

# A Bibliometric Analysis of the Challenges and Opportunities of Fintech in Promoting Access to Sharia Finance

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## ABSTRACT

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The convergence of financial technology (fintech) and Sharia finance has garnered significant attention in recent years, promising enhanced accessibility and inclusivity in Islamic financial practices. This bibliometric analysis delves into the challenges and opportunities presented by fintech in promoting access to Sharia finance. Spanning from 2017 to 2024, the analysis encompasses 991 papers, revealing a high level of collaboration and a diverse thematic landscape. Key findings highlight the centrality of regulatory frameworks, regional dynamics, and the compatibility of fintech innovations with Sharia principles. Emerging trends, such as the exploration of innovative lending practices and regulatory oversight, underscore the evolving nature of research in this domain. The insights derived from this analysis provide valuable guidance for stakeholders invested in advancing Islamic finance and fintech innovation.

*Keywords:* Fintech, Promoting, Sharia Finance, Bibliometric Analysis

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## 1. INTRODUCTION

In recent years, the intersection of financial technology (fintech) and Islamic finance, known as Sharia finance, has garnered significant attention within both academic and industry circles [1]–[3]. As traditional financial institutions continue to adapt to technological advancements, the integration of fintech solutions into Sharia-compliant financial practices presents a promising avenue for enhancing accessibility and inclusivity in Islamic finance. However, this evolving landscape also brings forth a myriad of challenges and opportunities, which necessitate comprehensive analysis and exploration [4], [5]. Through a bibliometric lens, this research endeavors to delve into the multifaceted dimensions of fintech's role in promoting access to Sharia finance, shedding light on the underlying trends, gaps, and future directions in this burgeoning field.

The emergence of fintech has revolutionized conventional banking practices, offering innovative solutions that streamline financial transactions, increase efficiency, and expand access to financial services [6]–[9]. Within the domain of Islamic finance, characterized by principles rooted in Sharia law prohibiting interest (riba) and promoting risk-sharing and ethical investments, the integration of fintech introduces novel possibilities and complexities [10]. Despite the potential benefits, the compatibility of fintech solutions with Sharia principles remains a focal point of discussion, requiring careful consideration and analysis to ensure compliance and ethical integrity.

Moreover, access to Sharia-compliant financial services remains a challenge for many individuals and businesses, particularly in regions with underdeveloped financial infrastructures [11]–[13]. Fintech presents an opportunity to bridge this gap by offering scalable and accessible solutions that cater to the specific needs and preferences of Islamic finance users [14], [15]. However, the extent to which fintech initiatives have succeeded in addressing these accessibility challenges within the context of Sharia finance warrants closer examination, considering factors such as regulatory frameworks, technological infrastructures, and socio-economic dynamics.

Despite the growing interest in the intersection of fintech and Sharia finance, there exists a gap in comprehensive bibliometric analyses that systematically explore the challenges and opportunities associated with promoting access to Sharia-compliant financial services through fintech solutions [16]–[19]. This research problem underscores the need for a structured examination of existing literature, identifying key themes, trends, and areas requiring further investigation. By synthesizing the collective knowledge and insights within this domain, this study aims to contribute to a deeper understanding of the dynamics shaping the evolution of fintech in the context of Sharia finance [17].

The primary objective of this research is to conduct a bibliometric analysis that elucidates the challenges and opportunities of fintech in promoting access to Sharia finance. Through a systematic review of scholarly publications, patents, and other relevant sources, the study seeks to map out the thematic landscape, identify influential authors and papers, analyze occurrence patterns, and discern emerging research trends. By achieving this objective, the research aims to provide valuable insights for academics, practitioners, policymakers, and other stakeholders involved in the advancement of Islamic finance and fintech innovation.

This research holds significant implications for various stakeholders invested in the growth and development of Islamic finance and fintech ecosystems. By elucidating the challenges and opportunities inherent in leveraging fintech to enhance access to Sharia-compliant financial services, the findings of this study can inform strategic decision-making processes, policy formulations, and industry initiatives. Furthermore, by identifying gaps in existing literature and delineating future research directions, the research contributes to advancing scholarly discourse and fostering innovation in this evolving field. Ultimately, the insights gleaned from this study are poised to facilitate greater inclusivity, sustainability, and ethical integrity in the global Islamic finance landscape.

