



Intellectual Structure and Thematic Evolution of in Islamic Banking and Finance: A Scopus- FinTech Based Bibliometric and Science Mapping Analysis, 2017–2025

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Abstract

This study aims to provide a comprehensive science mapping and bibliometric analysis of the FinTech landscape within Islamic banking and finance. It deciphers the intellectual structure and thematic evolution of the field during the transformative window from 2017 to early 2026. Methodology: Utilizing the Scopus database, a dataset of 725 scholarly documents was extracted and analyzed. The research employs a multi-tool approach, integrating R-Bibliometrix (Biblioshiny) for longitudinal performance analysis and VOSviewer for visualizing keyword co-occurrence and institutional collaboration networks. The PRISMA 2020 protocol was followed to ensure methodological transparency. Findings. The results reveal an exponential surge in scientific production, characterized by an impressive annual growth rate of 28.42%. Malaysia and Indonesia emerge as the primary global knowledge hubs, with the International Islamic University Malaysia leading institutional contributions. The analysis identifies three core intellectual clusters: (1) Blockchain and Cryptocurrencies, (2) AI and Regulatory Compliance, and (3) Financial Inclusion and Institutional Stability. Thematic evolution indicates a strategic shift from basic FinTech adoption toward advanced applications in Artificial Intelligence, Ethical Technology, and the Sustainable Development Goals (SDGs). Originality,

Keywords: Artificial Intelligence, Bibliometric Analysis, Blockchain, FinTech, Islamic Banking, Maqasid al-Shariah, Rstudio, Science Mapping, VOSviewer.

ساختار فکری و تکامل موضوعی فین تک در بان کداری و مالی اسلامی: تحلیل کتاب سنجی و نقشه برداری علم مبتنی بر اسکوپوس، ۲۰۲۵- ۲۰۱۷

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چکیده

هدف این تحقیق هدف ارائه‌ی یک تحلیل کتاب‌سنجی جامع و نقشه‌برداری علم از چشم‌انداز فین تک در حوزه‌ی بانک‌داری و مالی اسلامی انجام شده است. این مطالعه به رمزگشایی از ساختار فکری و تکامل موضوعی این حوزه در بازه‌ی زمانی تحول‌آفرین ۲۰۱۷ تا اوایل ۲۰۲۶ می‌پردازد. با استفاده از پایگاه داده اسکوپوس، مجموعه‌ای شامل ۷۲۵ سند علمی استخراج و مورد تحلیل قرار گرفت. این تحقیق از یک رویکرد چند ابزاری بهره می‌برد که نرم‌افزار R-Bibliometrix (Biblioshiny) را برای تحلیل عمل‌کرد طولی و نرم‌افزار VOSviewer را برای تصویرسازی شبکه‌های هم‌رخدادی کلیدواژه‌ها و هم‌کاری‌های سازمانی با هم ترکیب کرده است. فرآیند تحقیق مطابق با پروتکل PRISMA 2020 جهت تضمین شفافیت متدولوژیک اجرا شده است. نتایج نشان‌دهنده‌ی رشد نمایی در تولیدات علمی است که با نرخ رشد سالانه قابل توجه ۲۸.۴۲ درصد مشخص می‌شود. مالزی و اندونزی به عنوان کانون‌های اصلی دانش در سطح جهانی ظاهر شده‌اند و پوهنتون بین‌المللی اسلامی مالزی پیش‌روترین نهاد در مشارکت‌های علمی است. تحلیل‌ها سه خوشه‌ی فکری اصلی را شناسایی کردند: (۱) بلاک چین و رمزارزها، (۲) هوش مصنوعی و انطباق مقرراتی، و (۳) شمول مالی و پایداری نهادی. تکامل موضوعی نشان‌دهنده‌ی تغییری استراتژیک از پذیرش اولیه‌ی فین تک به سمت کاربردهای پیشرفته در هوش مصنوعی، فناوری اخلاقی و اهداف توسعه‌ی پایدار (SDGs) است.

کلید واژه‌ها: بانک‌داری اسلامی، تحلیل کتاب‌سنجی، فین تک، مقاصد شریعت، نقشه‌برداری

علم، Rstudio، VOSviewer

Introduction

الحمدُ لله نحمدهُ ونستعينه ونستغفره، ونؤمنُ به ونتوكلُ عليه، ونشهدُ أن لا إله إلا الله وحده لا شريك له، وأنَّ محمدًا عبده ورسوله.

The architecture of the global financial system has undergone widespread digital transformation in recent years, such that the boundary between traditional banking and technological innovations is gradually blurring. Meanwhile, the Islamic banking and finance industry has also moved away from the position of a cautious observer and shifted towards the active adoption of emerging technologies. The emergence of "Islamic FinTech" from 2017 onwards, in addition to changing the method of delivering financial services, has provided a context for linking ethical and Sharia requirements with the capabilities of digital technology. This transformation, sometimes referred to as "Islamic Finance 4.0," signifies a structural overhaul of the Islamic financial system through the use of technologies such as blockchain, artificial intelligence, smart contracts, digital banking, and regulatory technologies; technologies that can strengthen the fundamental principles of Sharia, including transparency, social justice, risk-sharing, and the prevention of ambiguity and fraud (Maliha et al., 2024; Rabbani et al., 2021).

The expansion of FinTech in Islamic banking and finance is not merely a technical change or an auxiliary tool to reduce operational costs, but it can transform the structure, products, contractual relationships, and the method of supervising Islamic financial institutions. The use of blockchain can increase the transparency of transactions and the traceability of information; smart contracts can enable the automatic and precise execution of Islamic contracts; artificial intelligence and machine learning can be used in risk management, investment advisory, and fraud detection; and regulatory technology can facilitate continuous monitoring of the compliance of financial activities with regulations and Sharia principles. Furthermore, crowdfunding platforms, peer-to-peer lending, mobile banking, and digital systems for Zakat and Waqf have considerable potential to develop financial inclusion and provide underprivileged groups with access to Islamic financial services (Hassan et al., 2021; Laldin & Furqani, 2018).

Problem Statement

Despite the rapid increase in scientific studies regarding FinTech in Islamic banking and finance, the existing knowledge in this field remains fragmented and heterogeneous. A significant portion of previous research has focused on a specific technology, a single

country, a particular institution, or a limited issue, such as the adoption of blockchain, digital banking, cryptocurrencies, or artificial intelligence. This fragmentation has led to the absence of a comprehensive picture of the intellectual structure, scientific growth trends, collaboration networks, dominant themes, and the evolutionary path of Islamic FinTech research on a global scale (Hassan et al., 2020).

Furthermore, it is not yet precisely clear which authors, universities, journals, and countries have played the main role in producing and disseminating knowledge in this field; how scientific collaborations between countries have been formed; what concepts and technologies constitute the core of the literature; and how the thematic orientation of research has shifted over time from the initial adoption of FinTech towards topics such as artificial intelligence, ethical technology, Sharia compliance, financial inclusion, and sustainable development goals. The lack of such a cohesive understanding makes it difficult to identify scientific gaps and determine appropriate paths for future research, policymaking, and Sharia-compliant digital innovations.

