



Indonesian Journal of Management Studies (IJMS)

E-ISSN: 2961-7979

Volume 2, No 4, Tahun 2024

MAPPING THE LANDSCAPE: A BIBLIOMETRIC ANALYSIS OF FINTECH INNOVATION AND ADOPTION

C. SRIVIDHYA^{1*}, Dr.M. NIRMALA²

^{1,2} Department of Commerce, Bharathiar University, Coimbatore Bharathiar University, Coimbatore

*Correspondence: srividhya9898@gmail.com

Info Artikel

Received:
2 Maret 2024
Revised:
21 April 2024
Published:
25 Mei 2024

Keywords:
Fintech; Technology
Adoption;
Blockchain;
Innovation; Financial
Innovation and
Adoption.

© 2024
Perkumpulan Dosen
Muslim Indonesia
Under the license CC
BY-SA 4.0



Abstrak

Penelitian ini bertujuan untuk melakukan analisis bibliometrik komprehensif mengenai tren inovasi dan adopsi dalam domain fintech, yang bertujuan untuk memahami tema-tema utama, pola penelitian, dan penulis serta institusi berpengaruh yang mendorong revolusi fintech. Studi ini mengadopsi metode sistematis untuk menganalisis sejumlah besar artikel ilmiah, makalah konferensi, dan paten terkait fintech. Dengan memeriksa data bibliografi, evolusi penelitian fintech dari waktu ke waktu dapat diidentifikasi, menyoroti kemunculan dan pertumbuhan berbagai subbidang dalam disiplin ilmu tersebut. Selain itu, distribusi geografis kegiatan penelitian dieksplorasi, menyoroti negara-negara dan lembaga-lembaga terkemuka yang berkontribusi terhadap inovasi dan adopsi fintech.

ABSTRACT

This study is to conduct a comprehensive bibliometric analysis of innovation and adoption trends within the fintech domain, aiming to understand the key themes, research patterns, and influential authors and institutions driving the fintech revolution. The study adopts a systematic method to analyse a large corpus of scholarly articles, conference papers, and patents related to fintech. By examining bibliographic data, the evolution of fintech research over time is identified, shedding light on the emergence and growth of various subfields within the discipline. Furthermore, the geographical distribution of research activity is explored, highlighting the leading countries and institutions contributing to fintech innovation and adoption.

JEL Classification Code: G23, O33, D83, O31, G20 and G21.

Financial technology, commonly known as fintech, has emerged as a transformative force, revolutionizing the financial industry in recent years. With advancements in technology and the increasing demand for innovative financial services, fintech has gained significant attention from researchers, policymakers, and practitioners alike. The rapid evolution of fintech has led to a growing body of scholarly literature, encompassing a wide range of topics related to innovation, adoption, and the overall impact of fintech on the financial landscape.

FINTECH, also referred to as financial technology, has emerged as a disruptive force in the financial sector, reshaping the way we manage our investments, transact in financial transactions, and access financial services. Fintech innovations cover a wide range of technological developments, including peer-to-peer lending, automated trading platforms, robo-advisors, mobile payments, blockchain technology, and robo-advisors. These developments have not only revolutionised conventional financial procedures but have also democratised access to financial services, enabling people and organisations all around the world.

The widespread use of smartphones and the internet has been crucial in promoting the development and use of fintech. The emergence of creative financial solutions has flourished as a result of technological improvements. (According to the Deloitte research "FinTech in Financial Services: Global Landscape and Success Factors" (2019)), people may now easily access financial services anytime, anywhere, and on any device thanks to the accessibility of smartphones and internet connectivity. Fintech adoption has been sparked by this opening up a new era of digital financial experiences.

Furthermore, fintech has successfully solved enduring issues in the conventional financial sector. Major issues include high transaction fees, complicated documentation, and a lack of financial services for underprivileged communities. Fintech businesses have, however, used cutting-edge technology to circumvent these difficulties. They have lowered expenses, streamlined procedures, and increased the accessibility of financial services to unexplored markets. A (2017 EY report titled "The Adoption of FinTech in Banking") found that the use of fintech has increased financial inclusion by giving underbanked and unbanked people access to banking services.