## 2. LITERATURE REVIEW

### 2.1 *Challenges and Opportunities of Fintech*

The challenges and opportunities of Fintech are significant. Fintech has the potential to disrupt traditional banking systems and drive positive social and environmental impact, contributing to sustainability goals globally [20]. However, there are risks associated with this revolution, including cybersecurity threats, data privacy concerns, limited regulatory oversight, limited access to capital, and the risk of exacerbating inequalities [21]. The growth of Fintech has been driven by factors such as a young population, increased smartphone penetration, and a desire for more easily available and effective financial services [22]. Proper regulations and an enabling environment are necessary to mitigate risks and ensure the stability of the financial sector [23]. Fintech also presents opportunities for financial inclusion, responsible investment, and the integration of environmental, social, and governance considerations into risk management strategies [24]. The growth of Fintech in India, for example, has been fueled by the country's high percentage of unbanked and underbanked citizens. Overall, while Fintech presents challenges, it also offers opportunities for innovation and the creation of a more equitable and sustainable financial system

## 2.2 Sharia Finance

Sharia finance is a system of financial institutions and products that adhere to Islamic principles and values. It is part of the overall economic system and aims to regulate the rules of Islamic economics. Sharia financial institutions apply the principles of Sharia in their operations, such as buying and selling and profit sharing, which not only touch the monetary sector but also the real sector, resulting in increased investment flows and productive businesses. The concept of Islamic finance has become more open and inclusive, attracting non-Muslim customers and entrepreneurs. The government and relevant economic agencies need to work towards increasing the portion of Islamic financial assets to have a more significant impact on the economy. Sharia credit, a product of Sharia-based financial institutions, operates on a profit-sharing system rather than an interest-based system, providing financing without violating Islamic religious rules [25]–[27].

## 3. METHODS

This study gathers information from academic databases like Scopus, Web of Science, and Google Scholar, along with patent databases such as the United States Patent and Trademark Office (USPTO) and the European Patent Office (EPO). It also includes insights from industry reports and institutional repositories. Data is analyzed using both quantitative and qualitative methods. Quantitative analysis involves looking at numbers like publication counts, citation frequencies, and keyword distributions, while qualitative analysis focuses on themes and concepts found in the literature. Techniques like co-citation analysis and co-word analysis help visualize relationships between different research topics. The study ensures reliability by following strict procedures for data collection and analysis, including transparent documentation and sensitivity checks to validate the findings.

## 4. RESULTS AND DISCUSSION

### 4.1 Research Data Matriks

Table 1. Research Data Metrics

Publication years	: 2017-2024
Citation years	: 7 (2017-2024)
Paper	: 991
Citations	: 11816
Cites/year	: 1688.00
Cites/paper	: 11.92
Cites/author	: 5610.18
Papers/author	: 572.88
Author/paper	: 2.25
h-index	: 48
g-index	: 94
hI,norm	: 35
hI,annual	: 5.00
hA-index	: 23
Papers with ACC	: 1,2,5,10,20:479,345,159,82,33

Source: Publish or Perish Output, 2024

Table 1 presents key metrics derived from the bibliometric analysis of research data spanning from 2017 to 2024 within the realm of fintech and Sharia finance. The dataset comprises 991 papers with a total of 11,816 citations, resulting in an average of 1,688 citations per year and 11.92 citations per paper. The research exhibits a high level of collaboration, with an average of 572.88 papers authored per author and 2.25 authors per paper. The h-index, a measure of both productivity and citation impact, is 48, indicating that 48 papers have each received at least 48 citations. The g-index, a variation of the h-index that considers highly cited papers, stands at 94. The hI,norm and hI,annual represent the normalized and annual h-indices, respectively, reflecting the impact of publications relative to the length of time since publication and the number of papers published annually. The hA-index, a variant of the h-index that accounts for authorship, is 23, indicating that the top 23 authors have collectively published 23 papers with at least 23 citations each. Additionally, the table provides insights into the distribution of papers with different citation thresholds (1, 2, 5, 10, and 20 citations), revealing that the majority of papers have garnered between 1 to 20 citations, with 479 papers having at least 1 citation and decreasing counts as the citation threshold increases, reflecting the impact and dissemination of research within the field.

