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FINTECH RESEARCH TRENDS: A ANALYSIS OF FINANCIAL TECHNOLOGY

TREN RISET FINTECH: ANALISIS TEKNOLOGI KEUANGAN

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ABSTRACT

The rapid advancement of digital technologies has significantly transformed the global financial sector, giving rise to financial technology (fintech) as a major driver of financial innovation. Fintech integrates advanced technologies such as blockchain, artificial intelligence, and digital platforms to enhance financial services, improve efficiency, and expand financial inclusion. This study aims to analyze the development trends, intellectual structure, and thematic evolution of fintech research through a bibliometric analysis of scientific publications. The data for this study were retrieved from the Scopus database, focusing on fintech-related publications within the selected time period. Bibliometric techniques such as publication trend analysis, citation analysis, co-authorship analysis, keyword co-occurrence analysis, and conceptual structure mapping were employed using bibliometric tools, including Biblioshiny. The results reveal a rapidly expanding fintech research landscape characterized by a significant increase in publications and citations, indicating strong academic interest in the field. The findings also show that countries such as India, China, the United States, and the United Kingdom play dominant roles in fintech research productivity and citation impact. The thematic analysis identifies several key research clusters, including financial inclusion, blockchain technology, digital finance, and artificial intelligence, highlighting the interdisciplinary nature of fintech studies. In addition, network analysis of collaborations indicates an increase in international cooperation among researchers and institutions. The study contributes to the existing literature by providing a comprehensive overview of the global fintech research landscape and identifying emerging research directions. The findings offer valuable insights for academics, policymakers, and practitioners in understanding the evolution of fintech research and its implications for the development of digital financial ecosystems.
Keywords: *Fintech; Financial Technology; Bibliometric Analysis; Blockchain; Financial Inclusion.*

ABSTRAK

Kemajuan pesat teknologi digital telah secara signifikan mengubah sektor keuangan global, sehingga memunculkan teknologi keuangan (fintech) sebagai pendorong utama inovasi keuangan. Fintech mengintegrasikan teknologi canggih seperti blockchain, kecerdasan buatan, dan platform digital untuk meningkatkan layanan keuangan, meningkatkan efisiensi, dan memperluas inklusi keuangan. Studi ini bertujuan untuk menganalisis tren perkembangan, struktur intelektual, dan evolusi tematik penelitian fintech melalui analisis bibliometrik publikasi ilmiah. Data untuk studi ini diambil dari basis data Scopus, dengan fokus pada publikasi terkait fintech dalam periode waktu yang dipilih. Teknik bibliometrik seperti analisis tren publikasi, analisis sitasi, analisis kepenulisan bersama, analisis kemunculan bersama kata kunci, dan pemetaan struktur konseptual digunakan dengan menggunakan alat bibliometrik, termasuk Biblioshiny. Hasilnya menunjukkan lanskap penelitian fintech yang berkembang pesat yang ditandai dengan peningkatan signifikan dalam publikasi dan sitasi, menunjukkan minat akademis yang kuat di bidang ini. Temuan juga menunjukkan bahwa negara-negara seperti India, Cina, Amerika Serikat, dan Inggris memainkan peran dominan dalam produktivitas penelitian fintech dan dampak sitasi. Analisis tematik mengidentifikasi beberapa klaster penelitian utama, termasuk inklusi keuangan, teknologi blockchain, keuangan digital, dan kecerdasan buatan, yang menyoroti sifat interdisipliner studi fintech. Selain itu, analisis jaringan kolaborasi menunjukkan peningkatan kerja sama internasional di antara para peneliti dan lembaga. Studi ini berkontribusi pada literatur yang ada dengan memberikan gambaran komprehensif tentang lanskap penelitian fintech global dan mengidentifikasi arah penelitian yang muncul. Temuan ini menawarkan wawasan berharga bagi akademisi, pembuat kebijakan, dan praktisi dalam memahami evolusi penelitian fintech dan implikasinya terhadap pengembangan ekosistem keuangan digital.
Kata kunci: Fintech; Teknologi Keuangan; Analisis Bibliometrik; Blockchain; Inklusi Keuangan.

INTRODUCTION

The rapid advancement of digital technology has significantly transformed the global financial sector, giving rise to the phenomenon known as financial technology (fintech)(Bansal & Chaudhary, 2023; Fikri et al., 2022; Kusrini et al., 2017; Rahman, 2025; Yasmeen et al., 2024; Ying, 2022). Fintech refers to the integration of innovative digital technologies into financial services to improve efficiency, accessibility, and transparency in financial transactions. Technologies such as digital payments, peer-to-peer lending, blockchain, crowdfunding, artificial intelligence, and mobile banking have reshaped the traditional financial ecosystem by enabling faster, more flexible, and user-centered financial services (Gomber et al., 2018; Lee & Shin, 2018). As a result, fintech has become a critical driver of financial innovation, influencing both financial institutions and emerging technology startups worldwide(Al-Amin, Andespa & Bashir, 2022; Al-Amin et al., 2023; Al-Amin & Andespa, 2022; Amin et al., 2023).