Therefore, the main problem of the current research is to determine the characteristics of the scientific literature on FinTech in Islamic banking and finance during the studied period—in terms of scientific performance, intellectual structure, collaboration networks, and thematic evolution—and to identify the trajectory of its evolution. To address this problem, the present study attempts to provide a comprehensive and systematic picture of this field by utilizing data extracted from the Scopus database and integrating bibliometric analysis with science mapping.

Research Questions

Based on the stated problem, the current research seeks to answer the following questions:

1. What has been the growth trend of scientific publications and the citation impact of research on FinTech in Islamic banking and finance during the studied period?
2. Which are the most influential authors, journals, universities, and countries active in this field?
3. What is the pattern and structure of scientific and international collaborations among authors, institutions, and countries?
4. What clusters, keywords, and main themes constitute the intellectual and conceptual structure of this field?
5. How have the research themes of FinTech in Islamic banking and finance evolved over the studied period?
6. What are the most important emerging topics, research gaps, and proposed directions for future research?

Research of Significance

The significance of this research can be explained from several perspectives. From an academic standpoint, the present study

consolidates the fragmented literature on Islamic FinTech into a systematic framework and delineates its knowledge structure and core themes. Methodologically, combining scientific performance analysis with science mapping tools enables the simultaneous examination of publication trends, citation rates, influential authors and institutions, international collaborations, keyword co-occurrences, and thematic evolution. Bibliometric analysis, as a quantitative method, can provide an objective picture of the scientific production and impact within a field, serving as a foundation for research and policymaking decisions (Donthu et al., 2021; Demir et al., 2025).

From a practical perspective, the findings of this research can be beneficial for researchers, universities, Islamic banks, FinTech companies, regulatory bodies, and financial policymakers. Identifying emerging technologies and topics helps Islamic financial institutions better determine their priorities for digital innovation. Additionally, highlighting research gaps can pave the way for future studies on the Sharia compliance of new technologies, data security and privacy, FinTech regulation, financial inclusion, sustainability, and the role of the objectives of Sharia (Maqasid al-Sharia) in the design of digital services.

Research Objectives

The main objective of this research is the comprehensive analysis of the intellectual structure and thematic evolution of FinTech research in the field of Islamic banking and finance using bibliometric analysis and science mapping based on data from the Scopus database.

In line with the main objective, the specific objectives of the research are: examining the annual trend of scientific publications and citations; identifying influential authors, journals, universities, and countries; analyzing scientific collaboration networks at the institutional and international levels; identifying intellectual and conceptual clusters through keyword co-occurrence analysis; examining the evolution of themes and research orientations over time; and finally, pinpointing emerging topics, research gaps, and appropriate directions for future research and innovations in the field of Sharia-compliant FinTech.

To achieve the aforementioned objectives, this research employs a quantitative and systematic approach of bibliometrics and science mapping. Scientific data are extracted from the Scopus database and analyzed using the Bibliometrix package and the Biblioshiny environment in R software, as well as the VOSviewer software. Thus, the present study attempts to provide a coherent picture of the state of existing knowledge while establishing a scientific foundation

for the development of ethical, inclusive, and Sharia-compliant digital innovations.

Literature Review

The narrative of Islamic banking has historically been one of resilience and ethical adherence, yet the period between 2017 and 2025 marks a distinct "digital awakening" within the financial industry. The contemporary literature suggests that the integration of FinTech is not merely an auxiliary upgrade but a profound structural metamorphosis (Maliha et al., 2024). Scholars have increasingly moved toward the pioneering concept of "Islamic Finance 4.0," emphasizing a transition toward a cyber-physical financial ecosystem where core tenets like transparency and social justice are hardcoded directly into the digital infrastructure (Hassan et al., 2021).

A recurring theme within this evolving ecosystem is the resolution of the traditional "Trust Deficit" that has long plagued participatory financial instruments. In traditional Islamic contracts like Mudaraba, inherent information asymmetry between the financial institution and the entrepreneur has historically led to unsustainably high monitoring costs. Contemporary research addresses this challenge by highlighting Blockchain technology as a transformative "Trust Protocol" (Rabbani et al., 2021). By providing a decentralized, immutable, and transparent ledger, Blockchain aligns seamlessly with the Shariah requirement for absolute transparency, thereby mitigating the classic "Principal-Agent" problem and allowing for a more authentic implementation of profit-and-loss sharing models. Beyond the foundational architecture of trust, the thematic evolution of the field reveals several dominant operational pillars that have actively shaped the research agenda. For instance, Shariah-compliant Robo-advisors have democratized Halal investment paradigms by utilizing machine learning algorithms to ensure the real-time compliance of global equity portfolios (Belanche et al., 2019). Parallel to this development, academic research has increasingly focused on the "Self-Executing" nature of Smart Contracts, which ensure the legal and temporal sequencing of Islamic transactions without the need for costly legal intermediaries. Furthermore, the rise of Regulatory Technology (RegTech) has emerged as a critical frontier, leveraging Big Data analytics to monitor real-time Shariah compliance and proactively prevent financial crimes (Sarea et al., 2023). Ultimately, these technological advancements have driven a pivotal shift in the scholarly landscape by explicitly linking digital innovation with the "Maqasid al-Shariah" or the higher objectives of Islamic law (Laldin & Furqani, 2018). Unlike conventional finance research, which routinely prioritizes operational efficiency and profit maximization, the

contemporary Islamic finance literature is deeply rooted in broader social welfare. Consequently, digital crowdfunding networks, peer-to-peer (P2P) lending models, and mobile Zakat platforms are critically analyzed as instruments for achieving the United Nations Sustainable Development Goals (Hassan et al., 2021). This integrated thematic trajectory firmly positions Islamic FinTech as a vanguard leader in the global movement toward ethical, equitable, and inclusive digital finance (Noreen, 2022).

Research Methodology

In the second stage, the data was extracted from the selected database and cleaned. Information on how the data was collected is presented in Table 1.

Table 1: Filtering information in the Scopus database

In data browsing, keywords are used	"Islamic banking" OR "Islamic finance" OR "Shariah compliant") AND ("fintech" OR "financial technology" OR "Islamic fintech" OR "digital finance" OR "digital banking" OR "blockchain" OR "digital payment" OR "artificial intelligence" OR "RegTech"
language	English
Document type	Article, conference paper, book chapter, Book
Year of publication	2017 – 26 April 2026
Exclusion criteria	Non-English documents were excluded. Studies other than articles, conference papers, and book chapters were excluded

Results of bibliometric analysis

This study adopts a quantitative and systematic bibliometric approach combined with science mapping analysis to examine the growth trends, patterns, and scientific structure of FinTech research within the field of Islamic banking and finance. Bibliometric analysis generally comprises two main components: performance analysis and scientific mapping (Donthu et al., 2021). While performance analysis is used to determine the production level and impact of articles, authors, journals, and countries, scientific mapping visualizes the relationships between documents and research concepts through networks such as keyword co-occurrence, co-citation, and scientific collaboration (Van Eck & Waltman, 2010). To ensure absolute transparency, replicability, and the minimization of researcher bias, the data collection and filtration process strictly followed the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Moher et al., 2009). This systematic framework allows for a comprehensive identification and selection of all relevant scholarly contributions within the specified domain.

