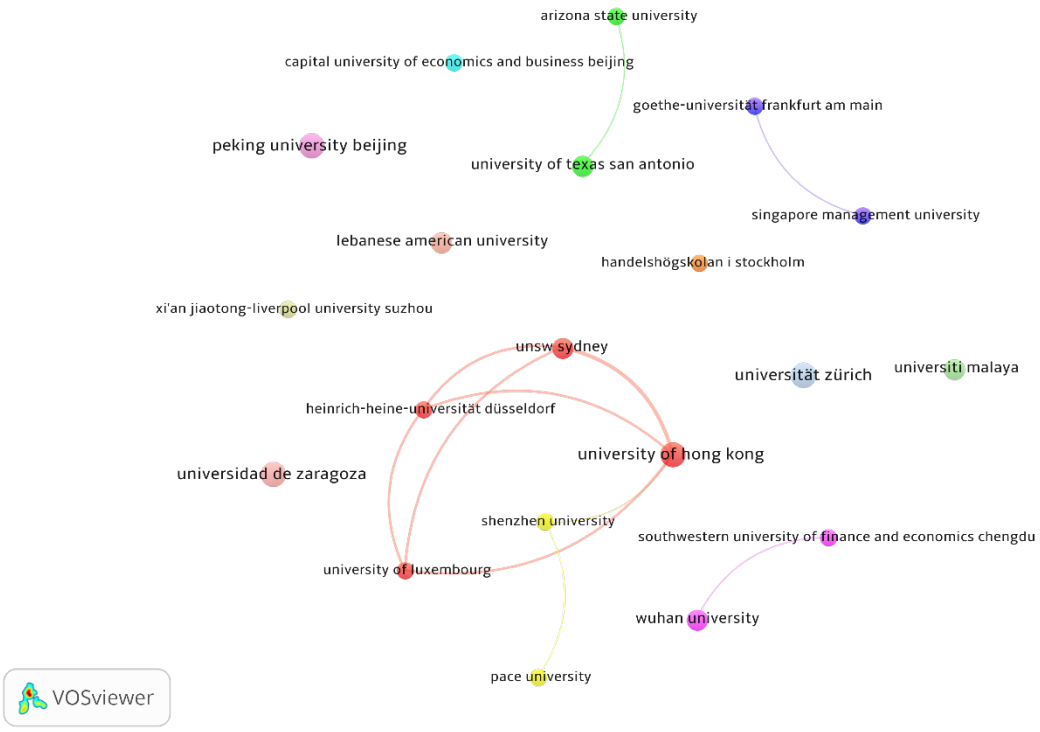

Figure 5: Selected co-authorship network of the 20 organisations with the largest total link strength.