In recent years, fintech has attracted substantial attention from both practitioners and academic researchers. The growing importance of fintech in the digital economy has stimulated an increasing number of scholarly publications addressing topics such as financial inclusion, digital banking transformation, regulatory technology (RegTech), risk management, and consumer adoption of digital financial services (Thakor, 2020; Varga, 2017). This expanding body of literature indicates that fintech has evolved into a multidisciplinary research domain that intersects finance, information systems, economics, and innovation studies. However, the rapid growth of fintech publications has also posed challenges for understanding the field's intellectual structure and development trajectory (Çat et al., 2025; Dev et al., 2023; Goantă, 2023; Karthik et al., 2024; Lelawatty et al., 2025; Liu et al., 2025; J. Zhang, 2014).

Despite the increasing number of studies, the fintech literature shows an uneven distribution of research focus. Most studies focus on technological innovation and business models, while relatively few address issues related to regulation, governance, financial stability, ethical concerns, and the socio-economic impacts of fintech adoption (Arner et al., 2016; Goldstein et al., 2019). This condition reflects a gap in the phenomenon, where the rapid expansion of fintech research has not yet been systematically mapped to identify the dominant themes, conceptual relationships, and emerging research trends within the field(Adisa et al., 2024; Alexandro & Basrowi, 2024; Alzua-Sorzabal et al., 2024; Pu, 2021; Sun & Cheng, 2025).

Furthermore, existing fintech studies largely rely on conceptual discussions, case studies, or empirical analyses focusing on specific markets or technologies, which limits the ability to capture the broader evolution of fintech knowledge. Consequently, there is limited understanding of how fintech research has evolved, which topics dominate the literature, and how scholars collaborate across institutions and countries. This situation highlights a significant research problem: the lack of a comprehensive, systematic analysis of fintech research development at the global level.

Previous studies that review fintech research often employ traditional literature review methods, which are generally narrative and

subjective. While these approaches provide valuable insights, they may not adequately reveal the structural relationships between research themes or the evolution of scholarly networks. In contrast, bibliometric analysis offers a more objective, quantitative approach to analyzing scientific literature by examining publication patterns, citation networks, and keyword co-occurrence relationships (Donthu et al., 2021; Zupic & Čater, 2015). Such methods allow researchers to identify the intellectual structure and thematic development of a research field more systematically.

Although bibliometric studies have been increasingly used across disciplines, analyses specifically focused on fintech research remain relatively limited. Existing studies often focus on particular subtopics such as blockchain technology, digital payments, or crowdfunding, rather than examining the fintech domain as a whole. As a result, there is still insufficient understanding of the overall research landscape, thematic clusters, and collaborative networks shaping fintech scholarship. This condition indicates a research gap and underscores the need for a comprehensive bibliometric investigation of the fintech literature.

To address this gap, this study offers research novelty by conducting a systematic bibliometric analysis of fintech research using data retrieved from the Scopus database, one of the most comprehensive academic indexing platforms. The study not only analyzes publication trends over time but also explores intellectual structures, collaboration networks among scholars and institutions, and dominant thematic clusters within fintech research. By mapping the scientific landscape of fintech literature, this study provides a more holistic understanding of the field's evolution and identifies potential directions for future research.

Finally, this research has strong academic and practical urgency, given the ongoing expansion of fintech innovation and its growing influence on global financial systems. Understanding the evolution and structure of fintech research is crucial for academics seeking to identify emerging research opportunities, as well as for policymakers and industry practitioners aiming to develop effective regulatory frameworks and technological strategies. Therefore, this study aims to analyze the development trends and knowledge structure of fintech literature through bibliometric analysis, providing insights into the dynamics of fintech research and guiding future scholarly investigations.

Literature Review

Financial Technology (FinTech) has emerged as one of the most transformative innovations in the financial services industry, integrating advanced digital technologies with traditional financial systems to create more efficient, accessible, and user-centered financial services. FinTech encompasses a wide range of technological applications, including digital payments, blockchain technology, peer-to-peer lending, artificial intelligence, and big data analytics, which collectively reshape how financial services are produced and consumed (Gomber et al., 2018; Lee & Shin, 2018). The rapid development of these technologies has enabled financial institutions and startups to deliver innovative solutions that enhance operational efficiency, reduce transaction costs, and expand financial inclusion. Consequently, FinTech has become a major driver of digital

transformation in the global financial ecosystem.

The growing relevance of FinTech has stimulated increasing academic interest in understanding its economic, technological, and regulatory implications. Previous studies have examined various aspects of FinTech development, including its impact on financial inclusion, banking competitiveness, risk management, and consumer adoption of digital financial services (Thakor, 2020; Varga, 2017). In addition, research has highlighted the emergence of new financial ecosystems in which traditional banks collaborate with or compete against FinTech startups to deliver innovative services. Regulatory frameworks have also become a critical topic in the literature, as governments and financial authorities seek to balance innovation with financial stability and consumer protection (Arner et al., 2016). These studies indicate that FinTech research spans multiple disciplines, including finance, information systems, economics, and innovation management.

Despite the expanding body of FinTech research, the literature remains fragmented due to the field's rapid growth and interdisciplinary nature. Many studies focus on specific technologies, such as blockchain or digital payment systems, while fewer systematically synthesize the broader intellectual structure and thematic evolution of FinTech research. To address this limitation, bibliometric analysis has increasingly been used as a methodological approach to map scientific knowledge, identify influential publications, and uncover emerging research trends within a particular field (Donthu et al., 2021; Zupic & Čater, 2015). Through bibliometric techniques such as citation analysis, co-authorship analysis, and keyword co-occurrence analysis, researchers can gain a deeper understanding of the development patterns and knowledge structure of FinTech research The following table 1 is related to operational definitions.

