# The Role of Fintech in Shaping Modern Banking: A Bibliometric Analysis of Past, Present, and Future

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**Article Type:**
Research Article

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**Autumn & Winter (2024-2025)**
**1(2): 43-63**

**Received: 23 September 2024**
**Revised: 11 October 2024**
**Accepted: 19 October 2024**
**Available Online: 26 October 2024**

## ABSTRACT

This systematic mapping study provides a comprehensive review of the existing literature on Fintech and its role in banking, exploring the current state, development, and future prospects of Fintech research. By analyzing 687 Fintech-related articles from academic databases covering the years 2015 to 2024, this article examines the evolution of Fintech. After describing the process of this phenomenon we identified a significant increase in research activity within this field during the past 5 years. This study offers a unique viewpoint, enabling both researchers and practitioners to reconsider the future direction and scope of Fintech research. This paper reviews the literature on Fintech and its interaction with banking, encompassing innovations in payment systems, credit markets, and insurance, with Blockchain-powered smart contracts also playing a role. It defines Fintech, presents relevant statistics and key insights, and reviews both theoretical and empirical studies. This review is centered around research questions, summarizing current knowledge, and concluding with recommendations for future research avenues.

## KEYWORDS

Banking, Bibliometric Analysis, Financial Innovation, Fintech.

**Cite this article**: Rasti, F., Soleimani Sarvestani, M. H., & Akhlaghpour, S. (2024). The Role of Fintech in Shaping Modern Banking: A Bibliometric Analysis of Past, Present, and Future. *Journal of Knowledge Economy Studies (JKES)*, 1(2), 43-63.

DOI: http//doi.org/10.22034/kes.2024.717151 **Publisher:** Hazrat-e Masoumeh University

## Introduction

Fintech, (financial technology) is a modern financial industry that involves using technology to enhance financial operations. Leong et al. (2018) further define Fintech as any innovation that enhances financial service processes by offering tech-based solutions tailored to specific business needs (Suryono et al., 2020). Fintech encompasses a broad spectrum of meanings. In the business context, it is expansive enough to describe an entire supply chain. Specifically, Fintech refers to the provision of technology to financial service providers. In business, Fintech encompasses a broad range of meanings. It can describe an entire supply chain and is defined as the application of technology to financial service providers (Dorfleitner et al., 2017). Additionally, Fintech includes the delivery of financial products or innovative services characterized by advanced technology (Knewtson et al., 2020). Furthermore, Fintech is used to describe new business models that significantly affect the financial market and the supply of financial services (Li & Xu., 2021). It can even help an industry focused on using technology to enhance financial activities (Schueffel., 2016). In academia, Fintech is viewed as a cross-disciplinary field that merges finance, technology, and innovation management (Leong et al., 2018). Financial services and banking institutions must adopt digital transformation and utilize internet-based technologies to meet the evolving expectations of stakeholders while maintaining a competitive advantage. Over the past two decades, Fintech has revolutionized the banking sector by leveraging existing technologies. This transformation is likened to a revolution that demands increased flexibility. Traditional institutions are required to innovate continuously to keep pace with the rapidly changing and increasingly digitalized environment (Durak et al., 2024). Thakor (2020) identified four key areas where Fintech is making an impact on banking:

1. *Credit, deposits, and capital -raising services*: Fintech enhancies the management of loans, deposits, and fundraising, offering more efficient and accessible options for both individuals and businesses.
2. *Payments, clearing, and settlement services*: Fintech has significantly improved payments processing, with providing faster and more secure systems that challenge traditional banks, particularly in the payments sector.
3. *Investment management services*: Fintech companies offer advanced tools and platforms for managing investments, making it easier for people to invest and manage portfolios.
4. *Insurance*: Fintech innovations are transforming the insurance industry by automating processes, improving risk assessment, and offering personalized policies.

**Questions and Research Objects:**

- How many articles have been published on the application of Fintech in Banking over different time periods (e.g., years, decades)?
- What are the most frequently used keywords and phrases in the titles and abstracts of these articles?

- Has the publication trend in this area increased or decreased over time?
- Which countries and institutions have published the highest number of articles in this field?

Researchers use both quantitative and qualitative methods to investigate approaches to understanding and organizing findings. They use primary data meanwhile, bibliometric has the potential to introduce a systematic, transparent review process, ensuring reproducibility through the statistical measurement of science, experts, and research activities.

*Examine Research Trends*: Analyze the trends in research on the use of Fintech in banking in finance, determining whether interest and the volume of publications in this area are on the rise or declining.

*Identify Keywords*: Identify the major themes and current hot topics being explored at the intersection of Fintech and the banking sector.

*Future Research Directions*: Offer insights into potential future research directions and emerging trends in applying recommender systems to finance.