The Scopus database was selected as the primary metadata source for data extraction due to its extensive coverage of high-impact

journals and structured citation format (Rabbani et al., 2021). Comparative studies indicate that Scopus ranks among the most reliable and important databases for citation and bibliometric analyses alongside Web of Science and Google Scholar, offering a high level of reliability for bibliometric studies (Martín-Martín et al., 2018). The search was executed in early 2026, targeting the titles, abstracts, and keywords of publications to ensure a broad and inclusive retrieval of literature. For the visualization, thematic analysis, and performance evaluation of the retrieved data, a multi-dimensional analytical approach was utilized rather than relying on a single tool. Primary analysis was conducted in the R environment using the Bibliometrix package and its Biblioshiny interface, which served as a specialized tool for performance analysis, longitudinal statistical tracking, and thematic evolution mapping (Aria & Cuccurullo, 2017). Concurrently, the VOSviewer software (Version 1.6.20) was employed for constructing and visualizing complex scientific mapping networks, specifically focusing on keyword co-occurrence networks and global collaboration maps (Van Eck & Waltman, 2010). Finally, Microsoft Excel was seamlessly integrated into the methodology to handle the initial data cleaning, frequency distribution analysis, and the synthesis of descriptive statistics, ensuring a rigorous preparation of the dataset before mapping.

Descriptive Statistics of Publications

A general assessment of fintech-related publications in the field of Islamic banking and finance, along with their conceptual framework and thematic evolution, has been examined based on data obtained from the Scopus citation database. These data were processed and analyzed using the Biblioshiny tool in the RStudio environment and the VOSviewer software. The research data was collected using keywords related to the field and covers the period from 2017 to April 26, 2026. The findings indicate that, due to the scientific intersection between financial technologies and Islamic banking being a newly emerging field, researchers' interest in this area has increased significantly over the past decade. A summary of this descriptive analysis is presented in Figure 1. The dataset consists of 725 documents published in 359 scientific sources. The annual growth rate of 28.42% indicates that research on fintech in the field of Islamic banking and finance has expanded with significant momentum in recent years. The fact that 1,663 authors contributed to the research, that only 117 documents were authored by a single author, and that there was an average of 2.92 co-authors per document highlights the collaborative and interdisciplinary nature of this field. Furthermore, the 33.38% share of international co-authorship points to the existence of cross-border scientific collaborations in this field.

In terms of content, the fact that the number of keywords is 1,509 demonstrates the diversity of research topics. The fact that the

documents cite 60,008 sources and have an average document age of 2.82 years indicates that this field possesses a new and emerging body of knowledge. The average of 9,393 citations per document also demonstrates that, despite the literature in this field still being in its early stages of development, it has already achieved a significant level of scientific impact.

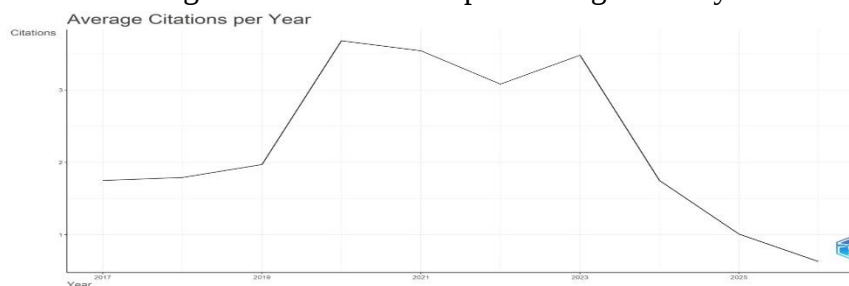


Figure 1. Main Information

Annual scientific output

As shown in Figure 2, scientific output in the field of fintech within Islamic banking and finance has shown an upward trend throughout the period under review. The number of articles rose from 6 in 2017 to 202 in 2025, making 2025 the year with the highest scientific output during this period. Furthermore, the increase in the number of articles from 144 in 2024 to 202 in 2025 demonstrates that the growth in research in this field is continuing.

A relative decline in the number of articles is observed in 2026; however, this decline cannot be interpreted as a genuine decline in scientific output. This is because the data for this study were collected on April 26, 2026, and the publication statistics for that year have not yet been finalized. Overall, the trend shown in the table indicates that knowledge production in the fintech sector within Islamic banking and finance has expanded significantly in recent

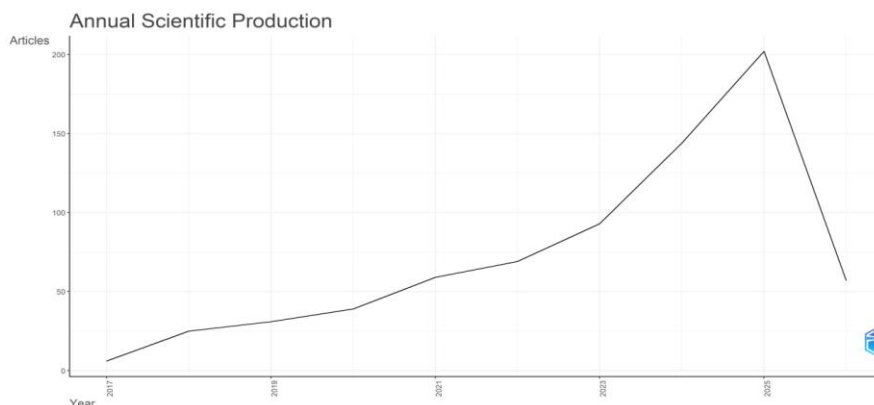


years, and this field has become one of the emerging topics in Islamic finance literature.

Figure 2. Distribution of Futures Literacy Studies Used in the Research by Years

Annual average citation rate

As shown in Figure 3, the average number of citations per article in the fintech field within Islamic banking and finance has varied over the years examined. The highest average citation rate was recorded in 2020, with 25.79 citations per article. This is followed by 2021 (21.22), 2017 (17.50), 2018 (16.12), 2019 (15.77), and 2022. (١٥/٣٨) In recent years, particularly in 2024, 2025, and 2026, the average number of citations has been recorded at a lower level. This decline does not necessarily imply a decline in the scientific quality or impact of the articles; rather, it is related to the time-dependent nature of citations, as newer articles have had fewer opportunities to receive citations. The lowest value was observed in 2026 at 0.63; this can be explained by the fact that the data was collected on April 26, 2026. Figure 3 shows that articles published in 2020 and 2021 have the highest number of citations; in contrast, the low average citation



level in recent years is largely due to the newness of the publications and the fact that the citation cycle has not yet been completed.