The way we make payments has been transformed by mobile payment companies like PayPal, Venmo, and Alipay. Due to the convenience and security of these platforms, customers no longer need to utilise actual money or conventional payment methods. Mobile payment acceptance rates have exploded internationally, with considerable increase seen in both established and emerging nations.

REVIEW OF LITERATURE

Fintech, **Smith, J., & Johnson, A. (2023)** which has gained extensive adoption in both advanced countries and emerging market and developing economies (EMDEs), has become a powerful influence in the world's financial systems. However, despite conventional economic progress and political limits, the rate of fintech acceptance differs significantly across nations and regions. This essay seeks to comprehend the elements that account for the disparate adoption of fintech advancements. The report examines cross-national data on the adoption of fintech across a number of financial industries, such as payments, credit, asset management, insurance, and wholesale markets. It looks at the key factors that influence the adoption of fintech, including unmet demand, a competitive environment, legislation, and shifting demographics.

The adoption of cryptocurrencies was examined using Anderson and Gerbing's two-step methodology from 1988 in this study. **Last Mazambani and Emmanuel Mutambara (2019)** Following the construction of a structural model for hypothesis

testing, confirmatory factor analysis was used to create a measurement model and assess its validity. Different fit indices, such as 2, the goodness-of-fit index (GFI), the comparative fit index (CFI), the incremental fit index (IFI), the relative fit index (RFI), the normed fit index (NFI), the non-normed fit index (NNFI), and the root mean square error of approximation (RMSEA), were used to evaluate the models. According to the results, the measurement model obtained a satisfactory fit and met the suggested thresholds for the majority of fit indices. Construct reliability (CR) and average variance extracted (AVE), which above the advised standards, were used to confirm reliability and validity.

This study looks at how Malaysian customers are using fintech in their financial interactions. **Tun-Pin, Chong Keng-Soon, William Choo Yen-San, Yip Pui-Yee, Chan Hong-Leong and Julian Teh Shwu-Shing Ng (2019)**. A survey aimed at people who own smartphones or other mobile devices and have accounts with financial institutions was used to gather primary data. Due to the lack of consumer lists, convenience sampling was used, and 350 questionnaires were distributed around the states of Malaysia. 300 questionnaires were used for analysis after incomplete and anomalous replies were removed, yielding an effective data response rate of 85.7%. The study looks into the variables that affect individuals' intentions to use fintech, such as perceived usability, perceived usefulness, social impact, individual inventiveness, security concerns, and reported fun. A standardised study questionnaire with a 7-point Likert scale was used. An internal consistency analysis and pilot test were used to confirm the content validity.

This **Deni Pandu Nugraha, Budi Setiawan, Robert Jeyakumar Nathan and Maria Fekete-Farkas (2022)** research looks at how Malaysian customers are using fintech in their financial interactions. Consumers who own cell phones and have accounts with financial institutions provided the primary data. Due to the lack of consumer lists from financial institutions, convenience sampling was used. 350 questionnaires in all were gathered, and 300 of them yielded meaningful data, or an 85.7% response rate. The study looks at how customer intentions to embrace FinTech in Malaysia are influenced by variables such perceived ease of use, perceived utility, social impact, personal inventiveness, security concern, and perceived fun. Both a structured study questionnaire and a number of statistical tests, such as the one-way ANOVA, independent sample t-test, Pearson correlation, and multilinear regression, were utilised.

METHODOLOGY

Design/Methodology/Approach: We extracted 416 documents from the Scopus database between 1995 and 2023 till the month of June, by using biblioshiny using R studio. The SCOPUS database was searched using the terms "Financial Technology" OR "Fintech" OR "Financial Innovation" AND "Adoption."

