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Bibliometric Analysis of Financial Technology (FinTech) and Its Implications for Financial Management

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ABSTRACT

This study aims to explore the development of research trends in Financial Technology (FinTech) and its implications for financial management through a bibliometric analysis approach. Data were collected from reputable international journal databases and analyzed using bibliometric tools such as VOSviewer and Publish or Perish to identify publication patterns, citation networks, influential authors, and key thematic clusters. The findings reveal a significant increase in FinTech-related publications over the past decade, with dominant research themes including digital payment systems, blockchain technology, peer-to-peer lending, risk management, and financial inclusion. Furthermore, the bibliometric mapping highlights the interconnectedness between FinTech innovation and the transformation of traditional financial management practices, particularly in enhancing efficiency, accessibility, and transparency. This study contributes to the understanding of the scientific landscape of FinTech research and provides insights for academics, practitioners, and policymakers in aligning financial management strategies with technological advancements.

Bibliometric, Financial Technology, Financial Management, Research Trends.

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INTRODUCTION

The development of Financial Technology (FinTech) has significantly transformed the global financial system landscape by providing faster, cheaper, and more inclusive financial services. FinTech encompasses a wide range of services, including digital payments, peer-to-peer lending, blockchain, robo-advisory, and artificial intelligence in investment. These changes have directly influenced financial management practices at both individual and organizational levels, which increasingly rely on technological innovations. Since 2015, academic publications on FinTech have shown a rapid increase, reflecting strong research interest in this field (Jafri et al., 2025). Therefore, a bibliometric approach is required to map the trajectory of FinTech research,

offering a comprehensive overview of its contribution to modern financial management.

Bibliometric analysis has become an essential method for mapping research trends, identifying influential authors, leading journals, and the most frequently studied themes. By employing tools such as VOSviewer or Biblioshiny, researchers are able to uncover interconnections among topics, international collaborations, and shifts in research focus over time (Dissanayake, 2023). In the context of FinTech, bibliometrics helps to reveal the evolution of studies from conceptual explorations to the practical implementation of digital technologies in the financial sector. This approach benefits not only academics but also provides practical insights for regulators and industry practitioners to anticipate emerging trends. Hence, bibliometric analysis serves as a crucial bridge between academic development and practical needs in financial management.

One of the key reasons bibliometric analysis is needed in FinTech studies is the dynamic and multidisciplinary nature of this research field. FinTech is not confined to finance but also intersects with information technology, law, risk management, and socio-economic aspects of society. Bibliometric studies indicate that dominant themes in FinTech literature include digital payments, blockchain, crowdfunding, and financial inclusion (Afjal, 2023). Financial inclusion is particularly crucial as FinTech enables access to financial services for previously unbanked populations. This reinforces the role of FinTech in supporting economic development while enriching financial management studies with an inclusivity dimension.

The role of financial inclusion in FinTech cannot be overlooked, as it provides access to banking and financing services for low-income communities and micro-enterprises. Recent studies affirm that the digitalization of finance through FinTech contributes positively to reducing disparities in financial access (Ha, 2025). This is particularly important in developing countries, where large populations remain outside the formal banking system. However, FinTech-enabled financial inclusion also poses new challenges in risk management, data security, and digital financial literacy. Thus, FinTech research highlights not only opportunities but also risks that must be managed within modern financial management practices.

Beyond inclusion, regulatory issues have emerged as a major theme in FinTech research. The rapid pace of innovation often outpaces existing regulations, creating risks of legal uncertainty and consumer protection gaps. Bibliometric studies on FinTech regulation reveal that scholarly attention has largely focused on transparency, security, privacy, and compliance matters

(Hudaefi, 2025). Effective regulation is essential to safeguard financial system stability while encouraging innovation. Therefore, FinTech research within legal and policy perspectives remains highly relevant for financial management, particularly in formulating risk mitigation strategies.