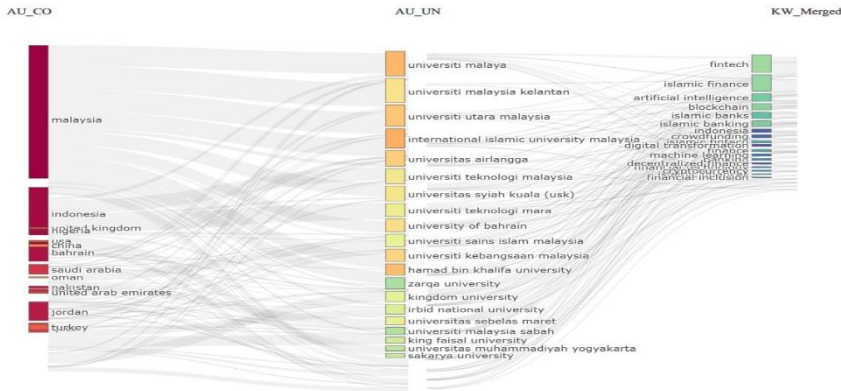
Figure 3. Annual Average Citation Trend of Futures Literacy Studies
A three-dimensional analysis of countries, institutions, and keywords

Figure 4 illustrates the relationship among authors' countries, their affiliated academic institutions, and key research keywords in fintech studies within the field of Islamic banking and finance. This three-dimensional graph was created using RStudio software and the Biblioshiny interface, enabling the simultaneous examination of the geographical origin of scientific publications, active institutions, and primary thematic axes.

Malaysia is the most active country in scientific output in this field, and a significant portion of research activity is concentrated at universities such as the University of Malaya, Universiti Malaysia Kelantan, Universiti Utara Malaysia, and the International Islamic

University Malaysia. This concentration demonstrates that Malaysia is one of the leading centers of knowledge production in fields such as fintech, Islamic banking, and Islamic finance. In addition to Malaysia, countries such as Indonesia, Bahrain, Pakistan, Saudi Arabia, Turkey, Qatar, China, Jordan, India, the United Arab Emirates, and the United Kingdom are also part of this knowledge production network; however, their level of contribution remains more limited compared to Malaysia's.

At the keyword level, concepts such as fintech, Islamic finance, artificial intelligence, blockchain, Islamic banks, Islamic banking, crowdfunding, and digital transformation stand out. This structure demonstrates that the existing literature does not focus solely on traditional Islamic banking; rather, it is increasingly linked to emerging financial technologies, digital transformation, artificial



intelligence, and new financial mechanisms. Figure 4 shows that the research landscape in this field is geographically concentrated largely around Malaysia, yet thematically diverse and interdisciplinary in scope. The connection between academic institutions and technology-focused keywords indicates that fintech research in the field of Islamic banking and finance is directed toward the analysis of new technologies, financial innovation, and digital transformation within the framework of Islamic finance.

Figure 4. Three-Field Plot for Author, Source and Country

Evaluation of Publication Sources

Figure 5 shows the sources that have published the most articles in fintech research in the field of Islamic banking and finance. According to the data, the Journal of Islamic Accounting and Business Research ranks first with 29 articles. It is followed by the Journal of Islamic Marketing (20 articles) and the International Journal of Islamic and Middle Eastern Finance and Management (18 articles). This figure indicates that a significant portion of the

literature in this field is published in journals focused on Islamic finance, accounting, management, and marketing.

In addition, Lecture Notes in Networks and Systems (with 16 articles), Islamic FinTech: Insights and Solutions, and Studies in Systems, Decision and Control (each with 15 articles) play a significant role in publishing research in this field. Furthermore, the fact that FinTech in Islamic Finance: Theory and Practice and FinTech in Islamic Financial Institutions: Scope, Challenges, and Implications in Islamic Finance each contain 14 articles indicates that a portion of the scientific output in this field is published in compilation journals and specialized sources related to Islamic fintech. Figure 5 illustrates that FinTech research in the field of Islamic banking and finance is concentrated in specific, specialized sources. The dominance of sources related to Islamic finance, management, accounting, and new technologies indicates that this field has an interdisciplinary nature and that Islamic finance studies are increasingly expanding into the intersection of business management and financial technology.

Figure 5. Most Productive Journals
Universities with the highest number of publications

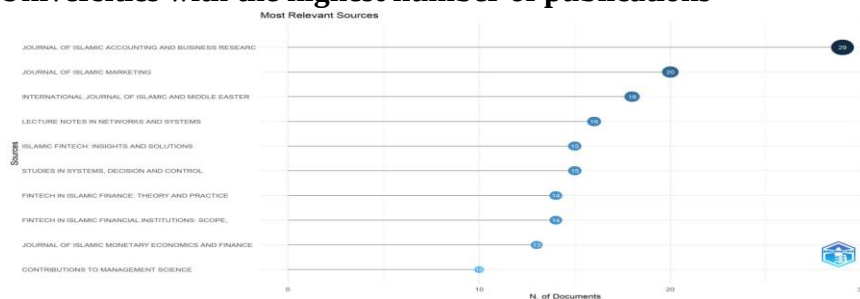
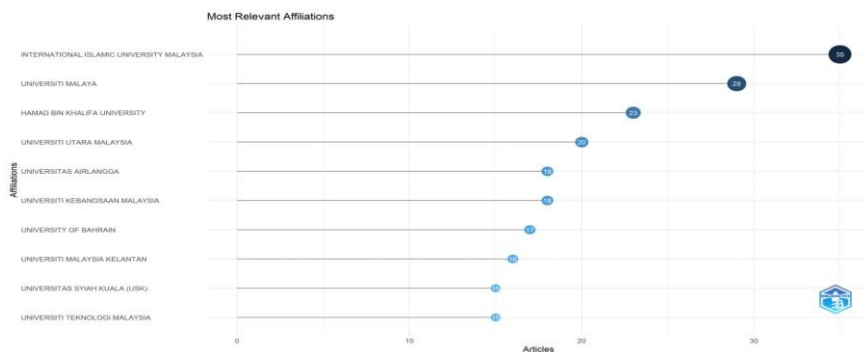


Figure 6 shows the universities and research institutions with the highest number of publications in fintech research in the field of Islamic banking and finance. According to the data, the International Islamic University Malaysia ranks first with 35 articles. It is followed by Universiti Malaya with 29 articles and Hamad Bin Khalifa University with 23 articles, ranking second and third, respectively. Next in line are Universiti Utara Malaysia with 20 articles, and Universitas Airlangga and Universiti Kebangsaan Malaysia, each with 18 articles. Additionally, the University of Bahrain, with 17 articles, Universiti Malaysia Kelantan, with 16 articles, and Universitas Syiah Kuala (USK) and Universiti Teknologi Malaysia, each with 15 articles, are among the other prominent institutions in this field.

Figure 6 shows that scientific output in this field is largely concentrated at universities in Malaysia. The fact that multiple Malaysian universities rank among the leading institutions highlights Malaysia's central role in the development of fintech, Islamic banking, and Islamic finance literature. Furthermore, the inclusion of institutions from Qatar, Indonesia, and Bahrain in this ranking indicates that research in this field is also spreading among



academic centers in Islamic countries and in countries where Islamic financial systems are active.