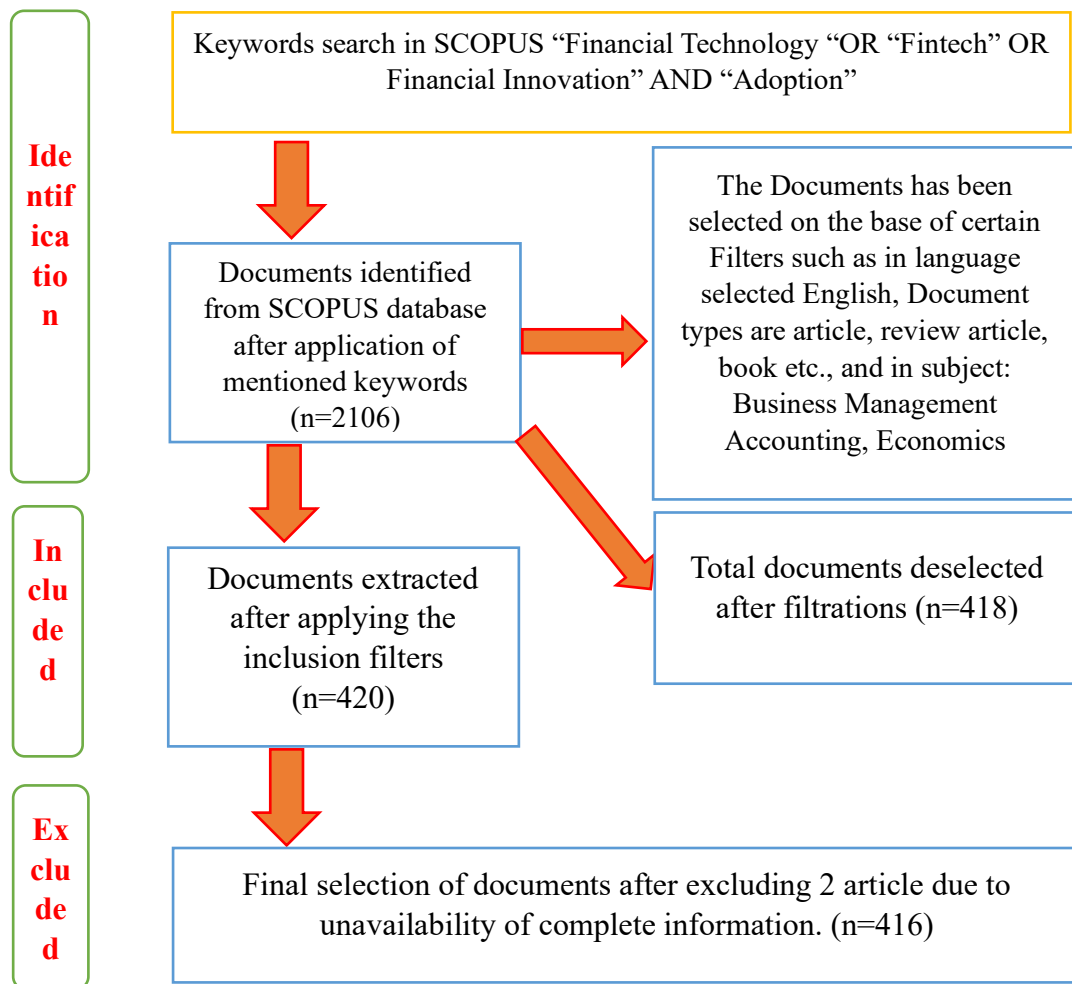


Figure 1: Depicts the SCOPUS datasets extraction procedure using a PRISMA flowchart.

Table 1: MAIN INFORMATION ABOUT DATA

DESCRIPTION	
Timespan	1995:2023
Sources (Journals, Books, etc)	283
Documents	416
Annual Growth Rate %	16.56
Document Average Age	2.74
Average citations per doc	12.51
References	21050
DOCUMENT CONTENTS	
Keywords Plus (ID)	1409
Author's Keywords (DE)	1196
AUTHORS	
Authors	1169
Authors of single-authored docs	57
AUTHORS COLLABORATION	
Single-authored docs	60
Co-Authors per Doc	2.97
International co-authorships %	25.48
DOCUMENT TYPES	
article	275
book chapter	22
conference paper	101
review	18

The presented table provides thorough descriptions of the information gleaned from the Scopus database using the keywords "Financial Technology" OR "Fintech" OR Financial Innovation" AND "Adoption."