## 4.2 Network Visualization

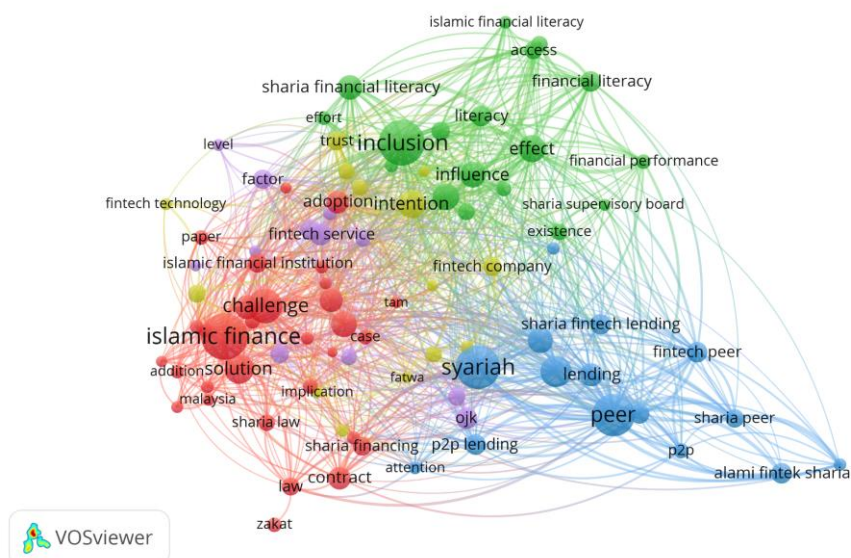


Figure 1. Network Visualization

Source: Data Analysis Result, 2024

The Figure 1 above is a network visualization map that displays clusters of related terms within the context of Islamic finance and fintech. Clusters are typically indicated by different colors, grouping together terms that are frequently associated with one another in the literature or data set being analyzed. Several themes based on the color-coded clusters visible in the map can be identified as follow:

1. Red Cluster: Central to this cluster is "Islamic finance," surrounded by terms like "challenge," "solution," "Malaysia," "sharia law," and "contract." This cluster seems to focus on the fundamental aspects of Islamic finance, including the legal and regulatory challenges, country-specific issues (with Malaysia perhaps being a case study), and the practical application of Sharia law to financial contracts and solutions.
2. Yellow Cluster: This cluster is centered around "Syariah" (an alternative spelling of Sharia), with associated terms like "fatwa," "ojk" (which may refer to Otoritas Jasa



The visualization presents a timeline moving from blue to yellow across the period from early 2021 to early 2022. To deduce the research trends over these periods, we'll look at the color associated with the terms for each time frame:

1. Early 2021 (Darker Blue): Research at this time likely focused on the foundational concepts of Islamic finance and its relation to fintech. Key themes might have included establishing a theoretical understanding of how fintech can integrate with the principles of Sharia law.
2. Mid-2021 (Blue-Green Transition): During this period, the research seems to explore deeper into how fintech can be operationalized within Islamic finance. There may have been a focus on the adoption of fintech services, examining factors that influence their uptake, and the role of Islamic financial institutions in facilitating this process. The term "factor" suggests a possible analysis of what elements contribute to the success or challenges of fintech in Islamic finance.
3. Late 2021 (Green): Here, the research could have started to look into the practical challenges and solutions of implementing fintech in the context of Islamic finance. The presence of terms like "challenge" and "solution" indicate a movement towards resolving practical issues and enhancing the applicability of fintech within the industry. "Malaysia" and "sharia law" suggest a geographical and legal framework interest, indicating that the research might be focusing on specific regions and their regulatory environment.
4. Early 2022 (Green-Yellow): As the latest period in this visualization, the lighter shades of green transitioning into yellow could point to the most current and emerging trends. This might reflect a growing interest in specific fintech applications such as P2P lending and its compatibility with Sharia principles. The shift towards yellow might also indicate a spotlight on the regulatory aspects ("OJK") and the performance of these services within the market.