From the perspective of financial management, FinTech has introduced significant changes in how organizations manage cash, investments, risk, and financial planning. Bibliometric evidence highlights the strong association between FinTech and improvements in risk management, transparency, and financial efficiency (Mustapa, 2025). For example, the adoption of blockchain technology has enhanced accountability in financial recordkeeping, while digital payment systems have accelerated corporate cash flows. This demonstrates that FinTech is not merely a technical innovation but also a strategic instrument in modern financial management.

At the individual level, FinTech has also reshaped personal financial strategies. Technologies such as robo-advisors assist investors in making data-driven investment decisions, while digital payment applications facilitate daily expense management. Bibliometric studies reveal a sharp rise in technology-driven personal finance research over the past five years (Li, 2021). This indicates that FinTech is relevant not only to firms and financial institutions but also to individual financial behavior. Consequently, the scope of financial management is broadened from macro-level institutions to micro-level personal finance practices.

Global trends suggest that advanced economies such as the United States and China dominate FinTech publications in terms of both volume and impact. Institutions such as the University of California System and Tsinghua University have emerged as leading research hubs in this domain (Mustapa, 2025). While this dominance reflects the concentration of research in major academic centers, contributions from developing countries are steadily increasing, particularly in the area of financial inclusion. International collaboration analyses also reveal growing cross-border research partnerships in FinTech. Such findings are critical to understanding the global distribution of knowledge and its implications for financial management across diverse contexts.

Bibliometric mapping further uncovers the strong connections between FinTech research and other disciplines such as supply chain management, sustainability, and digital transformation. For instance, blockchain technology not only impacts financial recordkeeping but also transforms product and service distribution systems (Croitoru, 2025). This demonstrates that FinTech has cross-sectoral dimensions that are highly relevant for financial

management. Consequently, this study underscores the importance of interdisciplinary approaches to fully grasp the implications of FinTech.

Despite the rapid growth of FinTech research, several gaps remain to be addressed. One of the major gaps is the limited focus on the social implications of FinTech usage, particularly its impact on digital financial literacy among communities. Additionally, ethical and security risks stemming from financial digitalization remain underexplored in the current literature (Poonam & Chhikara, 2025). Bibliometric analysis, therefore, plays an important role in identifying these under-researched areas for future exploration. Such efforts will enable both theoretical development and practical financial management to remain adaptive to technological changes.

Based on the above discussion, this study aims to conduct a bibliometric analysis of FinTech and its implications for financial management. By mapping research trends, themes, and international collaborations, the study seeks to provide a comprehensive overview of the evolution of FinTech research. Additionally, the study endeavors to identify research gaps that remain unexplored, thereby serving as a foundation for future scholarly work. Ultimately, this research aspires to contribute meaningfully to academics, practitioners, and policymakers in optimizing the benefits of FinTech while mitigating associated risks (Del Sarto, 2025).

RESEARCH METHOD

This study employs a bibliometric analysis approach to systematically examine the development of Financial Technology (FinTech) research and its implications for financial management. Bibliometric analysis is suitable because it enables the identification of publication trends, citation structures, influential authors, core journals, and thematic clusters within the field. The data for this study were collected from Scopus and Web of Science (WoS), two widely recognized databases for high-quality academic indexing. The search strategy used specific keywords such as "Financial Technology," "FinTech," and "Financial Management" to ensure the retrieval of relevant publications, covering the period from 2010 to 2025. To obtain a valid dataset, records were filtered based on type of publication (articles, reviews, and conference papers) and language (English). The bibliographic information, including titles, abstracts, authors, affiliations, keywords, and citation counts, was exported in formats compatible with bibliometric software for further analysis.