No	Variables / Concepts	Conceptual Definition	Operational Definition	Dimensions / Indicators	Previous Research Findings
1	Financial Technology (Fintech)	Fintech is the integration of digital technology with financial services to improve efficiency, accessibility, and innovation in the financial system (Gomber et al., 2018).	Fintech is measured through research development, the number of publications, research themes, and the technology used in digital financial services.	Digital payments, blockchain, peer-to-peer lending, crowdfunding, mobile banking, artificial intelligence.	Fintech is accelerating the transformation of the financial industry and creating new business models in digital financial services (Lee & Shin, 2018).
2	Financial Inclusion	Financial inclusion refers to people's access to affordable and quality formal financial services (Demirgüç-et al., 2018).	It is measured through the role of fintech in increasing public access to digital banking services, electronic payments, and microfinance.	Access to financial services, affordability, digital payment usage, microfinance accessibility.	Fintech has been shown to increase financial access for groups of people who were previously underserved by the traditional banking system (Arner et al., 2016).

No	Variables / Concepts	Conceptual Definition	Operational Definition	Dimensions / Indicators	Previous Research Findings
3	Blockchain Technology	Blockchain is a distributed ledger technology that allows digital transactions to be carried out transparently, securely, and without intermediaries (Nakamoto, 2008).	Measured through the number of researches, applications of blockchain technology in payment systems, cryptocurrencies, and smart contracts in the fintech ecosystem.	Cryptocurrency, smart contracts, decentralized finance (DeFi), transaction security.	Blockchain increases transparency and efficiency in the digital financial system and supports the development of the fintech ecosystem (Thakor, 2020).
4	Artificial Intelligence in Finance	Artificial intelligence in the financial sector refers to the use of algorithms and machine learning to analyze financial data and improve decision-making (Davenport & Ronanki, 2018).	It is measured through the use of AI in financial data analysis, financial service recommendation systems, and digital risk management.	Machine learning, big data analytics, predictive analysis, automated financial services.	AI plays an important role in improving operational efficiency, fraud detection, and personalization of digital financial services (Goldstein et al., 2019).
5	Digital Finance	Digital finance is a financial system that uses digital technology to provide online payment, credit, investment, and insurance services (Gomber et al., 2018).	It is measured through the development of financial services based on digital platforms and the use of technology in financial transactions.	Mobile banking, digital payments, online lending, financial platforms.	Digital finance encourages the transformation of the financial ecosystem and accelerates innovation in the financial services industry (Varga, 2017).

RESEARCH METHODS

a. Research Design and Data Collection

This study applies a bibliometric analysis approach to systematically examine the development and intellectual structure of financial technology (fintech) research. Bibliometric analysis is a quantitative method used to evaluate scientific publications, identify research trends, and map the knowledge structure of a specific field through statistical and network analysis techniques (Donthu et al., 2021; Zupic & Čater, 2015). The data were collected from the Scopus database, which is recognized as one of the most comprehensive sources of peer-reviewed academic publications. The search process used keywords such as *"fintech," "financial technology," "digital finance,"* and *"financial innovation."* Only English-language journal articles published within a defined period were included to ensure data consistency and quality.

b. Data Screening and Selection

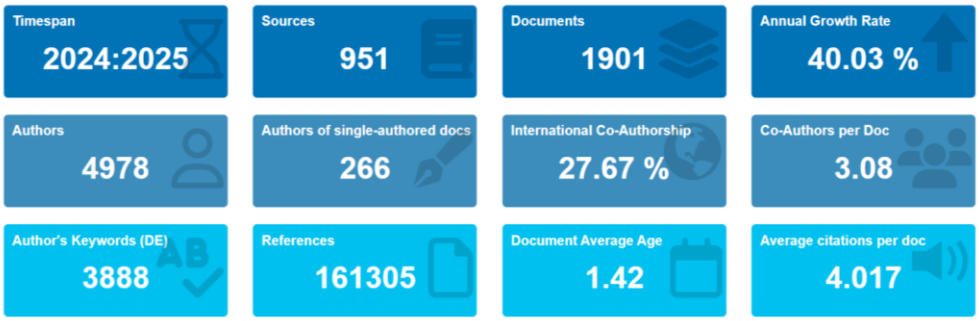
After the initial data collection, a screening process was conducted to refine the dataset. Duplicate records and irrelevant documents were removed to obtain a reliable dataset for bibliometric analysis. This process ensured that the final dataset contained only relevant publications directly related to fintech research, thereby improving the accuracy and validity of the analysis.

c. Data Analysis Techniques

The bibliometric data were analyzed using several techniques, including **publication trend analysis, citation analysis, co-authorship analysis, and keyword co-occurrence analysis**. These techniques were used to identify influential authors, leading journals, collaboration networks among countries and institutions, and dominant thematic clusters within fintech research. The visualization and mapping of bibliometric networks were conducted using Biblioshiny (R-bibliometrix**)** to produce graphical representations of research relationships and knowledge structures. Through these procedures, the study provides a comprehensive overview of the evolution of fintech research and identifies emerging directions for future studies.