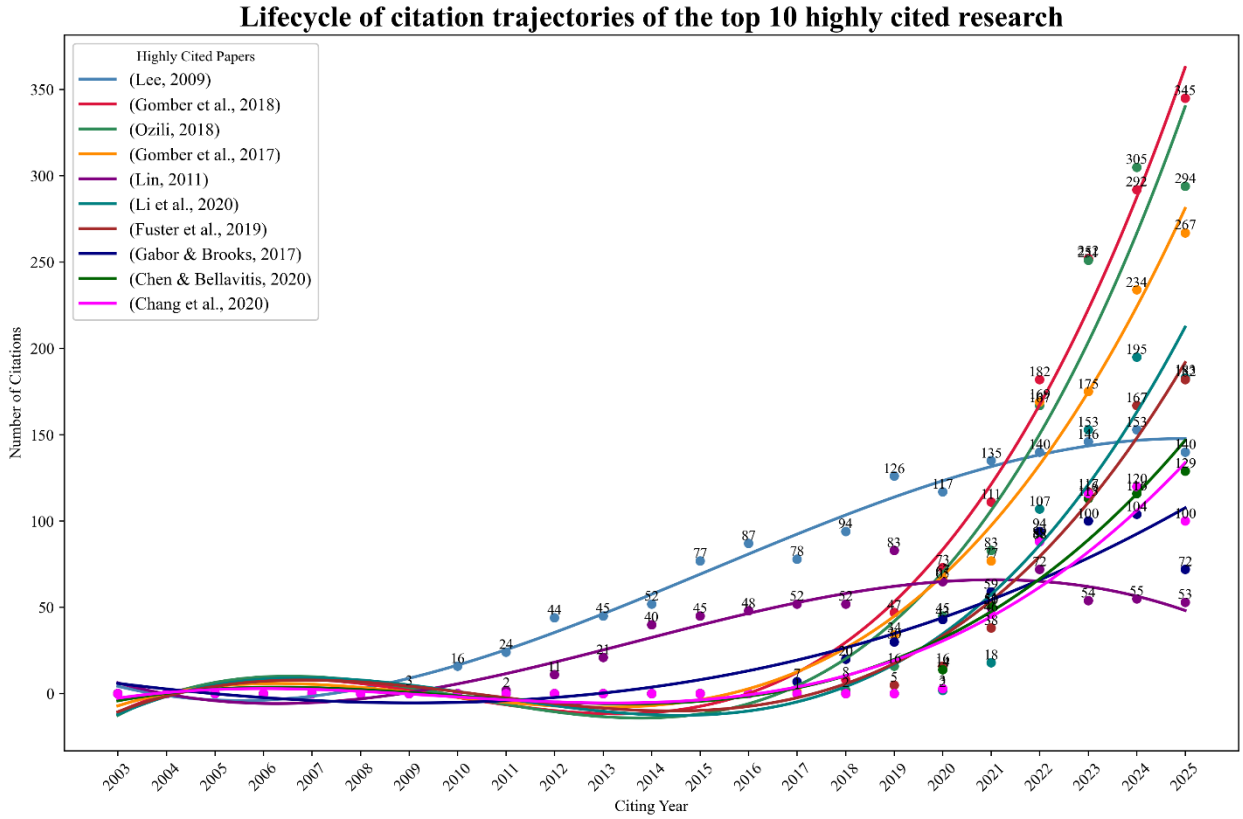

Figure 6: Trend Level for Research Citations Life Cycle for the TOP 10 Highly Cited Articles.

architectures or technology adoption, are the intellectual backbone of the field. Intermediate blocks (201-700 citations) reveal that levels of international collaboration and funding intensity boost citation impact until a certain threshold, after which novelty and relevance take over.

Geographically, the location of research activities is dispersed across the world but not evenly distributed. China is at the top of tables in terms of volume (TP=37; CPP=197.30) and the United States (TP=31; CPP=260.48) and United Kingdom (TP=29; CPP=257.00) are shown to deliver both high productivity and stronger citation performance. In similarly large but high-efficiency systems Singapore (CPP=447.25; RCI=1.97), Sweden (CPP=426.50; RCI=1.88) and even Germany, where the link between size of a program and impact is evident CPP=403.91 or Taiwan CPP=414.57, show the degree to which more focused programs can realise an amplified effect when we are selecting specific groups within the population for intervention(s). Progress towards full international collaboration while not producing much is visible from developing nations, (those who already achieved HI [e.g.: Pakistan, Chile, Lebanon, Bahrain and Bangladesh] but with very low output as well), pointing out that their dependence is on external collaborations rather than strengthening of in-country research systems. The analysis on the institutional-level provides support for such asymmetry: the University of Hong Kong, UNSW Sydney, Heinrich-Heine-Universität Düsseldorf and the University of Luxembourg as central cooperation hubs (CPP up to 1,177.00; %ICP=100) and many other isolated nodes.

At the author level, 34 authors exceeded the ≥2-publication cut-off and formed 18 discontinuous clusters (TLS=46). Indeed, a minority of the origins-including Flavián Carlos (TP=4), Kauffman Robert J., Ozili Peterson K., Arner Douglas W., Buckley Ross, Guinalíu M. and Banna Hasanul (each TP=3)-constitute a critical mass for impact in the field relating to fintech adoption, digital credit and inclusion. Sparse inter-cluster connection implies little cross-pollination between disciplines such as consumer behaviour, AI-based finance and regulatory engineering. The keyword co-occurrence analysis reveals ten closely related clusters around certain keywords such as the "fintech", "financial inclusion", "financial services", "digital finance,", financial literacy, blockchain and AI. Emerging issues such as cryptocurrency, privacy of data, green finance and industry 4.0 represent an expanding interest beyond uptake per se onto systemic resilience, sustainability and ethics around digital ecosystems.

Methodologically, the relatively high share of QI articles using more advanced techniques such as network analysis, big data modelling and textual mining indicates methodological maturity. Yet, scholars are largely focused in upper-middle to high income nations and little is known about low-income or financially excluded populations. Lifecycle studies of the most cited works show focus over short/medium term adoptions dynamics

Table 8: Publication output, quality and international collaboration of highly cited publications in the top 22 leading accounting journals.