## Literature Review

Thakor (2020) viewed Fintech as a "disruptive innovation, meaning it fundamentally changes the way traditional banks operate, particularly in the payment sector, where Fintech solutions provide faster, cheaper, and more efficient services than traditional methods. Sangwan et al. (2020) conducted a thematic review of Fintech articles, organizing their findings into three primary themes:

1. *Industrial*: This theme examines Fintech's role in reshaping industries, particularly how financial technologies influence traditional financial sectors.
2. *Entrepreneurial*: This theme focuses on how Fintech fosters innovation and new business opportunities, enabling startups and entrepreneurs to create disruptive solutions in financial services.
3. *Legal*: This theme addresses the regulatory and legal challenges that arise as Fintech develops, highlighting he need for laws and policies to adapt to these new technologies. Their study found that Fintech has significantly impacted the financial market, particularly capital and information asymmetry Fintech solutions bridge the gaps in access to capital and information among different market participants. Offering more transparency and efficiency. Additionally, Sangwan et al. (2020) highlighted the potential for further research on Fintech by various stakeholders, indicating that this field is still growing and evolving. Fintech is transforming the financial industry in several ways. One of contribution is "*Data Collection and Analysis*", Fintech makes it easier to gather and analyze data in financial markets. Reducing information asymmetry, when one party has more or better information than the other. By improving access to data, Fintech helps create a more transparent market. Another: *AI and Big Data in Trading*: With the help of "artificial intelligence (AI)" and "big data", new trading and investment strategies are emerging. These technologies enhance the price

discovery mechanism the process by which the market determines the fair price of a financial asset. They also improve transaction speed, increase market liquidity (the ease of buying and selling assets), and boost the overall efficiency and stability of financial markets. *Regulatory improvements* are another area where Fintech plays an important role. Fintech tools help regulators monitor the financial system more effectively. By analyzing vast amounts of data, they can detect, warn against, and prevent systemic risks, thus promoting a safer financial environment. *Cost efficiency* is another benefit of Fintech**.** Using AI and big data, Fintech can automate many tasks, reducing labor costs and staff duplication. This allows companies to run more efficiently with fewer workers handling repetitive tasks. Financial in collusion is also one of Fintech's most important contributions. By reducing costs and offering convenient services, Fintech helps more people, especially the poor, access banking, loans, and other financial tools. Finally, Fintech has a *Global Impact via the Belt and Road Initiative*: The development of Fintech is shared globally, particularly through initiatives like the "*Belt and Road*" countries along this route benefit from innovations like mobile payments, which drive economic growth and financial development (Li & Xu, 2021).

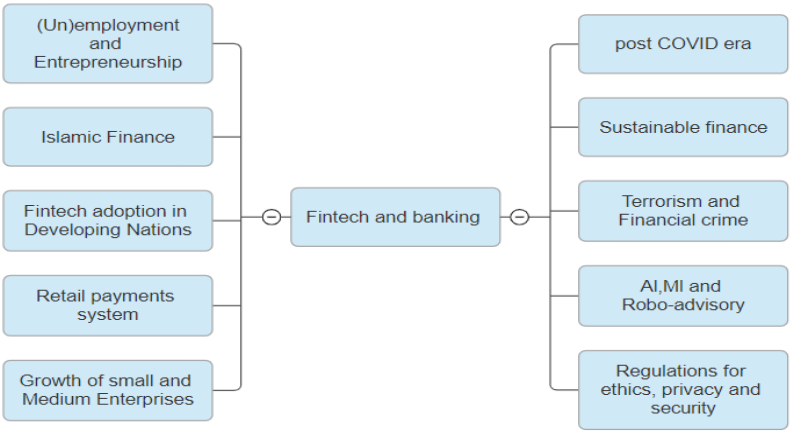
We can describe the evolution of Fintech in three distinct phases, each characterized by significant technological advancements and their impacts on the financial industry:

1. *First phase (1866 to 1967)*: innovations during this time allowed for the rapid transmission of financial information, improving the speed and reliability of international financial transactions and payments. Communication over long distances was revolutionized, laying the groundwork for global financial systems (Mohammadi et al., 2019).
2. *Second phase (1967 – 2008)*: The development of electronic payments and clearing systems. ATMs and online banking were introduced and traditional financial institutions started using information technology to enhance their products and services. This phase marked the digitization of financial services, making banking more accessible through electronic means, thereby improving customer convenience and operational efficiency.
3. *Third phase (2008 up to now)*: The rise of new technology-driven companies offering non-intermediated financial services defines this phase. These companies use technology to provide financial services directly to consumers, bypassing traditional banks and financial institutions. The increasing complexity of activities and the environment has led to new innovations in the world (Safari et al., 2013).

**Figure 1.**
**The Phases of Fintech**


**(Source: Takor, 2020)**

**Figure 2.**
**Framework for Future Research Agendas for Fintech in Banking and Finance**




**(Source: Researcher's Findings)**

This paper focuses on understanding Fintech and the applications in the banking sector. To achieve this research objective, the authors analyze Fintech development trends, especially the Fintech application in the banking sector. To improve the quality of Fintech services at banks, the authors examined factors affecting customers' intention to use Fintech services.