RESULTS AND DISCUSSIONS

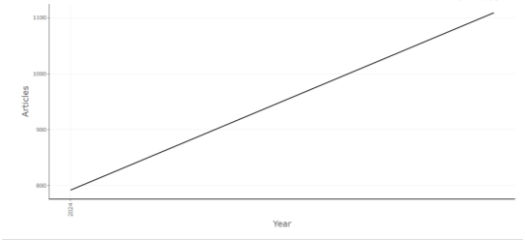
Figure 1. Main Information



Source: data Scopus Author Analysis using R Studio Biblioshiny

The bibliometric overview of fintech research indicates a rapidly expanding and dynamic scholarly landscape. During the 2024–2025 timespan, the dataset comprises 1,901 documents published across 951 sources, reflecting a broad dissemination of fintech-related studies in academic journals and conference proceedings. These publications involve 4,978 contributing authors, including 266 single-authored works, highlighting both collaborative and individual contributions within the field. The collaboration pattern is further emphasized by an average of 3.08 co-authors per document and an international co-authorship rate of 27.67%, indicating a growing level of global research cooperation. In terms of knowledge structure, the dataset includes 3,888 author keywords, demonstrating the diversity of research topics explored in fintech studies. The literature collectively cites 161,305 references, suggesting a strong intellectual foundation and interdisciplinary connections with finance, information systems, and digital innovation research. The field also exhibits a notable annual growth rate of 40.03%, reflecting the accelerating academic interest in fintech. Additionally, the average document age of 1.42 years and average citations per document of 4.017 indicate that fintech research is relatively recent but already gaining scholarly attention and citation impact within the academic community.

Figure 2. Annual Scientific Production



Source: data Scopus Author Analysis using R Studio Biblioshiny

The figure shows a significant upward trend in fintech-related publications from 2024 to 2025, indicating rapidly expanding research interest in financial technology. The number of articles increased from approximately 790 in 2024 to more than 1,100 in 2025, reflecting substantial growth in academic output over a short period. This sharp increase suggests that fintech has become a highly relevant research topic, driven by the accelerating adoption of digital financial services, technological innovation, and evolving financial ecosystems. However, this rapid growth also implies potential challenges for the research community, including the fragmentation of knowledge and the emergence of overlapping research themes. The trend highlights the necessity for systematic analyses, such as bibliometric studies, to map the intellectual structure of fintech research, identify dominant thematic clusters, and guide future investigations toward more integrated and impactful research directions.

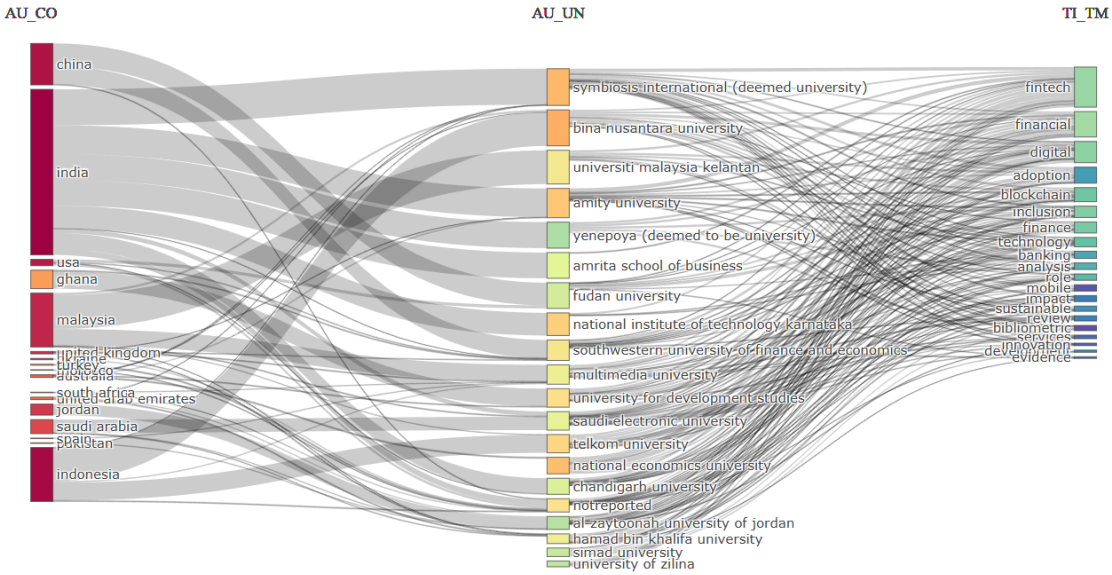


Figure 3. Three-Field Plot

Source: data Scopus Author Analysis using R Studio Biblioshiny

The Sankey diagram illustrates the relationship between authors' countries, affiliated universities, and research themes in fintech studies, highlighting the global structure of knowledge production in this field. The visualization shows that China, India, the United States, Malaysia, and Indonesia are among the most influential contributors, indicating that both developed and emerging economies strongly drive fintech research. Several universities, such as Symbiosis International University, Bina Nusantara University, Universiti Malaysia Kelantan, Amity University,

and Fudan University, appear as key institutional actors supporting fintech scholarship. In terms of research themes, dominant topics include fintech, financial technology, digital finance, blockchain, financial inclusion, and banking innovation, reflecting the central focus on technological transformation in financial services. Critically, the diagram also reveals an expanding interdisciplinary landscape across sustainability, analytics, and bibliometric studies, suggesting that fintech research is evolving beyond technological innovation toward broader economic, social, and policy dimensions.