Sources	Publisher	TP	TC	CPP	FP	ICP	%ICP	RCI	CiteScore	APC	Quartile
International Journal of Bank Marketing	Emerald	10	1839	183.90	0	5	50.00	0.81	12.5	USD 4105	Q1
Finance Research Letters	Elsevier	7	1184	169.14	5	2	28.57	0.75	10.7	USD 3540	Q1
Electronic Commerce Research and Applications	Elsevier	5	2457	491.40	2	0	0.00	2.17	10.9	USD 3440	Q1
Technological Forecasting and Social Change	Elsevier	5	1295	259.00	2	3	60.00	1.14	26.3	USD 3840	Q1
Technology in Society	Elsevier	5	1073	214.60	4	3	60.00	0.95	21.9	USD 4030	Q1
European Journal of Finance	Taylor and Francis	4	887	221.75	3	1	25.00	0.98	6.0	USD 3300	Q1
Financial Innovation	Springer	4	607	151.75	2	0	0.00	0.67	12.9	USD 1690	Q1
Sustainability (Switzerland)	MDPI	4	537	134.25	3	2	50.00	0.59	7.7	CHF 2400	Q1
International Journal of Information Management	Elsevier	3	1242	414.00	1	1	33.33	1.82	54.9	USD 3990	Q1
Journal of Open Innovation: Technology, Market, and Complexity	Elsevier	3	446	148.67	1	2	66.67	0.66	14.0	USD 1250	Q1
Journal of Management Information Systems	Taylor and Francis	2	1487	743.50	2	2	100.00	3.28	11.3	USD 4000	Q1
Technovation	Elsevier	2	653	326.50	0	0	0.00	1.44	19.5	USD 4120	Q1
Journal of Consumer Affairs	Wiley	2	352	176.00	1	1	50.00	0.78	5.9	USD 125	Q2
Journal of Retailing and Consumer Services	Elsevier	2	337	168.50	0	2	100.00	0.74	22.7	USD 4630	Q1
Journal of Research in Interactive Marketing	Emerald	2	298	149.00	0	0	0.00	0.66	21.6	USD 4105	Q1
Energy Economics	Elsevier	2	278	139.00	1	1	50.00	0.61	21.7	USD 4400	Q1
Behaviour and Information Technology	Taylor and Francis	2	265	132.50	2	0	0.00	0.58	8.6	USD 3650	Q2
Journal of Behavioral and Experimental Finance	Elsevier	2	256	128.00	1	0	0.00	0.56	8.6	USD 4080	Q1
Research Policy	Elsevier	2	250	125.00	2	2	100.00	0.55	15.0	USD 4430	Q1
Foresight	Emerald	2	249	124.50	1	1	50.00	0.55	6.3	USD 4105	Q4
China Economic Review	Elsevier	2	211	105.50	2	0	0.00	0.47	8.2	USD 4160	Q1
China Agricultural Economic Review	Emerald	2	206	103.00	2	1	50.00	0.45	8.5	USD 4105	Q1

and not long-term welfare change and capability development. Furthermore, coverage of algorithmic fairness emerges in less than 10% of AI related articles (albeit more common in blockchain) suggesting a disconnect between creativity- and risk-based scholarship.

CONCLUSION

We uncover a tight/variegated social structure around information spaces that is dominated by key journals and a small number of highly influential authors/institutions. Research output and citations% have increased since the mid-2010s, with collaboration and funding positively correlating up to the middle

and top 20%. A large number of "North-South" co-authorships tend to take place; however, striking asymmetries remain: (i) authorship is highly concentrated among individuals from the advanced economies and globally connected universities, and (ii) states from the developing world mostly contribute through their authors' international collaborations. The intellectual core of the field - focused on fintech, inclusion and digital financial services is increasingly integrated with themes related to AI, blockchain and sustainability, suggesting a transition from basic digital literacy toward broader capabilities for engaging in the digital financial environment.

For policy makers, the results suggest that fintech growth should be matched by targeted digital literacy initiatives in general, and in developing economies in particular, to enable balanced partnerships between mature and developing research centres. For researchers, the findings offer an organised map of leading authors, journals and themes to frame future investigations. Future research needs to focus on cross-national, longitudinal and interdisciplinary designs focusing on research topics such as trust in the digital environment, behavioural adaptation and ethical governance. In doing so, by charting the contours, strengths and blind spots of the field, this analysis provides an empirical anchor for the next chapter of developing inclusive, ethical and resilient digital financial ecosystems.