#### 4.4 Citation Analysis

Table 2. The Most Impactful Literatures

Citations	Authors and year	Title
2640	A Demircuc-Kunt, L Klapper, D Singer, S Ansar (2018)	The Global Findex Databse 2017: Measuring financial inclusion and the fintech revolution
308	M Ansori (2019)	Perkembangan dan dampak financial technology (fintech) terhadap industri keuangan syariah di Jawa Tengah
238	MR Rabbani, S Khan, EI Thalassinios (2020)	FinTech, blockchain and Islamic finance: An extensive literature review
204	H Hiyanti, L Nugroho, C Sukmadilaga (2020)	Peluang dan tantangan fintech (financial technology) syariah di Indonesia
193	M Haider Syed, S Khan, M Raza Rabbani (2020)	An artificial intelligence and NLP based Islamic FinTech model combining Zakat and Qardh-Al-Hasan for countering the adverse impact of COVID 18 on SMES and...
192	MK Hassan, MR Rabbani, MAM Ali (2020)	Challenges for the Islamic Finance and banking in post COVID era and the role of Fintech
180	R Hasan, MK Hassan, S Aliyu (2020)	Fintech and Islamic finance: Literature review and research agenda
141	M Ali, SA Raza, B Khamis, CH Puah, H Amin (2021)	How perceived risk, benefit and trust determine user Fintech adoption: a new dimension for Islamic finance

Citations	Authors and year	Title
135	MR Rabbani, A Bashar, N Nawaz, S Karim (2021)	Exploring the role of islamic fintech in combating the aftershocks of covid-19: The open social innovation of the islamic financial system
129	PB Sari, H Dwilita (2018)	Prospek financial technology (fintech) di Sumatera Utara dilihat dari sisi literasi keuangan, inklusi keuangan dan kemiskinan

Source: Publish or Perish Output, 2024

Table 3 presents a list of the most impactful literatures within the intersection of fintech and Sharia finance, ranked by citation count. Topping the list is "The Global Findex Database 2017: Measuring financial inclusion and the fintech revolution" by A. Demirguc-Kunt et al. (2018) with 2,640 citations, highlighting its significant influence in the field. Following closely is "Perkembangan dan dampak financial technology (fintech) terhadap industri keuangan syariah di Jawa Tengah" by M. Ansori (2019) with 308 citations, emphasizing the relevance of regional studies in understanding fintech's impact on Sharia finance. Other notable entries include "FinTech, blockchain and Islamic finance: An extensive literature review" by MR Rabbani et al. (2020) and "Peluang dan tantangan fintech (financial technology) syariah di Indonesia" by H. Hiyanti et al. (2020), highlighting the growing interest in exploring fintech's potential and challenges in specific geographic contexts. These highly cited works underscore the breadth and depth of research in the field, addressing topics ranging from the impact of COVID-19 on Islamic finance to the adoption and trust factors influencing fintech usage within Islamic financial systems.