## Methodology

The quantitative method "bibliometric" is one of the most quantitative measures used in evaluating literature. (Fairthorne., 1969) In this study, we utilize the bibliometric method to investigate the research background on the application of Fintech in banking. The steps involved in the bibliometric method are clearly outlined.

To conduct the bibliometric analysis, the authors chose the Scopus and Web of Science databases for their robust reputation as leading multidisciplinary abstract and citation databases. This research is practical in terms of objective.

**Figure 3.**
**Map of Keywords Used in Articles**


**(Source: Researcher's Findings)**

Table 1 shows the descriptive statistics of research conducted in the field of Fintech and banking.

**Table 1.**
**Descriptive Statistics of Research Conducted on Fintech and Babking**

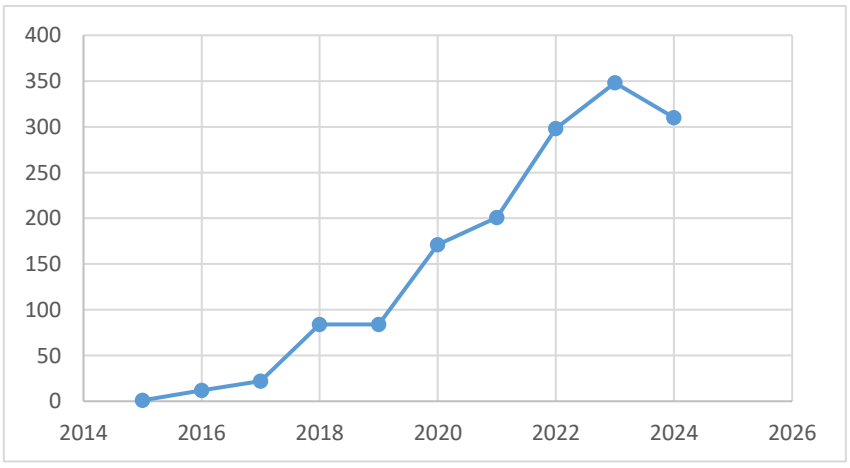
| Descriptive | Results |
|---|---|
| **Main Information About Data** | |
| Timespan | 2015:2024 |
| Sources (Journals, Books, etc) | 687 |
| Documents | 1531 |
| Annual Growth Rate % | 89.16 |
| Document Average Age | 2.23 |
| Average citations per doc | 12.44 |
| **Document Contents** | |
| Keywords Plus (ID) | 3006 |
| Author's Keywords (DE) | 3548 |
| AUTHORS | |
| Authors | 3499 |
| Authors of single-authored docs | 227 |
| **Authors Collaboration** | |
| Single-authored docs | 251 |
| Co-Authors per Doc | 2.94 |
| International co-authorships % | 19.66 |
| **Document Types** | |
| Article | 955 |
| Article conference paper | 2 |
| Book | 30 |
| Book chapter | 92 |
| Conference paper | 227 |
| Review | 56 |

**(Source: Researcher's Findings)**

According to Table (1) above, 687 studies have been conducted by 3499 authors on Fintech and banking.

## Findings

**Figure 4.**
**Annual Scientific Production**

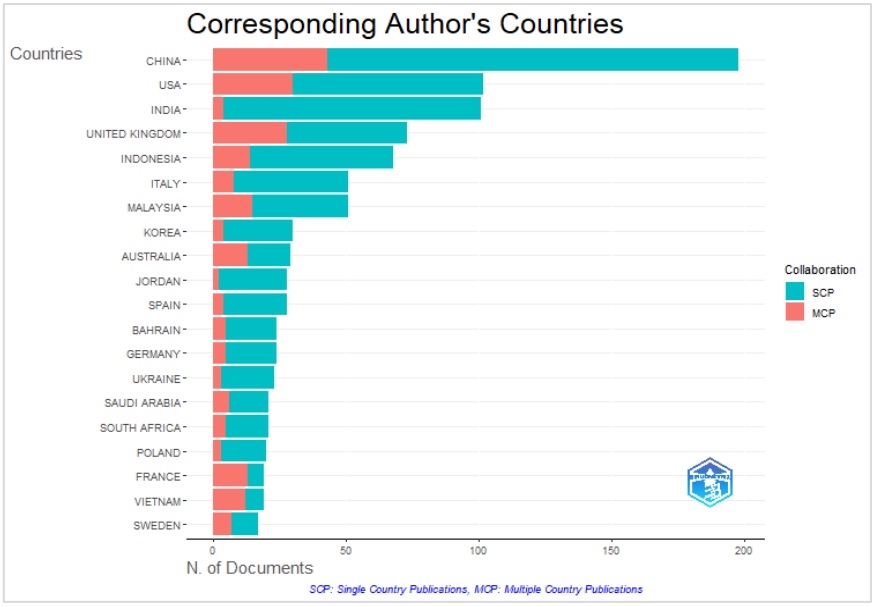



**(Source: Researcher's Findings)**

This graph shows a line chart with data points plotted between 2014 and 2024 on the x-axis and values ranging from 0 to 400 on the y-axis. The general trend indicates a consistent increase over time, with a noticeable acceleration in growth after 2018, peaking in 2022 at a value just above 350. After this peak, there is a slight decline between 2022 and 2024, where the value decreases but remains above 300.