Figure 6. Organizations with the Most Publications

Authors with the highest number of publications

Figure 7 shows the active authors and reveals that Hassan MK has the largest share in scientific output in this field, with 26 publications. He is followed by Rabbani MR with 16 publications and Khan S with 13 publications. Additionally, Kismawadi ER and Raza Rabbani M are among the other active researchers in this field, each with 12 publications.

This figure indicates that fintech research in the field of Islamic banking and finance is concentrated to a certain extent around a few key authors, and that these researchers have played a significant role in expanding the field’s literature.

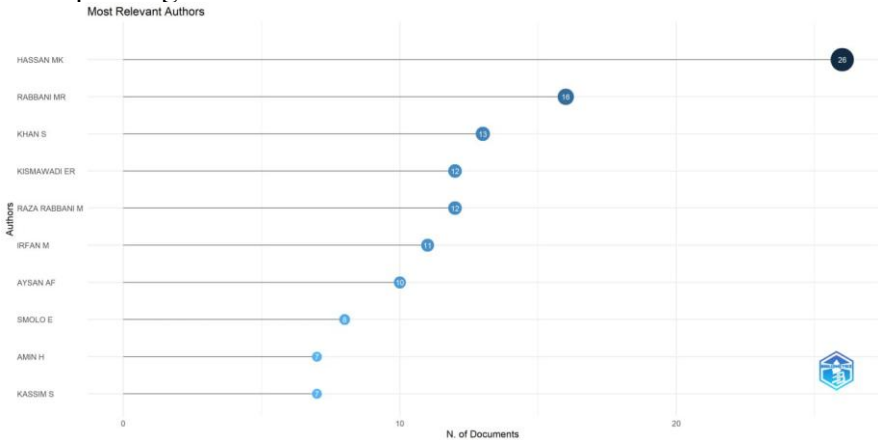


Figure 7. Most Important Authors
Countries with the highest share of scientific output

Table 2, which shows the distribution of countries, reveals that scientific output in the field of fintech within Islamic banking and finance exhibits a distinct geographical concentration. Malaysia ranks first with 525 publications, followed by Indonesia with 467. The significant lead these two countries hold over others indicates that Southeast Asia—particularly Malaysia and Indonesia—is one of the primary centers of knowledge production in this field. Bahrain follows with 116 entries, Jordan with 115, and Pakistan with 84. Additionally, countries such as India, Saudi Arabia, Qatar, the United Kingdom, and the United Arab Emirates are also among the active participants. The presence of these countries indicates that research in fintech and Islamic banking and finance has developed primarily in nations that either possess an active Islamic financial system or play a notable role in the fields of financial technology and international financial services.

Table 2. Most Broadcast Countries

Country	Freq
Malaysia	525
Indonesia	467
Bahrain	116
Jordan	115
Pakistan	84
India	69
Saudi Arabia	59
Qatar	57

Uk	57
United Arab Emirates	55

Figure 8 demonstrates that the fintech literature in the field of Islamic banking and finance is geographically concentrated primarily in Asia and the Middle East but also indicates that the United Kingdom's presence in this field is linked to global financial centers.

Country Scientific Production



Figure 8. Countries with the Most Broadcasts

International scientific collaboration between countries

Table 3 on international scientific collaboration illustrates the cross-national research connections in the field of fintech within Islamic banking and finance. According to the data, the strongest collaborative ties are found in the Kazakhstan–New Zealand and Malaysia–New Zealand relationships; the collaboration level for these relationships is recorded as 171.4849235. This value indicates that New Zealand is one of the core hubs of scientific connections within this network. At the next level, the collaboration relationships between Australia–Japan, Malaysia–Japan, and Oman–Japan are ranked with a collaboration level of 138.0308956. These ties demonstrate that Japan is one of the key research connection hubs in the international collaboration network for this field. Additionally, countries such as China, Indonesia, Malaysia, Pakistan, and Qatar also have significant collaborative ties with Australia; the collaboration level for each of these relationships has been reported as 134.4910001.

From	To	Frequency
Kazakhstan	New Zealand	171.4849235
Malaysia	New Zealand	171.4849235
Australia	Japan	138.0308956
Malaysia	Japan	138.0308956
Oman	Japan	138.0308956
China	Australia	134.4910001

Indonesia	Australia	134.4910001
Malaysia	Australia	134.4910001
Pakistan	Australia	134.4910001
Qatar	Australia	134.4910001

Table 3. The Ten Most Collaborative Countries

Figure 9 shows that international scientific collaboration in this field is not limited to countries with the highest scientific output; but countries such as New Zealand, Japan, and Australia also play a significant role in the research collaboration network. This pattern indicates that research on fintech in Islamic banking and finance has expanded not only through a focus on Islamic and Asian countries but also through collaboration with international research centers.

Figure 9. Cooperation Map of Countries

Most Cited Articles

Table 4 presents the most cited documents in fintech studies in the field of Islamic banking and finance based on the Total Citations, TC per Year, and Normalized TC metrics. While the Total Citations metric indicates the total number of citations each document has received, TC per Year reflects the rate of citation over time, and

Country Collaboration Map



Normalized TC better reflects the relative impact of the article by accounting for temporal and citation-related differences.

According to the data, the article by Ajouz (2023) ranks first with 163 citations, an annual citation rate of 40.75, and a Normalized Impact Factor of 11.71. It is followed by Ali's (2021) paper with 161 citations and Hassan's (2020) paper with 160 citations, ranking second and third, respectively. These three articles demonstrate that topics such as fintech ecosystems in emerging markets, the adoption of fintech in Islamic finance, and the role of fintech in addressing the challenges of the post-COVID era are among the key focal points in this field. Additionally, the articles by Rabbani (2021), Shaikh (2020), Rabbani (2020), Alshater (2022), Zouari (2021), Alam (2019), and Syed (2020) are also among the most cited works. The presence of these articles demonstrates that the fintech literature in the field of Islamic banking and finance addresses not only technology adoption but also topics such as blockchain, artificial intelligence, financial innovation, Islamic financial instruments, and the challenges of digital transformation.

Table 4 shows that the most cited studies in this field are primarily structured around four main themes: fintech adoption, fintech ecosystems, the role of technology in Islamic finance, and the use of emerging technologies such as blockchain and artificial intelligence. Furthermore, the high values of the TC per Year and Normalized TC indicators, particularly in more recent articles such as those by Ajouz (2023) and Alshater (2022), indicate that a portion of the new literature in this field has been able to achieve significant scientific impact in a short period of time.