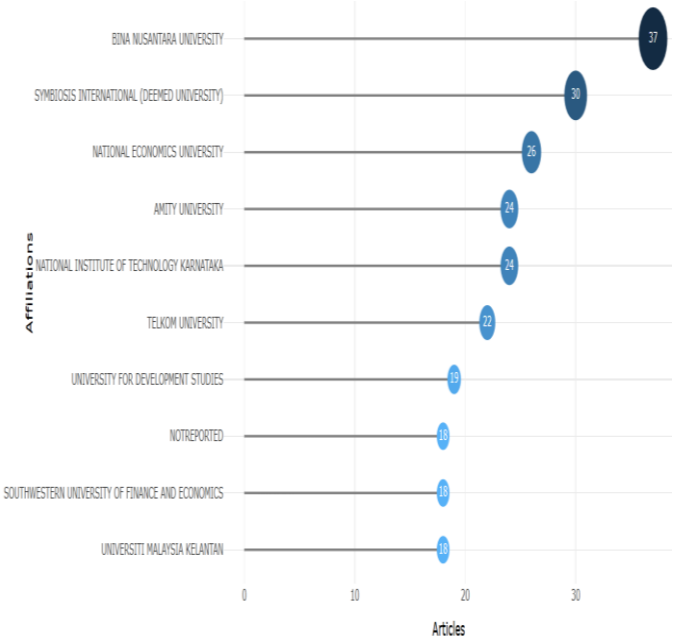


Figure 4. Most Relevant Affiliations

Source: data Scopus Author Analysis using R Studio Biblioshiny

The figure presents the top institutional affiliations contributing to fintech research publications, revealing the concentration of scholarly productivity among several leading universities. Bina Nusantara University emerges as the most productive institution with 37 articles, followed by Symbiosis International (Deemed University) with 30 publications, indicating strong research engagement from Asian universities in the fintech domain. Other significant contributors include National Economics University (26 articles), Amity University (24 articles), and the National Institute of Technology Karnataka (24 articles), underscoring the active role of institutions from emerging economies in shaping fintech scholarship. Universities such as Telkom University, University for Development Studies, and Universiti Malaysia Kelantan also demonstrate notable contributions, reflecting the growing academic interest in fintech across diverse geographic regions. Critically, the dominance of institutions from Asia suggests a shift in fintech research leadership toward regions experiencing rapid digital financial adoption and innovation, underscoring the growing importance of emerging markets in shaping fintech-related academic discourse.

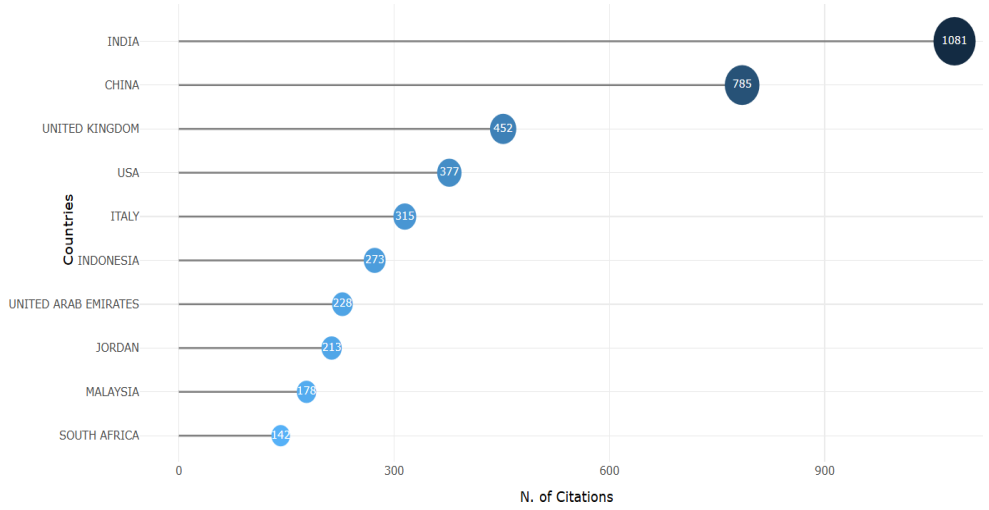


Figure 5. Most Cited Countries

Source: data Scopus Author Analysis using R Studio Biblioshiny

The figure illustrates the distribution of fintech research citations by country, highlighting the global influence and academic impact of different nations in the fintech research landscape. India emerges as the most influential country with 1,081 citations, followed by China with 785, indicating that both countries play a dominant role in shaping fintech scholarship and in contributing to high-impact research outputs. Western countries such as the United Kingdom (452 citations) and the United States (377 citations) also demonstrate strong academic influence, reflecting their established research infrastructure and long-standing leadership in financial innovation studies. Meanwhile, Italy, Indonesia, the United Arab Emirates, Jordan, and Malaysia show moderate citation levels, suggesting growing academic engagement in fintech research within emerging economies. Notably, Indonesia's presence with 273 citations highlights its increasing relevance in the global fintech research landscape, likely driven by rapid digital financial adoption and expanding fintech ecosystems. Overall, the figure suggests a shift toward a more geographically diverse knowledge-production system, in which both developed and emerging economies contribute significantly to advancing fintech research.