- In 2014, the number of publications was close to zero.
- From 2015 to 2017, there was a very slow increase in publications.
- A significant rise in the number of publications started around 2018, with a noticeable jump from 2019 onward.
- The growth continues steadily, peaking in 2023 with over 350 publications.
- In 2024, there is a slight decline, but the publication volume remains above 300.

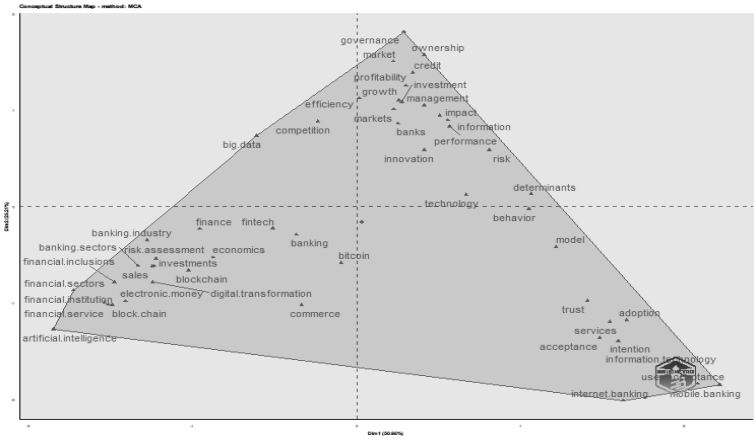
**Figure 5.**
**Corresponding Author's Countries**




**(Source: Researcher's Findings)**

The chart you provided illustrates the distribution of corresponding authors by country, broken down into two types of collaborations: Single Country Publications (SCP) and Multiple Country Publications (MCP). The x-axis represents the number of documents, while the y-axis lists the countries. SCP is shown in turquoise, representing publications from authors based in a single country, and MCP is shown in red, representing collaborative publications involving authors from multiple countries. China leads significantly in terms of total publications, with a vast majority being SCPs. The USA ranks second, with a more balanced mix of SCPs and MCPs. India, the United Kingdom, and Indonesia follow, with SCPs being more prominent than MCPs for each of these countries. Countries like Spain, Germany, and Sweden show a higher proportion of MCPs relative to their total number of publications.

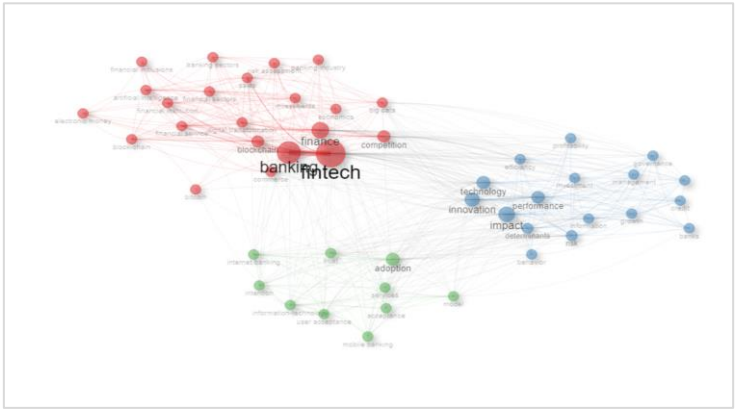
**Figure 6.**
**Conceptual Map and Keyword Clusters**




**(Source: Researcher's Findings)**

The triangular plot visualizes clusters of keywords related to a specific topic, likely within the realm of finance and technology. This type of plot, known as a co-occurrence or thematic map, helps identify the relationships between various terms based on their proximity and positioning within the triangle. The axes are labeled with different concepts that guide the interpretation of the terms' placements. For instance, terms like "mobile banking", "trust", "technology", and "acceptance" are grouped together, indicating a focus on user behavior and technological adoption. Terms like "governance", "ownership", "profitability", and "investment" form another cluster, pointing towards themes related to market structure, financial management, and economic performance. Closer to the bottom left, words like "Blockchain", "artificial intelligence", "financial inclusion", and "Fintech" highlight innovation and emerging technologies within the financial sector. The spread of terms suggests thematic areas related to financial services, banking, digital transformation, and related technologies like "big data" and "bitcoin". The shading of the triangle emphasizes the interconnectedness of these themes, with the overall shape suggesting how various topics like governance, technology adoption, and financial innovation interact within the broader ecosystem of finance and technology.