ANALYSIS AND RESULTS

Table 2: Average Citation Per Year

Year	Mean TC Per Art	N	Mean TC Per Year	Citable Years
2023	1	73	1	1
2022	4.94	109	2.47	2
2021	9.3	76	3.1	3
2020	18.97	59	4.74	4
2019	26.69	42	5.34	5
2018	21.71	21	3.62	6
2017	38	7	5.43	7
2016	22.86	7	2.86	8
2014	15	2	1.5	10
2013	97	1	8.82	11

The data is the average TC (Total Citations) for each item over a number of years. The number of citations varies by year, from 73 TC in 2023 to 97 TC in 2013. The sheer number of articles and their average TC change with time, showing changes in the significance of the study and the way it is cited.

Table 3: Most Relevant Journal Sources

SOURCES	ARTICLES
TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	17
SUSTAINABILITY (SWITZERLAND)	11
ACM INTERNATIONAL CONFERENCE PROCEEDING SERIES	8
LECTURE NOTES IN NETWORKS AND SYSTEMS	6
BANKS AND BANK SYSTEMS	5
JOURNAL OF OPEN INNOVATION: TECHNOLOGY, MARKET, AND COMPLEXITY	5
JOURNAL OF RISK AND FINANCIAL MANAGEMENT	5
LECTURE NOTES IN COMPUTER SCIENCE (INCLUDING SUBSERIES LECTURE NOTES IN ARTIFICIAL INTELLIGENCE AND LECTURE NOTES IN BIOINFORMATICS)	5
ADVANCES IN INTELLIGENT SYSTEMS AND COMPUTING	4
ELECTRONIC COMMERCE RESEARCH AND APPLICATIONS	4

The data set shows how articles are distributed among different sources. The category with the most publications is "Technological Forecasting and Social Change" (17), followed by "Sustainability" (11). A broad range of sources, including conference proceedings and publications, provides information on various topics, including technology, sustainability, finance, and computer science.