ABBREVIATIONS

TP: Total Publications; **TC:** Total Citations; **CPP:** Citations Per Paper; **RCI:** Relative Citation Index; **AAPP:** Average Authors Per Paper; **PPA:** Productivity Per Author; **CAGR:** Compound Annual Growth Rate; **RGR:** Relative Growth Rate; **ICP:** International Collaborative Papers; **%ICP:** Percentage of International Collaborative Papers; **FP:** First-Position Authorship; **TA:** Total Authors; **TLS:** Total Link Strength; **AI:** Artificial Intelligence; **UPI:** Unified Payments Interface; **TAM:** Technology Acceptance Model; **ESG:** Environmental, Social, and Governance; **APC:** Article Processing Charge; **HC:** Highly Cited.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

REFERENCES

Abouraia, M. K., & Al Morsey, R. M. (2020). Analyzing the Impact of FinTech Adoption on Financial Inclusion and Economic Development: A Data-Driven Approach. Turkish Journal of Computer and Mathematics Education (TURCOMAT), 11(1), 973–984. https://doi.org/10.61841/turcomat.v11i1.14257

AlSuwaidi, R. A., & Mertzanis, C. (2024). Financial literacy and FinTech market growth around the world. International Review of Financial Analysis, 95, 103481. https://doi.org/10.1016/j.irfa.2024.103481

Anupama, S., & Sengupta, A. (2025). FinTech and older adults: A global synthesis of enablers, barriers, and research trends for inclusive digital finance. Humanities and Social Sciences Communications, 12(1), 1792. https://doi.org/10.1057/s41599-025-06077-z

Babu, M. S., & Kishore, O. (2025). Digital and financial literacy in India: Tools for inclusive growth. International Journal of Financial Management and Economics, 8(2), 266–272. https://doi.org/10.33545/26179210.2025.v8.i2.594

Chang, S. C., Wang, C. C., & Kuo, C. Y. (2020). Social Media Influencer Research: An Bibliometric Analysis. International Journal of Electronic Commerce Studies, 11(2). https://doi.org/10.7903/ijecs.1975

Chen, Y., & Bellavitis, C. (2020). Blockchain disruption and decentralized finance: The rise of decentralized business models. Journal of Business Venturing Insights, 13, e00151. https://doi.org/10.1016/j.jbvi.2019.e00151

Choudhary, P., & Thenmozhi, M. (2024). Fintech and financial sector: ADO analysis and future research agenda. International Review of Financial Analysis, 93, 103201. https://doi.org/10.1016/j.irfa.2024.103201

Del Sarto, N., & Ozili, P. K. (2025). FinTech and financial inclusion in emerging markets: A bibliometric analysis and future research agenda. International Journal of Emerging Markets, 20(13), 270–290. https://doi.org/10.1108/IJOEM-08-2024-1428

Desy Wulan Ayuning Gumilar, Khresna Bayu Sangka, & Salman Alfarisy Totalia. (2024). Digital Financial Literacy and Digital Financial Inclusion in the Era of Digital Disruption: Systematic Literature Review. Formosa Journal of Multidisciplinary Research, 3(5), 1563–1576. https://doi.org/10.55927/fjmr.v3i5.9213

Dwivedi, G. K., Tiwari, R., Dhyani, B., Prakash, C., Singh, P., Chauhan, A. S., Verma, V., Pandey, D. C., & Pandey, A. (2025). FinTech for Financial Inclusion: A Bibliometric Exploration. In R. S. Gwala (Ed.), Advances in Computational Intelligence and Robotics (pp. 461–480). IGI Global. https://doi.org/10.4018/979-8-3693-8664-4.ch019

Fatima, S., Kapoor, V., & Ansari, A. (2024). Relation between Fintech Trends and Digital Finance: A Bibliometric Analysis. In S. Hasan Jafar, H. K, S. Akhtar, P. Alam Khan, & H. El-Chaarani, The Adoption of Fintech (1st ed., pp. 277–293). Productivity Press. https://doi.org/10.4324/9781032644165-18

Fuster, A., Plosser, M., Schnabl, P., & Vickery, J. (2019). The Role of Technology in Mortgage Lending. The Review of Financial Studies, 32(5), 1854–1899. https://doi.org/10.1093/rfs/hhz018