#### 4.5 Density Visualization

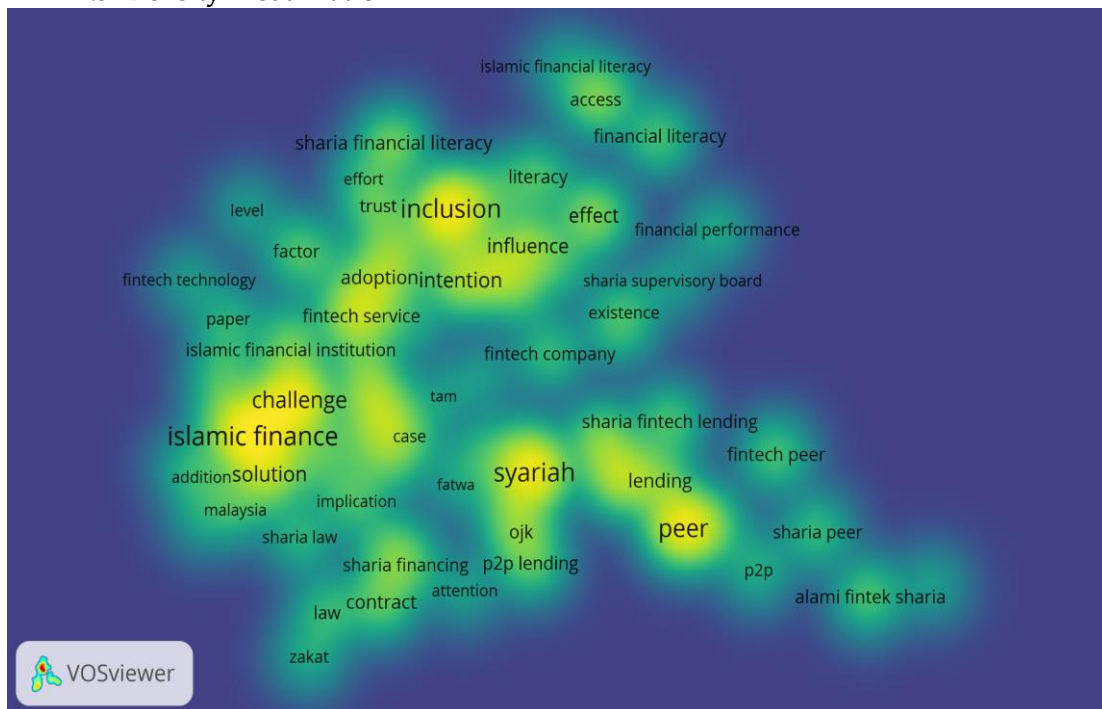


Figure 3. Density Visualization

Source: Data Analysis Result, 2024

In the Figure 3 above, terms that are less bright potentially signal emerging areas of research within the Islamic finance and fintech sectors. Notably, "OJK" (Otoritas Jasa Keuangan), Indonesia's Financial Services Authority, appears less bright, hinting at a growing interest in the regulatory frameworks governing fintech applications in Islamic finance. Likewise, the relatively subdued hues of "Sharia Financial Lending," "Fintech Lending," and "P2P Lending" suggest an uptick in the

examination of how fintech is innovating lending practices within Sharia-compliant finance, especially through peer-to-peer platforms.

Furthermore, the mention of the "Sharia Supervisory Board" implies a prospective focus on the oversight roles these boards play in ensuring fintech services align with Islamic law. Legal aspects, as denoted by terms such as "fatwa," "contract," and "law," may become a focal point for future inquiries, shedding light on the dynamic interplay between religious edicts, contractual law, and the regulatory environment. The presence of "TAM" (Technology Acceptance Model) could also forecast a scholarly interest in the factors that influence the adoption of technological innovations in the Islamic financial landscape.

Collectively, these less bright terms weave a narrative of an academic and industry trend that leans towards the convergence of technology and tradition, with a keen eye on how fintech can evolve within the bounds of Sharia law, supported by robust regulatory and legal research.

## CONCLUSION

In conclusion, the bibliometric analysis provides a comprehensive overview of the challenges and opportunities within the intersection of fintech and Sharia finance. The findings highlight the significant impact of research in this field, with a robust body of literature addressing various aspects ranging from theoretical frameworks to practical applications. Key themes include the regulatory landscape, adoption of fintech solutions, and the compatibility of these innovations with Sharia principles. Notably, regional studies, such as those focused on Indonesia and Malaysia, underscore the importance of considering geographical nuances in the implementation of fintech within Islamic finance. Moreover, the analysis identifies emerging trends, such as the increasing scrutiny of regulatory frameworks and the exploration of innovative lending practices facilitated by fintech platforms. Overall, this study contributes valuable insights for academics, practitioners, and policymakers seeking to navigate the evolving landscape of Islamic finance and fintech, facilitating informed decision-making and fostering further research and innovation in this dynamic field.

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