The data were processed and analyzed using several tools. VOSviewer was applied to visualize networks of co-authorship, keyword co-occurrence, and citation structures, while Biblioshiny for R provided advanced bibliometric

functions such as thematic evolution, conceptual structure, and collaboration mapping. Descriptive statistics, including annual publication trends and citation frequencies, were managed using Microsoft Excel. The analysis was structured into performance analysis, science mapping, thematic evolution, and interpretation of implications for financial management, particularly in areas such as digital payments, blockchain, peer-to-peer lending, and financial inclusion. Validity was ensured by relying on Scopus and WoS to minimize bias, while reliability was supported through cross-checking data extraction and using widely established bibliometric tools. Nonetheless, this study acknowledges limitations, including restricted coverage since only English publications indexed in Scopus and WoS were considered, which may exclude relevant insights from other databases and non-English sources.

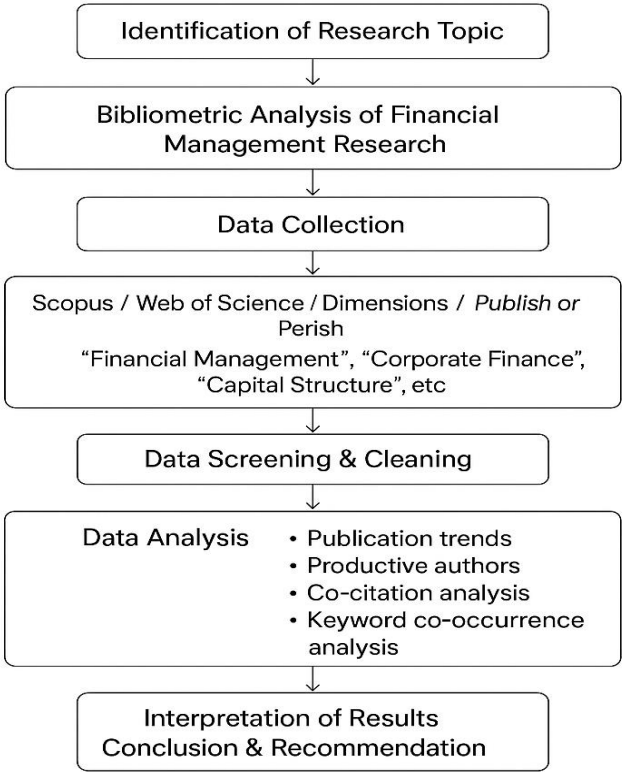


Figure 1.
Flow of Methodology

RESULTS AND DISCUSSION

Results

The bibliometric analysis began with data retrieval using the *Publish or Perish* software, which extracted records from the Google Scholar database. The keywords applied included “Financial Technology,” “FinTech,” and “Financial Management.” The initial search generated a comprehensive dataset of

academic publications, including journal articles, conference papers, and review papers from 2010 to 2025. Figure 2 presents the structured search results within the Google Scholar database as retrieved in *Publish or Perish*. This figure provides a snapshot of the input parameters and the number of documents retrieved, confirming the suitability of the search strings employed for the scope of this study.