**Figure 7.**
**Network of Keyword Clusters**



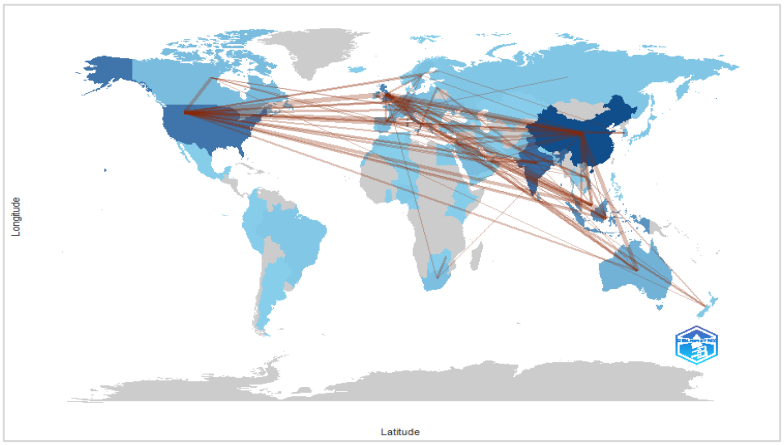

**(Source: Researcher's Findings)**

The image presents a network map showing the co-occurrence and relationships between keywords, likely from a research or topic analysis related to finance, banking, and technology. Nodes represent key terms, and the size of each node corresponds to its centrality or importance within the network. Lines (edges) between nodes indicate relationships or co-occurrence between the terms. The network visualization depicts the relationship between key terms in research related to Fintech, finance, and banking, organized into three primary clusters, each represented by different colors:

1. *Red Cluster (Finance and Banking Focus)*: This cluster is centered around the terms *Fintech, banking, and finance*, which are the largest nodes in the network, indicating their central role in the literature. Surrounding terms include *Blockchain, competition, banking sectors, risk assessment, financial inclusion, digital transformation, and big data*. These terms indicate that this cluster primarily focuses on the interplay between financial technologies, financial institutions, and competitive dynamics within the banking sector.
2. *Blue Cluster (Technology and Performance)*: This cluster revolves around terms like *technology, innovation, impact, performance*, and *efficiency*. Additional terms like *profitability, governance, management, credit*, and *investment* suggest that this area of research focuses on how technology drives innovation and affects performance and governance within financial services.
3. *Green Cluster (Adoption and User Behavior)*: The green cluster focuses on terms like *adoption, trust, acceptance, services, internet banking*, and *mobile banking*. This part of the network likely emphasizes studies related to the adoption of Fintech services, user behavior, and factors affecting consumer's acceptance of technological innovations in banking.

Overall, the visualization highlights the interconnectedness of research themes, with strong links between core topics like *Fintech, finance*, and *banking*, and subtopics ranging from *technological innovation* and *competition to user adoption* and *performance outcomes*.

**Figure 8.**
**Global Collaboration Network**




**(Source: Researcher's Findings)**

This map illustrates the global collaboration network in Fintech research based on co-authorship connections between countries. The darker shades of blue represent countries with a higher volume of research output, while lighter shades indicate less involvement.

## Fintech and Financial services

This table summarizes key studies exploring various aspects of Fintech and its impact on different sectors, with each study focusing on a unique area of Fintech-related analysis.

**Table 2.**
**Review of Research**

| Authors | Description |
|---|---|
| (Jun and Yeo, 2016) | This study shows the impact of Fintech firms' entry on competition in the retail payments market using a two-sided market model with vertical restraints. The key findings are: Entry of Vertically Integrated Providers, the entry of Downstream-Only Providers and the Regulatory Role. This suggests that regulation plays a critical role in fostering competition and achieving desirable outcomes in the retail payments sector following Fintech entry. |
| (Buchak et al., 2018) | This study examines the rapid growth of shadow banks, particularly online "Fintech" lenders, in residential mortgage origination between 2007 and 2015. The research highlights two main factors contributing to this growth: regulatory differences and technological advantages. |
| (Dranev et al., 2019) | This paper analyzes the impact of Fintech acquisitions on the post-acquisition performance of acquiring firms, focusing on abnormal returns from an investor's perspective. |
| (Palmi´e et al., 2020) | This study examines the growing importance of ecosystems in driving disruptive innovations, opposed to standalone firms, with examples like Apple and Uber. The paper highlights that academic research has largely overlooked the role of ecosystems in the context of disruptive innovations. To address this gap, the study: defines disruptive innovative ecosystems, impact on the Financial Services Industry, and outlines a future Research Agenda. |
| (Barbu et al., 2021) | This paper analyzes customer experience (CX) in the Fintech sector, focusing on its determinants and outcomes. Using the stimulus-organism-response (S-O-R) framework, the study proposes a model where customer experience is shaped by the customer's evaluation of the stimuli offered by Fintech firms. |

**(Source: Researcher's Findings)**

This table reviews some studies related to Fintech and crowdfunding, offering insights into different aspects of Fintech's growth and its relationship with investment strategies, technology, and portfolio diversification.