Figure 6. WordCloud

Source: data Scopus Author Analysis using R Studio Biblioshiny

The word cloud illustrates the dominant keywords in fintech research, highlighting the central themes that shape the field's intellectual structure. The term “fintech” appears as the most prominent keyword, indicating its central role as the core concept connecting various research topics. Other highly visible keywords include “financial inclusion,” “blockchain,” and “financial technology,” suggesting that fintech research strongly focuses on expanding access to financial services and leveraging emerging technologies to transform financial systems. Additionally, keywords such as “artificial intelligence,” “cryptocurrency,” “electronic money,” and “decentralized finance” reflect the increasing integration of advanced digital technologies into financial services. The presence of terms like “sustainable development,” “banking,” and “digital transformation” further indicates that fintech research is expanding beyond technological innovation toward broader economic, social, and sustainability dimensions. Overall, the visualization demonstrates that fintech research is highly interdisciplinary, drawing on insights from finance, information technology, innovation management, and sustainable development.

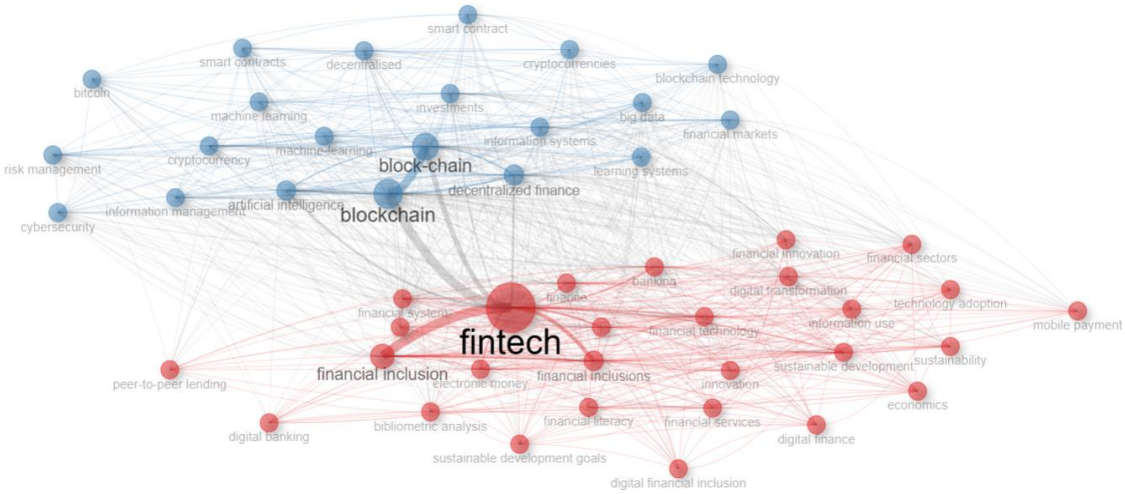


Figure 7. Co-occurrence Network

Source: data Scopus Author Analysis using R Studio Biblioshiny

The network visualization illustrates the co-occurrence relationships among keywords in fintech research, revealing the intellectual structure and thematic clusters within the field. The term “fintech” appears as the central node connecting multiple research themes, indicating its role as the core concept linking various technological and financial studies. Two main clusters are evident in the network. The blue cluster is dominated by technology-oriented themes, including blockchain, smart contracts, cryptocurrencies, artificial intelligence, machine learning, big data, and cybersecurity, reflecting the technological infrastructure that underpins fintech innovation. Meanwhile, the red cluster focuses more on the financial and socio-economic dimensions of fintech, including financial inclusion, digital banking, financial services, sustainable development, financial literacy, and digital transformation. The strong connections between these clusters suggest that fintech research increasingly integrates technological innovation with financial system

transformation and socio-economic development. Critically, this structure indicates that fintech scholarship is evolving toward a more nterdisciplinary ecosystem in which emerging technologies are closely linked to financial inclusion and sustainable development goals.

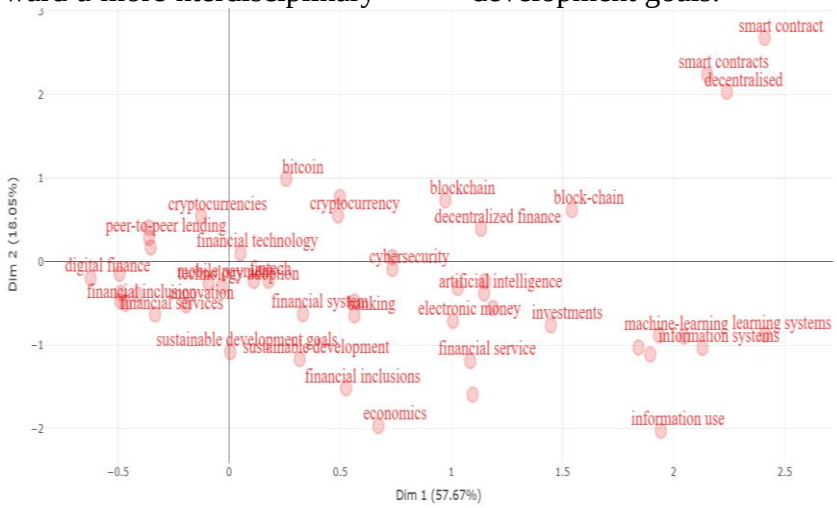


Figure 8. Factorial Analysis

Source: data Scopus Author Analysis using R Studio Biblioshiny

The conceptual structure map illustrates the thematic distribution of keywords in fintech research based on dimensional analysis, revealing how different research topics are positioned within the knowledge landscape. The horizontal axis (Dim 1: 57.67%) represents the primary dimension explaining the largest variance in the dataset, while the vertical axis (Dim 2: 18.05%) reflects the secondary dimension of thematic differentiation. Keywords such as smart contracts, decentralised finance, and blockchain appear in the upper-right quadrant, indicating advanced, technology-driven research themes related to decentralised financial systems and blockchain infrastructure. Meanwhile, terms such as machine learning, information systems, and information use are positioned on the right side, suggesting the growing integration of artificial intelligence and data-driven technologies in fintech research. On the left, themes such as digital finance, peer-to-peer lending, financial inclusion, and financial services highlight the socio-economic and service-oriented aspects of fintech, particularly the expansion of access to financial services. Additionally, topics such as the Sustainable Development Goals and sustainability appear in the lower-left quadrant, suggesting emerging discussions about the role of fintech in supporting sustainable economic development. Overall, the map demonstrates that fintech research spans multiple interconnected dimensions, integrating technological innovation, financial systems, and socio-economic development perspectives.