Paper	DOI	Total Citations	TC per Year	Normalized TC
Ajouz M, 2023, Cuad Econ	10.32826/cud e. v46i132.1217	163	40.75	11.71
Ali M, 2021, Foresight	10.1108/FS- 09-2020- 0095	161	26.83	7.59
Hassan Mk, 2020, J Econ Coop Dev		160	22.86	6.20
RABBANI MR, 2021, J OPEN INNOV: TECHNOL MARK COMPLEX-A	10.3390/joit mc7020136	141	23.50	6.64
Shaikh Im, 2020, Foresight	10.1108/FS- 12-2019- 0105	136	19.43	5.27
Rabbani Mr, 2020, Int J Econ Bus Adm	10.35808/ijeb a/444	124	17.71	4.81
Alshater Mm, 2022, Heliyon	10.1016/j.heli yon. 2022.e10385	121	24.20	7.87
Zouari G, 2021, J Innov Entrepreneurship	10.1186/s137 31-021- 00151-x	117	19.50	5.51
Alam N, 2019, Fintech And Islam Financ: Digit, Dev And Disrupt	10.1007/978- 3-030-24666- 2	115	14.38	7.29
Syed Mh, 2020, Int J Econ Bus Adm	10.35808/IJE BA/466	113	16.14	4.38

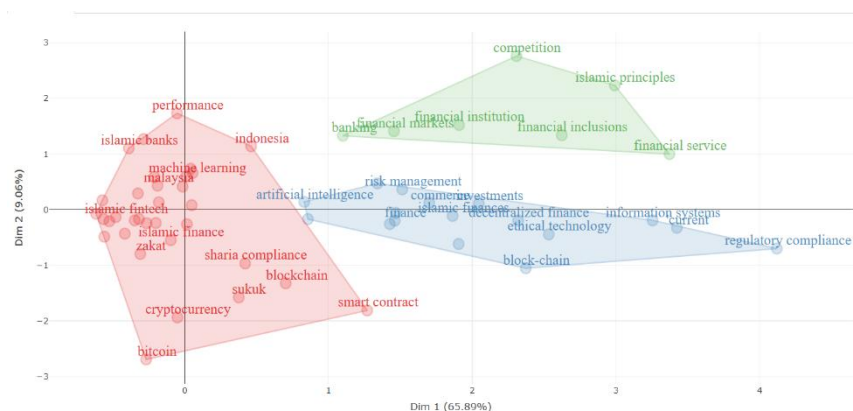
Table 4. Most Influential Articles

Analysis of the Keyword Cloud

Figure 10 shows the most frequently used keywords in fintech research in the field of Islamic banking and finance. The larger size of the words in the figure indicates that they appear more frequently in the analyzed dataset. According to the figure, “Islamic finance,” “fintech,” “blockchain,” “Islamic banking,” and “Islamic banks” are among the most prominent terms. This suggests that the research

intelligence, risk management, investments, finance, information systems, ethical technology, blockchain, and current and regulatory compliance. This cluster reflects that research is focused on the use of smart technologies in Islamic financial services, risk management, information systems, and regulatory requirements. The green cluster, on the other hand, includes keywords such as financial institutions, financial markets, banking, financial inclusion, financial services, Islamic principles, and competition. This cluster points to the institutional and practical dimensions of Islamic finance and indicates that some research examines the relationship between Islamic principles, financial institutions, financial markets, financial services, and financial inclusion.

Figure 11 illustrates that the conceptual framework of this field is structured around three key axes: Islamic fintech and emerging technologies; data-driven and regulatory practices in financial services; and institutional dimensions and financial inclusion within the Islamic finance system. This pattern demonstrates that the fintech literature in the field of Islamic banking and finance has an



interdisciplinary structure and establishes a connection between technology, Islamic finance principles, and the transformation of financial services.

Figure 11. Futures Literacy Conceptual Structure Map

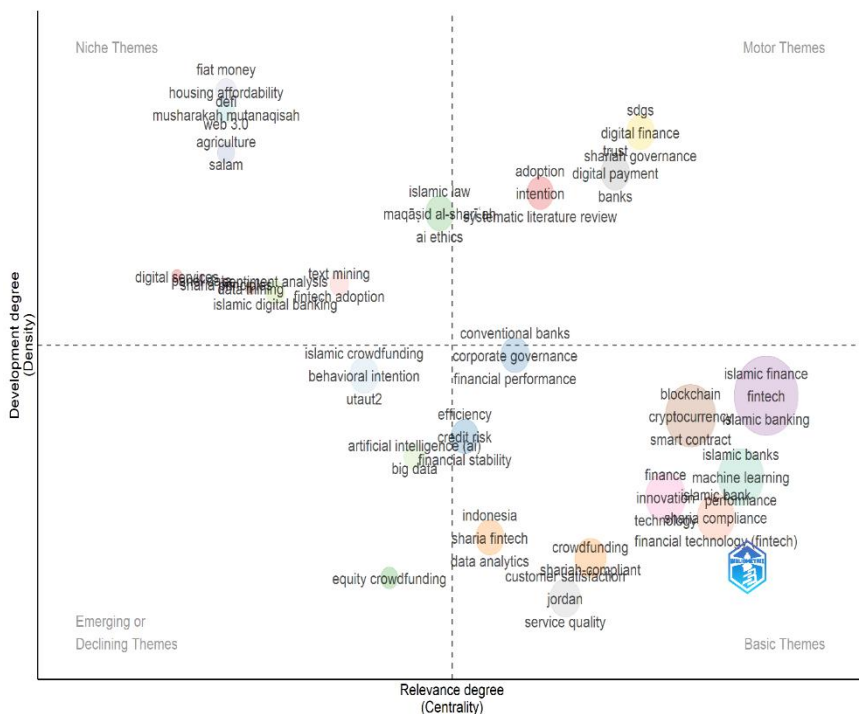
Thematic Map of Research

The thematic map illustrates clusters of fintech research in the field of Islamic banking and finance based on centrality and density indicators. Centrality reflects the level of a topic's relationship with other topics, while density indicates the level of internal development within that topic. Accordingly, the topics can be categorized into four main sections, as shown in Figure 12. The "Core Topics" section includes concepts such as digital finance, digital payments, trust, adoption, intention, banks, Shariah governance, and SDGs. This positioning indicates that research on

the adoption of digital financial services, user trust, digital payments, and Shariah governance has conceptually matured and possesses relatively strong connections with other research axes. Consequently, these topics are shaping the emerging Islamic fintech literature.

In the “Key Topics” section, keywords such as fintech, Islamic finance, Islamic banking, blockchain, cryptocurrency, smart contracts, Islamic banks, financial technology, innovation, machine learning, and compliance are highlighted. The inclusion of these concepts demonstrates that they form the core of the literature and play a fundamental role in connecting various research streams. In particular, the co-occurrence of fintech, Islamic finance, Islamic banking, and blockchain indicates that the intellectual framework of this field is based on the relationship between emerging technologies and Islamic financial frameworks. The specialized topics section includes concepts such as fiat money, DeFi, Web 3.0, musharakah mutanaqisah, housing affordability, agriculture, and salam. These topics have developed to a certain extent internally; however, their connections to the main literature are more limited. Therefore, they can be considered specialized subtopics addressed within specific areas of Islamic finance and financial technologies.