**Table 3.**
**Fintech and Crowdfunding**

| Authors | Description |
|---|---|
| (Lee & Shin, 2018) | This article explores the transformative impact of Fintech on the financial industry, presenting it as a disruptive innovation reshaping traditional markets. It discusses the ecosystem of the Fintech sector, highlighting the various components and players. Different Fintech business models and investment types are explored, show casing the diversity in the sector. The article introduces the concept of using real options for Fintech investment decision-making, providing a strategic framework for investors. Finally, addresses both technical and managerial challenges faced by Fintech startups and traditional financial institutions. |
| (Haddad & Hornuf, 2019) | This study examines the economic and technological factors that drive entrepreneurs to create Fintech ventures. It shows that Countries with more developed economies and greater availability of venture capital experience higher rates of Fintech startup formation. A strong technological infrastructure, including the number of secure internet servers, mobile phone subscriptions, and a well-developed labor force, positively influences the growth of Fintech startups. In countries where companies face greater difficulty accessing loans, there is a higher likelihood of Fintech startup formation. The study concludes that Fintech startup growth can be strategically encouraged through active policies rather than relying on random market forces. |

| Authors | Description |
|---|---|
| (Huynh et al., 2020) | This study explores the role of AI, robotics stocks, and green bonds in portfolio diversification amid the 4th industrial revolution, AI advancements, and environmental challenges. Using daily data from 2017 to 2020, the study focuses on tail dependence and volatility connectedness. Key findings include: the study highlights the need for cautious diversification when including AI, robotics stocks, and green bonds in a portfolio due to high volatility and interconnected risks. |
| (Le et al., 2021) | This study showes the connectedness and volatility spill-over among Fintech, green bonds, and cryptocurrencies during the 4th industrial revolution using data from November 2018 to June 2020. It highlights the importance of cautious portfolio construction, particularly when combining Fintech with other assets, due to the high levels of connectedness and volatility. |

**(Source: Researcher's Findings)**

The table provides a comprehensive overview of studies that explore the intersection of Fintech and the financial industry, with a focus on how new technologies like Blockchain and decentralized finance are reshaping the landscape.

**Table 4.**
**Fintech and Financial Industry**

| Authors | Description |
|---|---|
| (Leong et al., 2017) | This case study examines the development of a Chinese Fintech company offering micro-loans to college students, highlighting key lessons for organizations navigating financial sector disruptions. Overall, the study presents five lessons for managing challenges and leveraging opportunities in the evolving financial landscape. It underscores how digital technologies are reshaping traditional financial systems, offering both opportunities and challenges. |
| (Gomber et al., 2018) | This study examines the significant impact of new technology innovations and disruptions in the financial services industry, driven by the "Fintech Revolution and highlights the need for traditional financial firms to adapt to Fintech innovations or risk losing dominance. |
| (Du et al., 2019) | This study explores how organizations can effectively implement Blockchain technology, addressing the following gap in existing research studies have mainly focused on Blockchain's potential impacts. Using the affordance-actualization (A-A) theory as a framework, the study presents a case of successful Blockchain implementation. |
| (Chen & Bellavitis., 2020) | This article assesses the impact of Blockchain technology on decentralized financial services (DeFi) and their potential to reshape the financial industry. Some important points of this article are: Blockchain can lower transaction costs, build distributed trust, and support decentralized platforms, forming a new foundation for business models. (DeFi) has the potential of transforming modern finance and creating new opportunities for innovation and entrepreneurship, while also addressing the associated challenges. |
| (Garg et al., 2021) | This study evaluates the perceived business benefits of implementing Blockchain technology in the banking sector and develops a measurement instrument for these benefits. The study highlights both the scientific and societal importance of its practical and theoretical contributions. |
| (Tao et al., 2022) | This study examines whether Fintech development contributes to a reduction in carbon and greenhouse gas emissions, addressing environmental concerns associated with high electricity consumption in cryptocurrency mining. |

**(Source: Researcher's Findings)**

This table provides an overview of key research studies on Fintech and credit sourcing, focusing on Fintech's role in transforming credit access, especially for small businesses and unbanked populations. The table highlights how Fintech innovations such as crowdlending, Blockchain, mobile payments, and mobile money transform credit sourcing and financial inclusion across different sectors and regions. This table

emphasizes the need for strategic approaches to promoting Fintech adoption, considering both the technological infrastructure and behavioral factors of potential users.