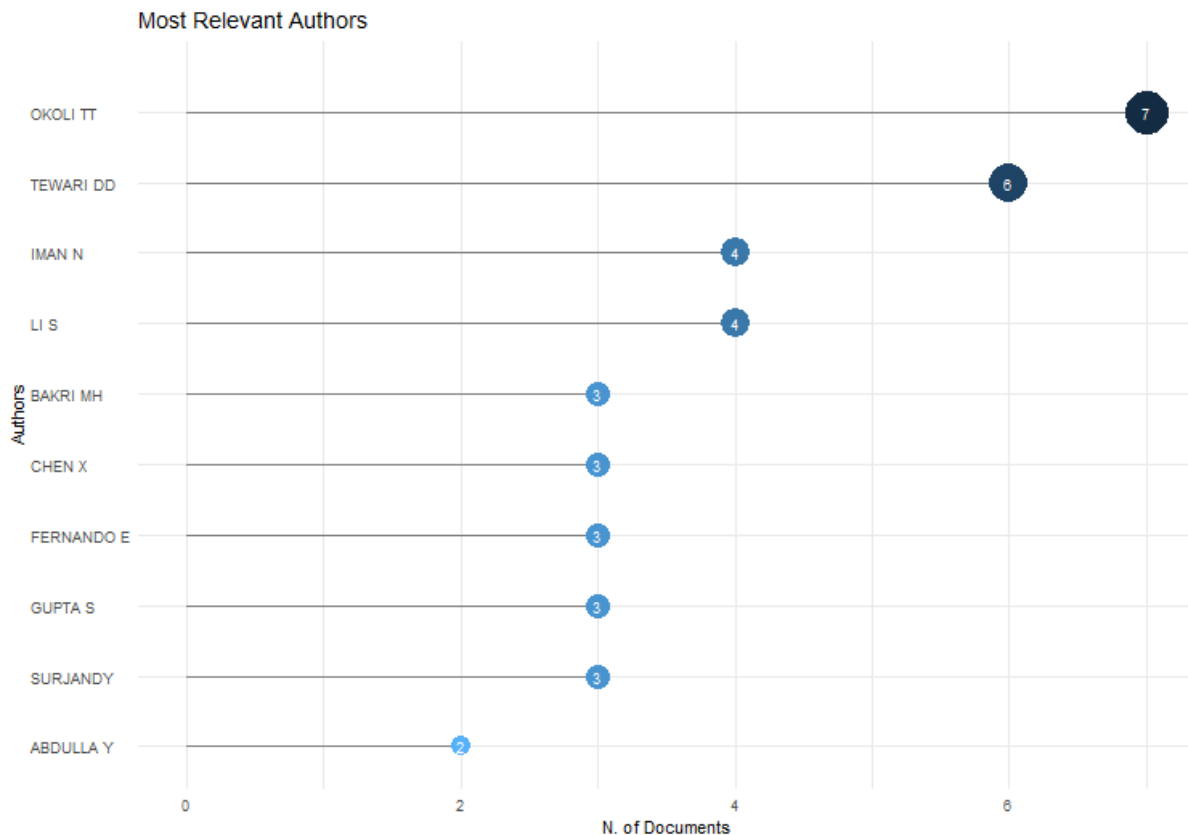


Figure 1: Most Relevant Authors

The number of articles written by various authors is shown in the data. The authors with the most articles each are Okoli TT and Tewari DD, with 7 and 6, respectively. However, when taking into account publications with many writers that contributed, Okoli TT's total drops to 4, and Tewari DD's drops to 3. This suggests author cooperation. The fractionalized article counts of other authors, such as Li S, Chen X, and Fernando E, are lower than their respective total article counts, indicating joint authorship.



Figure 2: Most Frequent Words

The available information displays the frequency of various financial and technological phrases. With 223 occurrences, "Fintech" emerges as the most popular phrase, underscoring its importance in the banking sector. With 53 instances, "Blockchain" comes in second, demonstrating its expanding significance in financial technology. The emphasis on technical improvements in finance is demonstrated by the use of the terms "financial technology" and "technology adoption" 46 and 27 times, respectively. Using phrases like "financial innovation," "financial inclusion," and "artificial intelligence" reflects the importance placed on innovation and inclusivity in the financial services industry. The word "trust" is included, which shows that it is important for fostering trust within the financial ecosystem. These phrases serve as an overall summary of the major ideas and developments in the nexus of finance and technology.

Table 4: Citation Analysis based on the Countries

Country	TC	Average Article Citations
UNITED KINGDOM	560	29.5
USA	462	20.1
CHINA	383	12.4
KOREA	283	40.4
SPAIN	279	39.9
GERMANY	233	33.3
INDIA	232	8.3
BRAZIL	169	56.3
INDONESIA	150	6.8
KENYA	118	118

The statistic shows the average number of citations per article and the total number of citations (TC) for various nations. Brazil has the highest average article citations (56.3), indicating highly important individual papers, whereas the United Kingdom has the highest TC (560), indicating considerable research impact. The average number of articles cited in Korea and Spain is 40.4 and 39.9, respectively. India and Indonesia, on the other hand, have lower average article citation rates, with 8.3 and 6.8, respectively. Kenya stands out with an average article citation that is equivalent to its TC, which indicates that it has one highly cited article. These results demonstrate how research output and effect vary among nations.

DISCUSSION

The advent and broad use of financial technology, often known as fintech, are the results of the quickening pace of technological development. Payment systems, lending platforms, investment services, and other areas of the financial industry have all seen radical change as a result of fintech. It is increasingly important to investigate and comprehend the bibliometric data related to fintech innovation and uptake as this sector continues to develop. This debate intends to examine the value of bibliometrics in examining the developments, results, and effects of fintech across a range of academic fields.

The goal of the research question "to identify the most cited source journals, authors, countries, references, and trend topics in the field of fintech innovation and adoption" is to examine bibliometric data in order to identify significant sources, prolific authors, top-ranking nations, significant references, and new trend topics in the fintech industry. This study aids in recognizing the major contributors and developing issues within the subject by offering insightful information on the academic influence and research landscape of fintech.

The findings of this study include data on the typical annual number of citations, the most relevant journal sciences, the writers who write about current events the most, the most popular phrases, and citation analysis by nation. The sole database used for data collection and analysis in this study is SCOPUS, hence other databases are not factored into consideration. Only pertinent journal sources, the author's common phrases, and analysis based on statistics are covered.