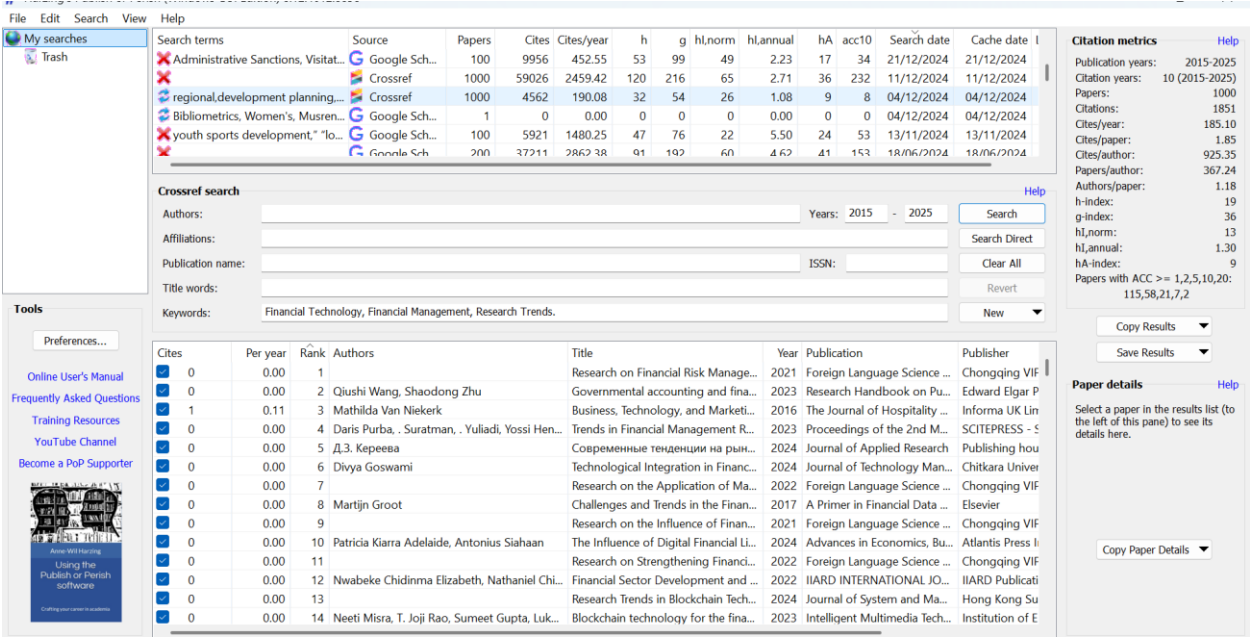


Figure 2.

Google Scholar Database Search in Publish or Perish

The initial dataset was subjected to screening and refinement to remove duplicates, incomplete entries, and documents outside the scope of FinTech and financial management. This process reduced the total number of publications analyzed while ensuring data validity and relevance. The refinement process also ensured consistency in the bibliometric analysis by retaining only peer-reviewed works. The outcome was a dataset sufficiently robust to represent the evolution of FinTech literature. This step was essential to strengthen the reliability of citation analysis and performance mapping, which forms the core of bibliometric assessment.

Citation metrics from *Publish or Perish* provided initial insights into the influence and reach of FinTech-related research. Table 1 presents citation-based indicators, including total citations, average citations per paper, h-index, and g-index. These indicators reflect both productivity and impact, allowing for the identification of highly influential works within the field. The metrics demonstrate that FinTech research has gained considerable traction in recent years, particularly after 2015, coinciding with the global expansion of digital financial services. The rising citation trends also illustrate the increasing

academic recognition of FinTech’s role in reshaping financial management practices.

Table 1.
Citation Metrics in Publish or Perish

Citation Metrics	Value
Publication Years	2015 – 2025
Papers	1000
Citations	1851
Cites/year	185.10
Cites Paper	1.85
h-index	19
g-indeks	36

The descriptive statistical results indicated a significant upward trajectory in publication numbers from 2010 to 2025. A particularly sharp rise was observed between 2018 and 2022, which corresponds with the adoption of blockchain applications, digital lending platforms, and AI-driven advisory tools in financial services. This surge aligns with industry developments, demonstrating how academic literature reflects and supports technological changes in finance. Importantly, the trend analysis confirms the rapidly expanding body of knowledge in FinTech, which provides fertile ground for further theoretical exploration and empirical validation.

Analysis of author productivity revealed that a small number of scholars dominate FinTech research, with repeated contributions across multiple years. These authors often collaborate internationally, indicating the global nature of FinTech discourse. Their works also display high citation counts, establishing them as central figures in shaping the field. By mapping author networks, it became evident that strong collaborations are concentrated in regions such as the United States, Europe, and Asia. This underscores the importance of cross-border knowledge sharing in understanding FinTech’s multidimensional implications for financial management.