In the section on emerging or declining topics, concepts such as artificial intelligence, big data, data analytics, equity crowdfunding, Islamic crowdfunding, behavioral intention, and Shariah fintech are highlighted. The inclusion of these concepts in this section indicates



that some have not yet fully established themselves at the core of literature. However, the presence of artificial intelligence, big data, and data analytics suggests that future research may shift toward data-driven and smart applications in the field of Islamic banking and finance. This map demonstrates that the thematic evolution of fintech research in the field of Islamic banking and finance is grounded, on the one hand, in foundational concepts such as fintech, Islamic finance, Islamic banking, and blockchain, while expanding, on the other hand, toward topics such as technology adoption, trust, Shariah governance, artificial intelligence, big data, and Islamic crowdfunding. This pattern aligns with the examination of the intellectual framework and thematic evolution of this field, which serves as the central focus of the article.

Figure 12. Thematic Map by Keywords

Trending Topics

Table 5 shows the most frequently used terms in fintech articles in the field of Islamic banking and finance during the period under review. In this table, the Frequency column indicates the number of times each term appears; the Year-Q1, Year-Med, and Year-Q3 indicators represent, respectively, the first quarter, the median year, and the third quarter of each term's temporal distribution within the dataset. The term "fintech" is the most frequently used concept in this field, appearing 176 times. It is followed by "Islamic finance" (161 times), 'blockchain' (93 times), "Islamic banking" (68 times), and "artificial intelligence" (62 times). This composition indicates that the core of research trends is focused on the relationship between financial technology, Islamic finance, Islamic banking, and new technologies.

From a chronological perspective, while terms such as fintech, blockchain, cryptocurrency, Shariah, and Bitcoin appeared earlier in the literature, terms like artificial intelligence, regulatory compliance, emerging technologies, and operational efficiencies have become more prominent in recent years. This shift indicates that the focus of research has shifted from early-stage topics related to fintech and blockchain to newer topics such as artificial intelligence, regulatory compliance, and operational efficiency within the Islamic finance system. Table 5 illustrates that the thematic evolution of this field began with broader fintech and Islamic finance concepts and has expanded in recent years to include advanced technologies, regulatory requirements, and applications within the Islamic banking and finance sector.

Table 5. Trend Topics

Term	Frequency	Year-Q1	Year-Med	Year-Q3
Fintech	176	2021	2023	2025

islamic finance	161	2022	2024	2025
Blockchain	93	2021	2024	2025
islamic banking	68	2023	2024	2025
artificial intelligence	62	2024	2025	2025
islamic finances	60	2023	2025	2025
islamic fintech	43	2022	2023	2025
block-chain	38	2023	2025	2025
Cryptocurrency	31	2021	2023	2025
Innovation	16	2022	2022	2025
Shariah	13	2021	2022	2023
Bitcoin	12	2020	2020	2022
islamic economics	12	2021	2022	2023
regulatory compliance	10	2025	2026	2026
Islamic	7	2020	2021	2022
decision making	6	2018	2020	2024
decision support systems	5	2017	2020	2025
shari'ah	5	2021	2021	2025
social finance	5	2021	2021	2023
emerging technologies	5	2024	2026	2026
operational efficiencies	5	2025	2026	2026

Tree map Analysis of Keywords

The treemap illustrates the frequency distribution of key terms found in the fintech literature within the field of Islamic banking and



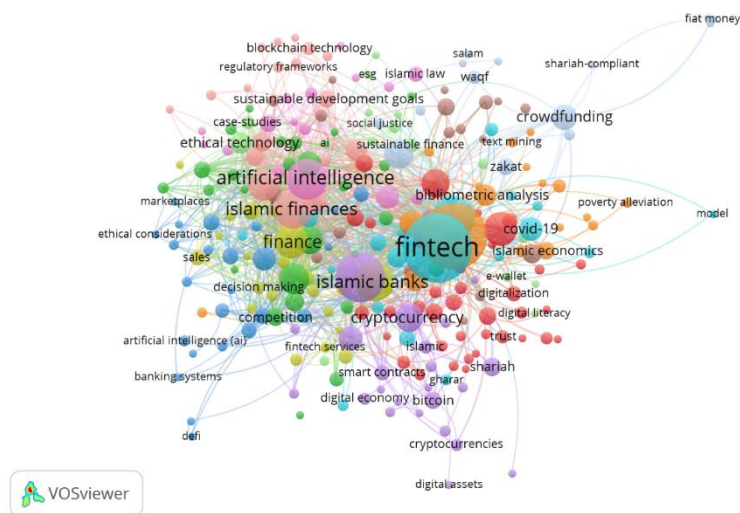
finance. In this graph, the size of each rectangle is proportional to the number of times the corresponding keyword appears in the dataset. According to Figure 13, “fintech” is the most frequently used keyword, with 176 occurrences and a 12% share. This is followed by “Islamic finance,” with 161 occurrences and an 11% share. Additionally, ‘blockchain’ with 93 occurrences and a 6% share, and “Islamic banking” with 68 occurrences and a 5% share, are among the other dominant keywords in this field. The prevalence of these keywords indicates that the research literature primarily focuses on the relationship between fintech, Islamic finance, Islamic banking, and blockchain technology. The presence of terms such as artificial intelligence, Islamic banks, Islamic fintech, cryptocurrency, financial inclusion, and machine learning also suggests that this field is increasingly expanding toward emerging technologies and digital applications within the Islamic financial system.

Figure 13. Tree Map of Keywords

Author-Keyword Network Map

Author keywords are one of the key elements in bibliometric analysis, as they reflect the fundamental concepts and thematic orientations of articles. The analysis of these keywords enables the identification of frequently recurring topics, conceptual connections, and core clusters. Therefore, in this study, a co-occurrence analysis of author keywords was conducted to examine the thematic structure of fintech literature in the field of Islamic banking and finance, and a network map was created using the VOSviewer software (Berber et al., 2025). The co-occurrence map of keywords illustrates the relationships among key concepts in fintech research within the field of Islamic banking and finance. In this map, the size of the nodes represents the frequency of the keywords, while the lines between them indicate the strength of co-occurrence among the concepts. According to Figure 14, fintech is at the center of the network and has strong connections with keywords such as Islamic finance, Islamic banks, blockchain, cryptocurrency, artificial intelligence, and crowdfunding. This indicates that fintech serves as the primary link between financial technology and Islamic finance. Overall, the map shows that the literature in this field focuses on the relationships between fintech, Islamic finance, Islamic banking, blockchain, artificial intelligence, and cryptocurrencies, and is expanding into topics such as digitalization, smart contracts, and Islamic crowdfunding.

Figure 15 illustrates the temporal trends in the co-occurrence of keywords. In this map, blue and purple colors indicate older topics, while colors ranging from green to yellow indicate newer topics within the period under examination. According to the figure, concepts such as fintech, Islamic banks, cryptocurrency, smart contracts, Shariah, e-wallet, and digital assets were more prevalent in the earlier stages of the network. In contrast, keywords such as artificial intelligence, ethical technology, sustainable development goals, blockchain technology, regulatory frameworks, case studies, marketplace, and ethical considerations became more prominent in subsequent years. This shift indicates that the research literature has moved from its initial focus on fintech, cryptocurrencies, and digital financial instruments toward newer topics such as artificial intelligence, ethical technology, regulatory frameworks, and



sustainability. The timeline illustrates that the thematic evolution of this field began with the foundational concepts of fintech and Islamic finance and has become more strongly linked to technological, ethical, and development-focused topics in recent years.