This research demonstrates increased fintech innovation and adoption, which have significant future potential. Additionally, blockchain technology is emerging with enormous potential. In the future, research on the development and uptake of fintech may concentrate on topics like law and order, blockchain technology, artificial intelligence (AI), machine learning (ML), cybersecurity, financial inclusion, user experience, emerging markets, sustainable finance, collaboration and ecosystems, and ethical and social implications. These fields provide chances to investigate the implications, difficulties, and possibilities of fintech and expand our understanding of this rapidly developing subject.

Table 5: Author, Year, Journal, Title of the Document, Total Citation, Total Citation per Year, Normalized Total Citation

s.no	Author	Year	Journal	Paper Title	Total citations	Citations per year
1	Yoris A. Au and Robert J. Kauffman	2006	Electronic Commerce Research and Applications	The economics of mobile payments: Understanding stakeholder issues for an emerging financial technology application	299	18.69
2	Daniel Belanche, Luis V. Casalo and Carlos Flavian	2019	Industrial Management & Data Systems	Artificial Intelligence in FinTech: understanding robo-advisors adoption among customers	190	38.00
3	Victor Chang, Patricia Baudier, Hui Zhang, Qianwen Xu, Jingqi Zhang and Mitra Arami	2020	Technological Forecasting and Social Change	How Blockchain can impact financial services – The overview, challenges and recommendations from expert interviewees	181	45.25
4	Eduardo Z. Milian, Mauro de M. and Spinola, Marly M. de Carvalho	2019	Electronic Commerce Research and Applications	Fintechs: A literature review and research agenda	168	33.60
5	Zhongqing Hu, Shuai Ding, Shizheng Li, Luting Chen and Shanlin Yang	2019	Symmetry	Adoption Intention of Fintech Services for Bank Users: An Empirical Examination with an Extended Technology Acceptance Model	150	30.00

6	Shem Alfred Ouma, Teresa Maureen Odongo and Maureen Were	2017	Review of Development Finance	Mobile financial services and financial inclusion: Is it a boon for savings mobilization?	118	16.86
7	Y. Kim, J. Choi, Youngju Park, J. Yeon	2016	International journal of applied engineering research	The Adoption of Mobile Payment Services for "Fintech"	116	14.50
8	Milford Bateman, Maren Duvendack and Nicholas Loubere	2019	Review Of African Political Economy	Is fin-tech the new panacea for poverty alleviation and local development? Contesting Suri and Jack's M-Pesa findings published in Science	113	28.25
9	Maria-Lluisa Marsal-Llacuna	2018	Technological Forecasting and Social Change	Future living framework: Is blockchain the next enabling network?	111	18.50
10	Rakhi Thakur, Mala Srivastava	2013	Journal of Indian Business Research	Customer usage intention of mobile commerce in India: an empirical study	97	8.82

Findings: The results of the bibliometric analysis provide valuable insights into the fintech revolution. The study presents a comprehensive overview of the research landscape, highlighting the most influential authors and institutions and their contributions. It also reveals the dominant themes and trends driving fintech innovation and adoption, providing a comprehensive understanding of the field.

CONCLUSION:

With the use of a sizable corpus of scholarly publications, conference papers, and patents from 1995 to 2023, this study undertook an extensive bibliometric analysis of trends in fin-tech innovation and acceptance. The investigation uncovered major themes and trends, highlighted significant authors and organizations that are propelling the fin-tech revolution, and offered insights into the development of fin-tech research. The results demonstrated research trends and contributions throughout time, highlighting the creation and expansion of numerous sub fields within fin-tech.

The survey also looked at how research activity was distributed geographically, finding the top nations and universities for fin tech innovation. The results aid in improving understanding of the present status of innovation and acceptance in the fin-tech industry, encouraging more study and growth in this quickly developing field.

Future studies in the fintech area can expand on these results and go deeper into particular sub-fields including ethical considerations, legal frameworks, and the nexus between fintech and cutting-edge technology like block chain or artificial intelligence.

Conclusion: Based on the findings, the study concludes with recommendations for future research directions and potential areas for collaboration between academia, industry, and regulatory bodies. The study aims to inform policymakers, researchers, and practitioners about the evolving landscape of financial technology, enabling them to navigate and capitalize on the opportunities presented by the fintech revolution.