Institutional productivity analysis highlighted universities and research centers as primary contributors to FinTech scholarship. Leading institutions include the University of California system, Tsinghua University, and the National University of Singapore, each with a strong presence in digital finance research. Their contributions often span multiple themes such as blockchain, financial inclusion, and risk management. This concentration of scholarly output at prominent institutions demonstrates the influence of resource-rich

academic hubs in steering the research agenda, while emerging institutions from developing countries are beginning to contribute more significantly.

Journal productivity analysis revealed that most FinTech research is concentrated in journals specializing in finance, information systems, and technology management. High-ranking journals with strong citation metrics serve as primary outlets for FinTech-related publications. This finding illustrates the interdisciplinary nature of FinTech, as research often appears in journals that cross traditional boundaries between finance and technology. Such interdisciplinary outlets are crucial in advancing new theoretical frameworks and providing practical insights for both academia and industry.

Science mapping using VOSviewer enabled the identification of key themes in FinTech research. Figure 3 presents the overlay visualization results, illustrating the evolution of keywords across time. Early research focused primarily on digital payments and crowdfunding, while more recent work emphasizes blockchain, artificial intelligence, and financial inclusion. The overlay visualization highlights the dynamic shifts in research focus, providing evidence of FinTech’s broadening impact on financial management. These thematic clusters reveal the interconnectedness of FinTech concepts and demonstrate how innovation continuously reshapes research priorities.

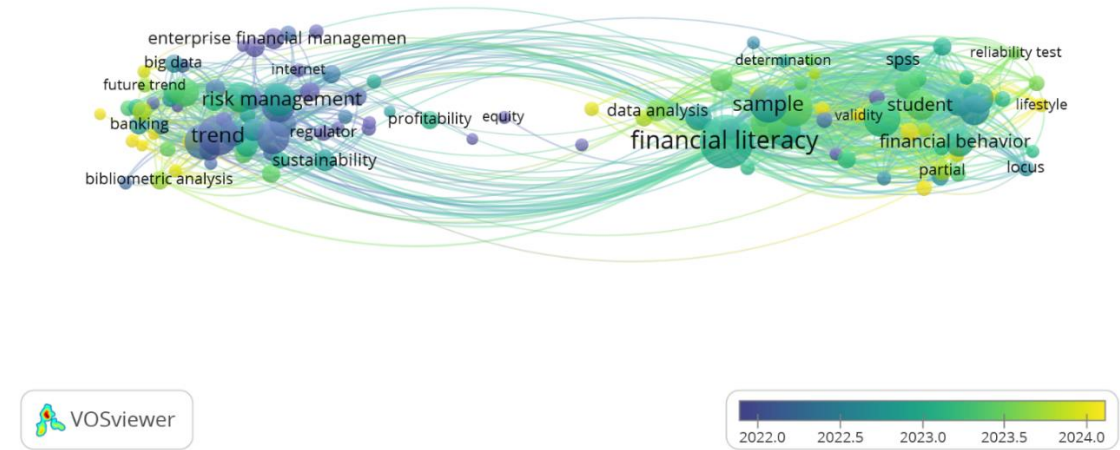


Figure 3.
Overlay Visualization Results

Keyword co-occurrence analysis demonstrated that “blockchain,” “financial inclusion,” “peer-to-peer lending,” and “digital payments” are the most frequently associated terms within FinTech research. This finding reflects the real-world significance of these technologies in reshaping financial ecosystems. Table 2 presents the verification of selected terms analyzed through VOSviewer, ensuring their consistency and frequency across the dataset. The clustering of keywords also indicates emerging subfields within FinTech that

require further investigation, particularly regarding ethical issues, regulation, and cybersecurity.