Gabor, D., & Brooks, S. (2017). The digital revolution in financial inclusion: International development in the fintech era. New Political Economy, 22(4), 423–436. https://doi.org/10.1080/13563467.2017.1259298

Gomber, P., Koch, J. A., & Siering, M. (2017). Digital Finance and FinTech: Current research and future research directions. Journal of Business Economics, 87(5), 537–580. https://doi.org/10.1007/s11573-017-0852-x

Goodell, J. W., Kumar, S., Lim, W. M., & Pattnaik, D. (2021). Artificial intelligence and machine learning in finance: Identifying foundations, themes, and research clusters from bibliometric analysis. Journal of Behavioral and Experimental Finance, 32, 100577. https://doi.org/10.1016/j.jbef.2021.100577

Gulati, A., & Singh, S. (2024). The Changing Landscape of Financial Services in the Age of Digitalization: A Bibliometric Analysis. NMIMS Management Review, 32(1), 42–57. https://doi.org/10.1177/09711023241261139

Gulati, T., Singla, A., & Saini, P. (2026). Digital finance in the era of digital transformation: A bibliometric analysis and systematic literature review. Digital Transformation and Society, 5(2), 145–169. https://doi.org/10.1108/DTS-01-2025-0018

Gupta, B. M., Kappi, M., Bansal, J., Walke, R., & Mamdapur, G. M. N. (2023). Scientometric Analysis of Top 100 Highly Cited Papers on COVID-19 Research in Nepal: A Study. Indian Journal of Information, Library & Society, 36(1–2), 43–56.

Janjanam, V. V. P., & Subbalakshmi, A.V.V.S. (2025). The confluence of financial literacy and fintech: A bibliometric and systematic study. Edelweiss Applied Science and Technology, 9(5), 1593–1609. https://doi.org/10.55214/25768484.v9i5.7236

Kakinuma, Y. (2023). Fintech as a Gateway to Enhancing Financial Literacy. SSRN. https://doi.org/10.2139/ssrn.4367898

Kappi, M., Mamdapur, G. M. N., Mallikarjuna, B., Keshava, Ali, K. S., & Patel, A. K. (2025). Exploring the Impact of AI Tools as Assistants in Libraries: A Bibliometric Analysis. In Designing Next-Gen Libraries: Tools and Technological Impact on Library Systems and Services (p. 600 pages). De Gruyter Saur. https://www.degruyterbrill.com/document/isbn/9783111374017/html

Kulshrestha, S. (2023). The role of financial technology in enhancing financial literacy and inclusion among low-income households in India. International Journal of Research in Marketing Management and Sales, 5(1), 25–30. https://doi.org/10.33545/26633329.2023.v5.i1a.118

Kumar, S., Sharma, D., Rao, S., Lim, W. M., & Mangla, S. K. (2022). Past, present, and future of sustainable finance: Insights from big data analytics through machine learning of scholarly research. Annals of Operations Research. Scopus. https://doi.org/10.1007/s10479-021-04410-8

Lee, M. C. (2009). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. Electronic Commerce Research and Applications, 8(3), 130–141. https://doi.org/10.1016/j.elerap.2008.11.006

Li, J., Wu, Y., & Xiao, J. J. (2020). The impact of digital finance on household consumption: Evidence from China. Economic Modelling, 86, 317–326. https://doi.org/10.1016/j.econmod.2019.09.027

Lin, H. F. (2011). An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust. International Journal of Information Management, 31(3), 252–260. https://doi.org/10.1016/j.ijinfomgt.2010.07.006

Lyons, A. C., Kass-Hanna, J., & Fava, A. (2022). Fintech development and savings, borrowing, and remittances: A comparative study of emerging economies. Emerging Markets Review, 51, 100842. https://doi.org/10.1016/j.ememar.2021.100842

Mallikarjuna, B., Kappi, M., Mamdapur, G. M. N., Majumdar, P., Vaishya, R., & Gupta, B. M. (2025). Identifying and Visualizing Highly Influential and Cited Papers in 3D Bioprinting: A Bibliometric Analysis. Journal of Hospital Librarianship, 1–18. https://doi.org/10.1080/15323269.2025.2474408

Muthukrishnan, M., R., S. K., Mamdapur, G. M. N., & Ravishankar, K. R. (2024). A Focused Bibliometric Analysis of Blockchain Research in India (2014-2023): A Decade of Transformation. In K. Senthilkumar, R. Jagajeevan, & G. Krishnakumar (Eds.),