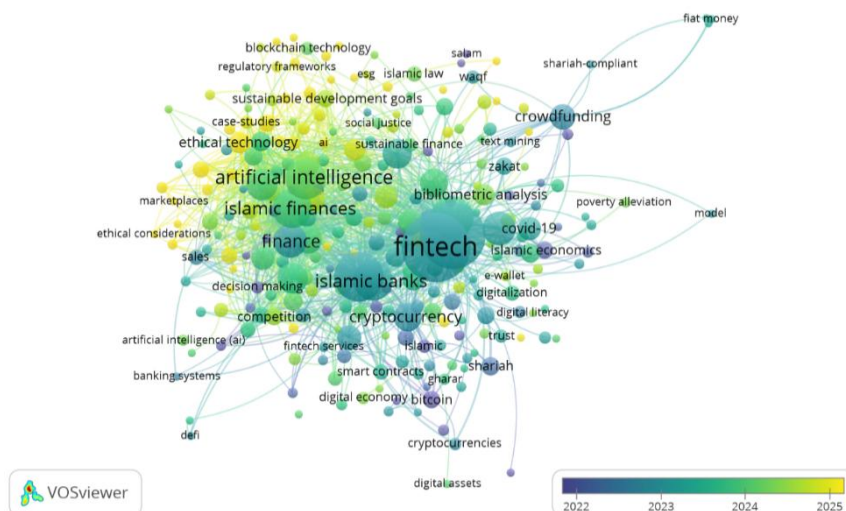
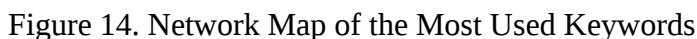


Figure 15. Use of Keywords Over Time

Discussion

The bibliometric analysis reveals that Islamic FinTech research is undergoing a structural shift, with an annual growth rate of 28.42% signaling its transition from a niche topic to a core academic priority (Rabbani et al., 2021). This trend reflects the industry's "digital awakening," where technological integration is no longer optional but a fundamental evolution towards "Islamic Finance 4.0" (Maliha et al., 2024). A key geographical dimension of this structural evolution is the clear intellectual dominance of Southeast Asia, particularly Malaysia and Indonesia (Rabbani et al., 2021). Within this region, the academic leadership of institutions like the International Islamic University Malaysia underscores the development of a highly successful ecosystem that bridges Shariah governance effectively with technological innovation (Hassan et al., 2020). Furthermore, the dense network of international co-authorship links indicates that Islamic FinTech is increasingly serving as a global academic bridge between traditional Shariah-compliant markets and modern conventional technology hubs (Hassan et al., 2021).

In addition to this dynamic regional leadership, the longitudinal thematic evolution of the literature demonstrates a clear and progressive research trajectory. While early scholarly contributions between 2017 and 2020 focused heavily on the theoretical foundations of Blockchain and Cryptocurrencies, the current "Research Front" has rapidly matured toward Artificial Intelligence (AI) and Regulatory Technology (RegTech) (Sarea et al., 2023).

This paradigm shift indicates that the academic field is moving beyond the initial phase of "trust-building" via decentralized ledgers toward a more sophisticated focus on "operational efficiency" and automated compliance via AI-driven tools (Belanche et al., 2019). This technological advancement is deeply intertwined with the ethical foundations of the discipline, as evidenced by the strong alignment of modern research clusters with the United Nations Sustainable Development Goals (SDGs) and the broader framework of Maqasid al-Shariah (Laldin & Furqani, 2018). By actively leveraging digital crowdfunding and robo-advisory networks for practical financial inclusion, the contemporary model of Islamic FinTech explicitly distinguishes itself from conventional financial technology through its core rootedness in social welfare and distributive ethical justice (Noreen, 2022).

However, despite this robust thematic maturation, the persistent challenge of "intellectual fragmentation" across different scientific domains necessitates significantly more interdisciplinary research in the coming years (Donthu et al., 2021). To overcome these silos, future studies should critically prioritize the complex intersection of Ethical AI and Decentralized Finance (DeFi), thereby ensuring that increasing technological autonomy remains structurally consistent with the foundational ethical and religious mandates of Islamic law (Sarea et al., 2023).

Conclusion

This study provided a comprehensive science mapping of the Islamic FinTech landscape, revealing that the field has entered a phase of digital maturity. Based on the analysis of 725 documents, the robust annual growth rate of 28.42% reflects an accelerating commitment to digital transformation within the Shariah-compliant financial ecosystem. Malaysia and Indonesia serve as the primary knowledge anchors, successfully merging traditional Shariah principles with emerging technologies (Rabbani et al., 2021).

Thematic findings indicate a significant shift toward Artificial Intelligence (AI), Ethical Technology, and the Sustainable Development Goals (SDGs) (Sarea et al., 2023). This evolution signifies a strategic move toward data-driven applications that prioritize social impact and the higher objectives of Shariah (Laldin & Furqani, 2018). Future research should explore the ethical implications of decentralized finance (DeFi) and the role of "Shariah-RegTech" in ensuring global financial stability. Ultimately, this bibliometric mapping provides a strategic roadmap, ensuring that the future of Islamic FinTech remains grounded in both technological excellence and ethical authenticity.

Recommendations

Based on the findings of this bibliometric analysis and the observed development patterns within the Islamic FinTech ecosystem, several practical and academic recommendations can be proposed. First,

policymakers, regulators, and Islamic financial institutions should strengthen international collaboration between academia and industry. Successful experiences from countries such as Malaysia and Indonesia demonstrate that supportive regulatory environments and innovation-friendly frameworks can significantly accelerate the growth of Islamic FinTech. Therefore, countries that are still at an early stage of development may benefit from adopting similar collaborative approaches and regulatory initiatives.

Second, the growing prominence of Artificial Intelligence (AI) and Regulatory Technology (RegTech) in recent research highlights the need for greater investment in digital compliance solutions. Islamic financial institutions should prioritize the development of AI-powered Shariah compliance systems that can enhance transparency, improve auditing processes, reduce operational costs, and facilitate real-time monitoring of financial transactions.

Third, as Islamic FinTech increasingly intersects with sustainability and social development objectives, developers, entrepreneurs, and investors should focus on creating innovative digital solutions that promote financial inclusion and social welfare. Platforms such as digital crowdfunding, peer-to-peer financing, and mobile Zakat applications can play an important role in expanding access to financial services while remaining aligned with the principles of Maqasid al-Shariah and the United Nations Sustainable Development Goals (SDGs).

Finally, the fragmented nature of the existing literature suggests a need for more interdisciplinary research in the future. Scholars should move beyond traditional disciplinary boundaries and integrate perspectives from finance, information technology, artificial intelligence, blockchain-based financial systems, and Islamic jurisprudence. Such an integrated approach would contribute to a deeper understanding of Islamic FinTech and support the development of more innovative and sustainable solutions for the global Islamic financial industry.

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