**Table 5.**
**Fintech and Credit Sourcing**

| Authors | Description |
|---|---|
| (Maier., 2016) | This article examines the growing phenomenon of consumer crowdlending in small and medium enterprises (SMEs), facilitated by platforms acting as intermediaries. |
| (Larios-Hernandez., 2017) | This article explores the role of Blockchain technology in promoting financial inclusion, particularly for the two billion people in developing economies with limited or no access to formal financial services. The article provides insights for Blockchain entrepreneurs to better understand and address the financial habits of the unbanked population, promoting innovative, semi-formal financial solutions. |
| (Stewart & Jürjens., 2018) | The purpose of this study is to empirically analyze the key factors that influence the adoption of financial technology innovation in the country Germany. He authors demonstrated that the number of mobile users in Germany is rapidly increasing; yet the adoption of Fintech is extremely sluggish. It is intriguing to reckon that 99 per cent of respondents had mobile devices, but only 10 per cent recognized Fintech |
| (Lee et al., 2019) | This study investigates the factors influencing the adoption of platform-based mobile payment services from both consumer and retailer perspectives, filling a gap in existing research that primarily focuses on consumers. Some key points include: Two-sided Market: The study presents an integrated model that explores how consumer and retailer adoption of financial technology mutually influence each other within a two-sided market framework. Consumer vs. Retailer Perspectives: The analysis separately examines the factors affecting financial technology adoption from each perspective, providing a comprehensive view of both sides of the market.The study also highlights the interdependent nature of financial technology adoption by consumers and retailers, providing valuable insights for understanding and promoting the widespread use of mobile payment platforms. |
| (Senyo & Osabutey., 2020) | This study examines the factors influencing the adoption of mobile money, a Fintech innovation aimed at deepening financial inclusion, using the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) and Prospect Theory.The study sheds light on the technological and behavioral antecedents to Fintech adoption and offers guidance for promoting broader usage. |

**(Source: Researcher's Findings)**

Studies presented in this table collectively highlight the growing influence of Fintech in the lending sector. They illustrate how Fintech innovations, such as alternative data usage and Blockchain technology, broaden access to credit, improve lending efficiency, and enable financial institutions to serve traditionally underserved or high-risk populations. Fintech is crucial in enhancing credit access in underserved regions and for small and medium-sized enterprises (SMEs), often facilitated through larger banks leveraging technological advancements.

**Table 6.**
**Fintech and Lending**

| Authors | Description |
|---|---|
| (Jagtiani & Lemieux., 2018) | This paper examines the impact of Fintech on expanding credit access, using account-level data from Lending Club and Y-14M data from U.S. banks. It highlights Fintech's potential to reach consumers who may not have access to traditional banking services, especially in underserved regions and struggling economies. |
| (Jagtiani & Lemieux., 2019) | This study examines the use of alternative data by Fintech lenders, specifically comparing loans made by Lending Club with similar bank-originated loans. This .study highlights Fintech lenders' growing reliance on alternative data to assess creditworthiness, which enhances credit access for certain borrowers. |

| Authors | Description |
|---|---|
| (Thakor., 2020) | This paper reviews the literature on Fintech and its interaction with banking, focusing on innovations in payment systems (e.g., cryptocurrencies), credit markets (e.g., peer-to-peer lending), and insurance particularly Blockchain-assisted smart contracts. |
| (Sheng,, 2021) | This study investigates the effect of Fintech on banks' ability to provide credit to small and medium enterprises (SMEs) in Chinese provinces from 2011 to 2018. The findings indicate that Fintech significantly enhances banks' credit supply to SMEs, with a more pronounced impact on large banks compared to smaller ones. The study suggests that leveraging Fintech may be more crucial for increasing SME credit access than merely expanding the number of small banks. This highlights the potential of Fintech to improve credit availability for SMEs, particularly through larger financial institutions. |

**(Source: Researcher's Findings)**

## Classification of articles by Fintech business model

This table categorizes various research topics within the broader field of Fintech. It highlights key areas of study, including Fintech adoption, problems, trends, challenges, and innovations, along with the associated academic research.

**Table 7.**
**Research on Fintech (in general)**

| Topic | Research |
|---|---|
| Adoption | (Mathur et al., 2018), (Fernando et al., 2018), (Nomakuchi, 2018),( Ryu, 2018), (Iman, 2018), (Stewart et al., 2018), (Huei et al., 2018), (Hu et al., 2019) |
| Problems | (Wang., 2018) |
| Trends | (Gimpel., 2018), (Gai et al., 2018), (Hatammimi & Krisnawati, 2018), ( Jin et al., 2019), (Pantielieiev,a et al., 2018), (Mehrotra, 2019), (Shim, 2019), (Eickhoff et al., 2016), (Basole et al., 2018), (Riyanto et al., 2018), (Haddad et al., 2019) |
| Challenges | (Lee et al., 2018), (Gomber et al., 2017), (Anagnostopoulos, 2018), (Hung et al., 2016), (Kim & Hong, 2016), (Dimbean-Creta, 2017), (Muthukannan et al., 2017), (Ivashchenko et al., 2018), (Abubakar & Handayani, 2018), (Xiang et al., 2018), (Milian et al., 2019) |
| Innovation | (Gomber et al., 2018), (Puschmann, 2017), (Coeckelbergh, 2016), (Soloviev, 2018), (Drasch et al., 2018), (Tsai et al., 2017), (Wonglimpiyarat, 2017), (Azarenkova, 2018) |

**(Source: Researcher's Findings)**

This table offers a comprehensive look at the research landscape surrounding payment, clearing, and settlement systems. The studies address the growing adoption of digital payment technologies, the problems associated with current systems, emerging trends, challenges in implementation and security, and the innovations driving the future of financial transactions.