Advances in Library and Information Science (pp. 33–50). IGI Global. https://doi.org/10.4018/979-8-3693-7783-3.ch002
Ozili, P. K. (2018). Impact of digital finance on financial inclusion and stability. Borsa Istanbul Review, 18(4), 329–340. https://doi.org/10.1016/j.bir.2017.12.003
Pandey, D. K. (2025). FinTech literature reviews: A hybrid approach. Finance Research Letters, 79, 107249. https://doi.org/10.1016/j.frl.2025.107249
Pandey, D. K., Hassan, M. K., Kumari, V., Zaied, Y. B., & Rai, V. K. (2024). Mapping the landscape of FinTech in banking and finance: A bibliometric review. Research in International Business and Finance, 67, 102116. https://doi.org/10.1016/j.ribaf.2023.102116
Pattnaik, D. (2024). The Fintech Landscape: A Bibliometric Analysis. In H. K. Baker, G. Filbeck, & K. Black (Eds.), The Emerald Handbook of Fintech (pp. 17–42). Emerald Publishing Limited. https://doi.org/10.1108/978-1-83753-608-520241003
Sethi, M., Bohra, N. S., Johri, A., & Asif, M. (2025). Emerging dimensions in Fintech: Insights from bibliometric analysis. Digital Business, 5(1), 100113. https://doi.org/10.1016/j.digbus.2025.100113
Singhal, R., Sangeeta, Dolly, Sharma, S., Garg, M., & Bhateja, R. (2024). Banking Digitalisation: An Analysis of Literature Using Bibliometric Analysis. Academy of Marketing Studies Journal, 28(2), 1–15.
Suganya, S., & Nithya, G. (2025). Mapping the Landscape of Digital Financial Literacy: A Bibliometric Study (2000 2024). European Economic Letters, 15(3), 1347–1362. https://doi.org/10.52783/eel.v15i3.3525
Sumesh, S., Jayaraj, R., & Madhulal, P. R. (2024). Understanding FinTech Adoption: A Bibliometric and Systematic Review of the Literature. Educational Administration: Theory and Practice, 30(1), 6501–6515.
Trotta, A., Gallucci, C., Rania, F., Strano, E., & Tipaldi, R. (2026). The "black box" of digital finance: An umbrella review of the challenges and drawbacks in advancing financial inclusion. Research in International Business and Finance, 81, 103188. https://doi.org/10.1016/j.ribaf.2025.103188
Upadhyay, A., Yadav, V. K., Tyagi, V., & Agarwal, V. (2024). A Bibliometric Analysis on Fintech and Digital Finance Using Visualizing Network. 2024 1st International Conference on Sustainable Computing and Integrated Communication in Changing Landscape of AI (ICSCAI), 1–11. https://doi.org/10.1109/ICSCAI61790.2024.10866842
Vasishta, P., & Singla, A. (2024). Emerging trends in FinTech and financial inclusion: A review and bibliometric analysis. African Journal of Science, Technology, Innovation and Development, 16(5), 575–588. https://doi.org/10.1080/20421338.2024.2353428
Yadav, M., & Banerji, P. (2023). A bibliometric analysis of digital financial literacy. American Journal of Business, 38(3), 91–111. https://doi.org/10.1108/AJB-11-2022-0186
Yang, J., Wu, Y., & Huang, B. (2023). Digital finance and financial literacy: Evidence from Chinese households. Journal of Banking & Finance, 156, 107005. https://doi.org/10.1016/j.jbankfin.2023.107005
Yang, T., & Zhang, X. (2022). FinTech adoption and financial inclusion: Evidence from household consumption in China. Journal of Banking & Finance, 145, 106668. https://doi.org/10.1016/j.jbankfin.2022.106668
Zou, Z., Liu, X., Wang, M., & Yang, X. (2023). Insight into digital finance and fintech: A bibliometric and content analysis. Technology in Society, 73, 102221. https://doi.org/10.1016/j.techsoc.2023.102221

Cite this article: Mamdapur GMN, Kappi M, Mayilsamy M, Gupta BM, Ali KS, Fathima R, Kadannalil AK. Bibliometric Analysis of Highly Cited Research on Financial Literacy and Fintech Adoption in Digital Banking. Journal of Data Science, Informetrics, and Citation Studies. 2026;5(3):344-60.