Figure 9. Co-citation Network

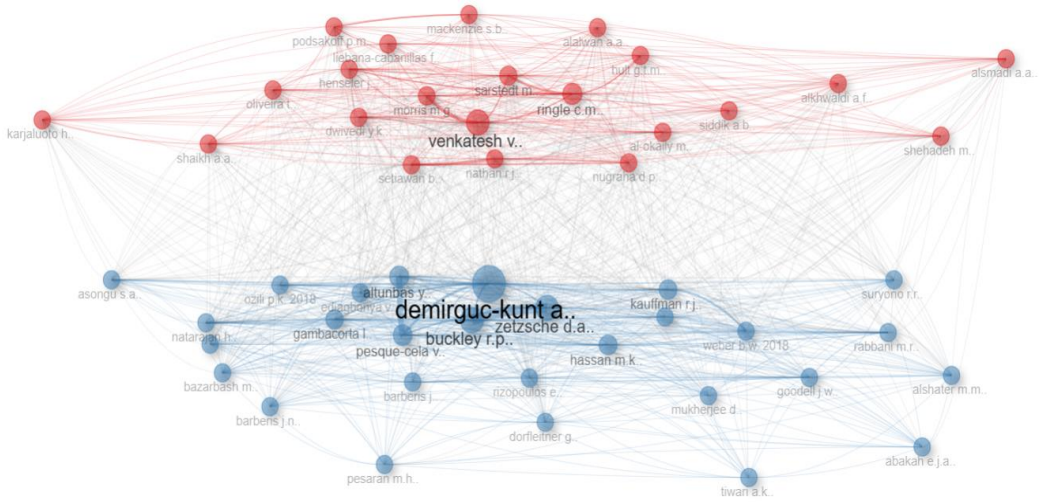


Figure 9. Co-citation Network

Source: data Scopus Author Analysis using R Studio Biblioshiny

The author collaboration network illustrates the co-authorship relationships among researchers in fintech studies, revealing the structure of scholarly collaboration within the field. The visualization shows two main clusters of authors, indicating distinct research communities that collaborate more intensively within their own groups than across clusters. In the lower cluster, Demirgüç-Kunt A. appears as a highly influential and central author, with strong collaborative links to several scholars, including Buckley R. P. and Zetzsche D. A., reflecting a research focus on financial inclusion, financial systems, and regulatory aspects of fintech. Meanwhile, the upper cluster is dominated by authors such as Venkatesh V. and Ringle C. M., who are often associated with research on technology adoption, information systems, and quantitative modeling methods. The dense network of connections among authors suggests that strong collaborative interactions characterize fintech research. However, the presence of separate clusters indicates that the field still contains specialized sub-communities focusing on different thematic perspectives, such as technological innovation and financial system development.

Figure 10. Countries' Collaboration World Map

Source: data Scopus Author Analysis using R Studio Biblioshiny

The global collaboration map illustrates the international research collaboration network in fintech studies, highlighting the geographical distribution and connectivity of scholarly cooperation across countries. The visualization shows that India, China, the United States, and several European countries act as major hubs in the global fintech research network, with dense collaboration links connecting institutions across Asia, Europe, North America, and parts of Africa. India appears particularly prominent as a central node, reflecting its strong academic productivity and active international research partnerships. The extensive network of lines indicates that fintech research is increasingly conducted through cross-border collaborations, enabling knowledge exchange and interdisciplinary development across regions. However, the map also reveals that research collaboration remains more concentrated in certain regions, particularly Asia and Western countries, while other regions, such as parts of Africa and Latin America, show relatively limited participation. This pattern suggests that although fintech research is becoming globally interconnected, there remains an opportunity to expand collaboration networks to achieve a more inclusive and balanced global research ecosystem.

Disscussion

The findings of this bibliometric analysis reveal a rapid expansion of fintech research, reflecting the growing importance of digital financial technologies in contemporary financial systems. The significant increase in publications and citations indicates that fintech has become a major research domain integrating finance, information technology, and innovation studies. This trend aligns with previous studies that highlight fintech as a key driver of digital transformation in financial services, enabling more efficient transactions, new business models, and improved financial accessibility (Gomber et al., 2018; Lee & Shin, 2018). The high annual growth rate observed in the dataset further demonstrates that fintech research is still in an expansion phase, suggesting strong academic and practical interest in understanding the implications of emerging financial technologies(Ebrahim, 2025; Floričić et al., 2023; Karanikić, 2023; Li & Zhang, 2022; Tribroto et al., 2023; Zheng et al., 2024).