**Table 8.**
**Research on Payment, Clearing, and Settlement**

| Topic | Research |
|---|---|
| Adoption | (Chang et al., 2018), (Bello et al., 2019), (Nabila et al., 2018) , (Chandra et al., 2018), (Wiradinata, 2018), (Ting et al., 2016), (Riskinanto et al., 2017), (De Luna, 2019), (Kalinic et al., 2019), (Kelana et al., 2017) |
| Problems | (Armey et al., 2014) |
| Trends | (Dahlberg et al., 2015), (Lin et al., 2018), (Omarini, 2018) |
| Challenges | (Moon et al., 2016), (Ogbanufe et al., 2018), (Kang., 2018) |
| Innovation | (Lai, 2018), (Liu et al., 2015), (Heredia Salazar., 2017), (Iman, 2018), (Chiu, 2017), (Ashta et al., 2018) |

**(Source: Researcher's Findings)**

### Research on Risk Management and Investment

This table provides an overview of the current research on the adoption, problems, trends, and innovations in the Fintech ecosystem, showcasing how new technologies are being integrated into financial systems while addressing their challenges. The studies emphasize the importance of innovation and regulatory frameworks in shaping the future of Fintech.

**Table 9.**
**Research on Risk Management and Investment**

| Topic | Research |
|---|---|
| Adoption | (Abdullah et al., 2018), (Belanche et al., 2019) |
| Problems | (Alexeev, 2019) |
| Trends | (Liu et al., 2018), (Kumari et al., 2017), (Lee, 2019 ), (Faloon et al., 2017) |
| Innovation | (Day et al., 2018), (Serrano, 2018), (Jung et al., 2018) , (Stoeckli et al., 2018), (Marafie et al., 2018) |

**(Source: Researcher's Findings)**

## Discussion and Conclusion

This paper conducts a bibliometric analysis to explore the topic of Fintech as a disruptor in the financial sector. Bibliometric analysis is a relatively recent research method that has gained increasing popularity across various academic disciplines, including finance. It falls under the broader field of scientometrics, which focuses on studying the quantitative aspects of science and research. This methodology involves analyzing bibliometric data, such as publication sources or documents, using quantitative approaches. As a result, researchers can efficiently organize information by visually mapping the existing literature. This method also facilitates the identification of key research trends and the most frequently cited authors and papers within a vast collection of academic publications on a specific topic. Therefore, bibliometric analysis helps in finding and categorizing relevant data. The findings of this analysis provide a broad perspective on Fintech as a financial disruptor. Through this paper, the authors aim to generate greater interest and encourage more in depth research on the topic. The social and economic effects of the disruption caused by Fintech are especially promising areas for future investigation. Social capital, defined broadly as the resources and benefits derived from interpersonal relationships and networks, plays a significant role in Fintech's success and its ability to foster inclusion, trust, and innovation (Mostafazadeh et al., 2014)

Here are some examples of future research suggestions:

1. Impact of Emerging Technologies on Privacy and Security in Fintech: One area that requires further investigation is the impact of emerging technologies, such as AI and Blockchain, on the privacy and security of user data in the Fintech industry. Future research could explore the challenges of protecting sensitive customer data from cyber-attacks and breaches. This issue is particularly critical in countries with stricter data security regulations.
2. Role of Fintech in Reducing Financial Inequality in Developing Countries:

Research can examine how Fintech helps increase access to financial services in underserved communities and developing countries. Specifically, the impact of mobile payment systems and digital banking services on reducing economic and social inequalities could be an attractive topic for future researchers.

3. Social and Environmental Impacts of Fintech Services: Given the growing trend of environmental sustainability and social responsibility, future research could investigate Fintech activities' social and environmental impacts. For example, studying how Fintech startups support sustainable businesses and facilitate investment in green projects is a novel and less-explored area.
4. *Effects of financial policies and government regulations on innovation in Fintech* Another important topic in Fintech that requires more research is the impact of government regulations and financial policies on innovation in this field. Researchers can examine how strict or facilitative policies affect the adoption speed of new technologies in Fintech. For instance, future research can examine the impact of anti-money laundering regulations on innovations related to digital currencies and international financial transactions.
5. *Relationship between user experience and adoption of Fintech technologies in different communities*: One area for future research could be studying the impact of user experience (UX) design and user interface (UI) design on the adoption of Fintech by users in different communities. Specifically, examining cultural and regional differences accepting Fintech technologies and their impact on the development of digital financial services globally could be an interesting research topic.

These suggestions, in addition to opening new doors for research, can spark readers' interest in emerging topics in Fintech and contribute to advancing the academic field.

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