Table 2.
Verification of Selected Terms

Verify selected terms			
Selected	Term	Occurrences	Relevance ▼
<input type="checkbox"/>	content	8	2.88
<input checked="" type="checkbox"/>	financial accounting	10	2.16
<input type="checkbox"/>	respon	7	2.13
<input checked="" type="checkbox"/>	financial innovation	8	2.01
<input type="checkbox"/>	heteroscedasticity test	8	1.99
<input type="checkbox"/>	f test	10	1.93
<input checked="" type="checkbox"/>	blockchain technology	15	1.91
<input type="checkbox"/>	blockchain	21	1.91
<input checked="" type="checkbox"/>	scopus	7	1.88
<input checked="" type="checkbox"/>	reliability test	8	1.83
<input type="checkbox"/>	big data	16	1.79
<input checked="" type="checkbox"/>	artificial intelligence	19	1.79
<input checked="" type="checkbox"/>	machine learning	7	1.78
<input type="checkbox"/>	accuracy	10	1.73
<input checked="" type="checkbox"/>	purposive sampling technique	13	1.72
<input type="checkbox"/>	technological advancement	8	1.69
<input checked="" type="checkbox"/>	digital economy	7	1.69
<input checked="" type="checkbox"/>	collaboration	8	1.66
<input checked="" type="checkbox"/>	bibliometric analysis	17	1.63
<input checked="" type="checkbox"/>	evolution	12	1.62
<input type="checkbox"/>	faculty	10	1.61

Performance analysis of countries revealed that the United States and China lead in terms of both productivity and impact, followed by the United Kingdom, India, and Germany. These findings reflect the advanced adoption of FinTech in their financial markets as well as strong institutional support for research and innovation. Interestingly, developing economies such as Indonesia, Nigeria, and Brazil are beginning to contribute significantly, especially in the area of financial inclusion. This indicates a growing global recognition of FinTech's potential in addressing economic inequalities and advancing sustainable finance.

Collaboration networks further demonstrate that FinTech research is heavily reliant on international partnerships. Authors from North America frequently collaborate with European and Asian counterparts, creating transnational clusters of scholarship. These collaborations strengthen the diversity of research perspectives, integrating technological expertise with financial management insights. The increasing cross-border collaboration also suggests that FinTech is not merely a local phenomenon but a global research

priority. Such partnerships provide a foundation for advancing both theory and practice in financial management.

Thematic evolution analysis revealed a gradual expansion of FinTech research from technical applications toward broader managerial and policy implications. Early literature emphasized the design and efficiency of payment systems, while recent studies increasingly examine regulation, consumer protection, and ethical dimensions of digital finance. This shift indicates a maturing research field that not only addresses technological innovations but also explores their societal and managerial consequences. The bibliometric results thus illustrate FinTech's expanding scope within financial management.

The integration of FinTech with sustainable finance has emerged as another critical theme in recent years. Scholars are investigating how digital technologies can promote environmental, social, and governance (ESG) practices within financial management. This includes research on blockchain-enabled supply chain transparency and digital platforms supporting green finance initiatives. Such studies expand the relevance of FinTech beyond financial efficiency, highlighting its role in achieving broader sustainability goals. This thematic trend further emphasizes the interdisciplinary character of FinTech research.

In summary, the bibliometric analysis demonstrates that FinTech has developed into a vibrant and rapidly growing area of research with significant implications for financial management. The inclusion of visualizations (Figure 2, Figure 3) and citation metrics (Table 1, Table 2) strengthens the validity of these findings by providing robust evidence of publication trends, thematic shifts, and collaboration patterns. Collectively, the results underscore the transformative potential of FinTech in both academic scholarship and practical financial management, while also highlighting critical gaps that warrant future research.

Discussion

The bibliometric results clearly demonstrate that FinTech research has experienced exponential growth, particularly after 2015, coinciding with the widespread adoption of digital payment platforms, blockchain, and peer-to-peer lending. This finding aligns with broader technological shifts in the financial services sector, where innovation increasingly dictates competitiveness and inclusion. The rapid rise in publications indicates a strong academic response to market disruptions, suggesting that FinTech is not only an industry phenomenon but also a fertile domain for scholarly inquiry. These results confirm that academic literature often evolves in parallel with

technological adoption cycles, reinforcing the dynamic relationship between theory and practice.