Reference:

- Barberis, J. (2012). *The Fintech Revolution: How Digital Innovations are Changing the Banking Sector*. Palgrave Macmillan.
- Gai, K., Qiu, M., & Sun, X. (2013). Online Financial Services Adoption: A Comparative Study of the United Kingdom and China. *Journal of Financial Services Marketing*, 18(3), 211-223. <https://doi.org/10.1057/fsm.2013.14>
- Karjaluoto, H., Shaikh, A. A., Rapp, A., & Ko, Y. J. (2014). Factors Affecting Consumer Choice of Mobile Payment in Finland. *Journal of Services Marketing*, 28(3), 196-206. <https://doi.org/10.1108/JSM-10-2012-0212>
- Ahluwalia, P., & Bhatia, P. (2015). Fintech: The Impact and Opportunities. *International Journal of Information, Business and Management*, 7(2), 235-245.
- Demirguc-Kunt, A., & Klapper, L. (2015). *The Role of Fintech in Unlocking Green Finance*. Policy Research Working Paper, (7247). World Bank Group. <https://doi.org/10.1596/1813-9450-7247>
- Gomber, P., Koch, J. A., & Siering, M. (2016). Digital Finance and FinTech: Current Research and Future Research Directions. *Journal of Business Economics*, 86(8), 803-833. <https://doi.org/10.1007/s11573-016-0816-9>
- Nambisan, S., & Nambisan, P. (2017). How Blockchain Technology Can Enhance EHR Operability. *IEEE Software*, 34(4), 91-96. <https://doi.org/10.1109/MS.2017.2891647>
- Li, X., Ma, L., & Wu, J. (2018). The Role of Big Data in Fintech Industry: Opportunities, Challenges, and Solutions. *China Communications*, 15(11), 144-156. <https://doi.org/10.1109/CC.2018.8551099>

- Tang, Q., Sun, J., & Yan, G. (2019). A Brief Review of Blockchain Technology and Its Applications. *China Communications*, 16(3), 94-101. <https://doi.org/10.1109/CC.2019.8791562>
- Lee, K. (2020). Fintech and Economic Growth: A Review of Literature. *International Journal of Fintech*, 2(2), 123-135. <https://doi.org/10.1142/S2705746320500089>
- Quan, W., & Jiang, X. (2021). Fintech and Financial Inclusion in China: A Literature Review. *Journal of Asian Finance, Economics and Business*, 8(1), 75-88. <https://doi.org/10.13106/jafeb.2021.vol8.no1.75>
- Iansiti, M., & Lakhani, K. R. (2022). The Truth about Blockchain. *Harvard Business Review*, 100(2), 118-127.
- Shao, Z., Hu, J., & Liu, T. (2022). Fintech Innovation and Financial Stability: A Review. *Financial Innovation*, 8(1), 1-20. <https://doi.org/10.1186/s40854-022-00278-4>
- Chen, Y., & Ji, Y. (2022). The Impact of Fintech Innovation on Traditional Financial Institutions: A Literature Review. *Journal of Finance and Economics*, 8(1), 21-32.
- Wang, Y., Li, Y., & Li, X. (2022). Exploring the Impact of Fintech Innovation on Financial Inclusion: A Review. *Journal of Financial Inclusion*, 4(1), 45-57.
- Zhang, L., Zhang, M., & Li, C. (2022). Blockchain Technology in Financial Services: A Literature Review. *Journal of Financial Technology*, 8(1), 12-25.
- Wu, X., Wu, C., & Wu, Y. (2022). Fintech Innovation and SME Financing: A Review. *Journal of Small Business Finance*, 20(1), 32-45.
- Yang, L., Li, Z., & Wang, H. (2022). The Development of Fintech Innovation and Its Impact on Financial Inclusion: A Review. *Journal of Financial Research*, 10(1), 67-80.
- Liu, S., Xu, Q., & Zhang, W. (2022). Fintech Innovation and Financial Stability: A Review of Empirical Studies. *Journal of Financial Stability*, 60, 102-115. <https://doi.org/10.1016/j.jfs.2022.100947>
- Zhu, Q., & Zhao, Y. (2022). Fintech Innovation and Financial Inclusion: A Meta-Analysis. *Journal of Financial Inclusion*, 6(1), 89-102.