The analysis of institutional and geographical contributions indicates that Asian countries, particularly India and China, play a dominant role in fintech research productivity and citation impact. This pattern reflects the rapid growth of fintech ecosystems in these regions, where digital financial services have been widely adopted due to large populations, technological innovation, and supportive regulatory frameworks. Previous studies have also emphasized the significant role of emerging economies in driving fintech innovation, particularly in mobile payments, digital banking, and financial inclusion (Arner et al., 2016; Goldstein et al., 2019). The growing contributions from institutions in countries such as Indonesia and Malaysia further underscore the increasing importance of Southeast Asia in fintech research and development(Alareeni & Hamdan, 2022; Ancell, 2013; Díaz et al., 2025; Ebrahim, 2025; Floričić et al., 2023; Karanikić, 2023; Li & Zhang, 2022; Tribroto et al., 2023; Xiao et al., 2024; Xu et al., 2023; C. Zhang, 2010; Zheng et al., 2024).

The keyword co-occurrence and conceptual structure analyses reveal that fintech research is organized around several dominant thematic clusters. Core themes include financial inclusion, blockchain technology, digital finance, and artificial intelligence, which represent the intersection between technological innovation and financial service transformation. Blockchain and decentralized finance appear as central technological enablers that support new forms of financial transactions and financial infrastructure. These findings are consistent with the literature, which suggests that blockchain technology and artificial intelligence play a critical role in shaping the future of financial services by improving transparency, security, and efficiency (Thakor, 2020). At the same time, the prominence of financial inclusion as a major keyword highlights the role of fintech in expanding access to financial services for underserved populations(Annals-xxi et al., 2021; Lehmann & Martínez-Cárdenas, 2023; Radu & Dăbâcan, 2016; Rayyani et al., 2024).

Another important finding is the existence of distinct but interconnected research clusters, particularly those focusing on technological innovation and those addressing the socio-economic impacts of fintech. While the technology-oriented cluster covers topics such as blockchain, machine learning, and smart contracts, the socio-economic cluster focuses on financial literacy, digital financial inclusion, and sustainable development. This indicates that fintech research is evolving toward a multidisciplinary research ecosystem in which technological development is increasingly linked to broader economic and social outcomes. Such integration reflects the broader transformation of financial systems toward digital ecosystems that combine technological innovation with inclusive economic development (Varga, 2017).

Despite the rapid growth of fintech research, the results also suggest several research gaps and opportunities for future studies. First, the concentration of research output in specific regions indicates that global fintech knowledge production is still uneven. Expanding research collaboration across underrepresented regions may help develop a more balanced and inclusive understanding of fintech development. Second, while the technological aspects of fintech have been widely studied, relatively few studies have explored regulatory, ethical, and governance issues related to fintech adoption. These aspects are increasingly important as fintech innovations reshape financial markets and regulatory frameworks. Therefore, future research should explore the broader implications of fintech for financial stability, consumer protection, and sustainable development.

CONCLUSION

This study presents a bibliometric analysis of fintech research, highlighting its evolving intellectual structure, thematic trends, and global collaboration patterns. The findings show a rapid growth of fintech publications, reflecting the increasing role of digital technologies in transforming financial systems. Research productivity is mainly concentrated in countries such as India, China, the United States, and the United Kingdom, while emerging economies like Indonesia and Malaysia are increasingly contributing to the field. The analysis also identifies key research themes, including financial inclusion, blockchain, artificial intelligence, and digital finance, which represent the integration of technological innovation

with financial system transformation. Additionally, the collaboration network indicates growing international cooperation among scholars, although research clusters remain somewhat fragmented. Overall, the study contributes by mapping the knowledge structure and major thematic areas that shape the development of fintech research(Ahmad, 2023; Ahmad & Yahaya, 2023; Ascarya & Sakti, 2022; Cheng & Qu, 2020; Pati et al., 2021; Syed et al., 2020).

Implications

The findings of this study provide several important implications for academics, policymakers, and practitioners. From an academic perspective, this study offers a systematic overview of fintech research trends and identifies key themes to guide future scholarly investigations. Identifying dominant keywords and research clusters provides valuable insights into the intellectual foundations of fintech studies. It highlights emerging interdisciplinary areas that integrate finance, information technology, and innovation management.

For policymakers and regulators, the results emphasize the growing role of fintech in supporting financial inclusion, digital financial services, and economic development. Understanding the global research landscape can help policymakers design more effective regulatory frameworks that balance innovation with financial stability and consumer protection. Meanwhile, for practitioners and financial institutions, the study highlights the importance of adopting advanced technologies such as blockchain, artificial intelligence, and digital platforms to enhance financial services and remain competitive in the evolving financial ecosystem.

Future Research Directions

Despite providing a comprehensive overview of fintech research trends, this study has several limitations that open opportunities for future research. First, the analysis is limited to publications indexed in the Scopus database; future studies could incorporate additional databases, such as Web of Science or Dimensions, to expand the dataset. Second, future research could conduct more detailed analyses focusing on specific subtopics within fintech, such as decentralized finance, regulatory technology (RegTech), digital banking, or financial cybersecurity.

Furthermore, future studies may explore the socio-economic and regulatory implications of fintech adoption, particularly in developing countries, where it has the potential to improve financial inclusion and economic resilience significantly. Additional research could also investigate the role of fintech in supporting sustainable development and digital economic transformation. By expanding the scope of analysis and integrating multidisciplinary perspectives, future research can deepen understanding of how fintech innovations shape the future of global financial systems.

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