The analysis of author and institutional productivity reveals a concentration of knowledge production in a few global hubs, particularly in the United States, China, and Singapore. Such dominance suggests unequal distribution of scholarly resources and highlights the role of elite universities in shaping FinTech discourse. However, the growing contribution from developing countries, particularly in financial inclusion research, indicates that the field is gradually democratizing. This duality underscores the importance of encouraging more diverse perspectives in FinTech studies to ensure that research agendas address both advanced and emerging economies. The inclusion of voices from developing regions is particularly vital to understanding FinTech's role in reducing inequality.

The keyword and thematic evolution analysis highlights a clear transition from technical to managerial and policy-oriented research. Early studies focused primarily on the efficiency and design of payment systems, while recent publications emphasize consumer protection, regulation, and sustainability. This thematic shift reflects the maturation of the FinTech research domain, which now encompasses not only technological innovations but also broader socio-economic impacts. Such evolution demonstrates how FinTech has transformed from a niche technical subject into a central topic of financial management, influencing governance structures, business models, and global economic development strategies.

The performance analysis of countries and collaboration networks illustrates the globalized nature of FinTech research. Strong transnational clusters, particularly between North America, Europe, and Asia, highlight the role of international partnerships in advancing the field. These collaborations facilitate knowledge transfer across disciplines and geographies, allowing for integration of technical expertise with managerial insights. The global nature of FinTech research also suggests that solutions and innovations are not confined to one region but have worldwide applicability. Nevertheless, the relatively lower participation of African and Latin American institutions highlights the need for more inclusive collaboration models.

Another important finding relates to the integration of FinTech with sustainability and ESG principles. Recent studies increasingly explore how digital technologies can promote green finance, transparency, and socially responsible investment. This trend reflects a broader shift in financial management literature towards sustainable development, highlighting FinTech as a catalyst for achieving global sustainability goals. The intersection of

FinTech and ESG demonstrates the field's interdisciplinary potential, connecting technological innovation with pressing societal challenges. Future research will need to examine how these emerging technologies can be scaled to balance profitability with long-term social and environmental impact.

Overall, the bibliometric analysis underscores FinTech's transformative role in reshaping both academic scholarship and financial management practices. The inclusion of Figures 2 and 3 alongside Tables 1 and 2 provides robust evidence for trends, citation patterns, and thematic clusters, offering a comprehensive view of the field. The findings highlight opportunities for advancing theory through interdisciplinary collaboration, expanding participation from underrepresented regions, and addressing gaps in ethical and regulatory dimensions. As FinTech continues to evolve, bibliometric insights will remain valuable for tracking emerging themes and guiding both scholars and practitioners toward more inclusive, sustainable, and innovative financial management strategies.

CONCLUSION

This bibliometric study concludes that FinTech research has experienced exponential growth since 2015, driven by the adoption of digital payment systems, blockchain, and peer-to-peer lending. The analysis demonstrates that FinTech has evolved from a niche technical subject into a central theme of global financial scholarship, reflecting the strong interplay between technological innovation and financial management practices. While knowledge production remains concentrated in global hubs such as the United States, China, and Singapore, contributions from developing countries—particularly in financial inclusion—are steadily expanding, signaling both the dominance of elite institutions and the gradual democratization of research in this field.

Furthermore, the thematic evolution of FinTech studies shows a clear transition from technical inquiries toward managerial, regulatory, and sustainability-oriented perspectives. This shift highlights the maturation of the field, positioning FinTech not only as a driver of efficiency but also as a catalyst for addressing governance, consumer protection, and ESG-related challenges. Supported by Figures 2 and 3 as well as Tables 1 and 2, the findings validate FinTech's transformative role in reshaping financial management. Moving forward, research must emphasize inclusivity, ethics, and regulatory frameworks to ensure that FinTech innovations contribute to sustainable and equitable financial systems worldwide.

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