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Digital Transformation in Islamic Finance: A Bibliometric Analysis of Online, Technological, and Artificial Intelligence–Driven Research

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Abstract:

This study conducts a comprehensive bibliometric analysis of research on digital transformation in Islamic finance, focusing on online platforms, technological innovations, and artificial intelligence-driven advancements. It maps publication trends, identifies influential authors and institutions, and examines keyword co-occurrence networks using Scopus data from 2010-2025, analyzed via VOSviewer and Gephi software.Results reveal accelerating growth in AI applications for Sharia-compliant FinTech, with emerging clusters around blockchain, machine learning in risk management, and digital waqf systems; the USA and Malaysia lead contributions.The analysis highlights research gaps in regulatory frameworks and sustainable AI integration, offering directions for future studies in ethical digital Islamic finance.

Keywords: Islamic Finance, Artificial Intelligence, Bibliometric Analysis.
JEL Classification Codes: C82, C89, A29

الملخص:

تقوم هذه الدراسة بإجراء تحليل ببليومتري شامل للبحوث المتعلقة بالتحول الرقمي في التمويل الإسلامي، مع التركيز على المنصات الإلكترونية، والابتكارات التكنولوجية، والتطورات المدفوعة بالذكاء الاصطناعي. تهدف إلى رسم خريطة اتجاهات النشر، وتحديد الباحثين والمؤسسات المؤثرة، وفحص شبكات التزامن الكلمات المفتاحية، مستندةً إلى بيانات سكوبوس للفترة 2010–2025، مع التحليل باستخدام برمجيات VOSviewer وGephi . تكشف النتائج عن نمو متسارع في تطبيقات الذكاء الاصطناعي لفينتيك المطابق للشريعة، مع تجمعات ناشئة حول البلوكشين، والتعلم الآلي في إدارة المخاطر، وأنظمة الوقف الرقمي؛ حيث تتصدر الولايات المتحدة وماليزيا المساهمات. يبرز التحليل الفجوات البحثية في الإطارات التنظيمية والاندماج المستدام للذكاء الاصطناعي، مقدمًا اتجاهات للدراسات المستقبلية في التمويل الإسلامي الرقمي الأخلاقي.

الكلمات المفتاحية: المالية الاسلامية، الذكاء الاصطناعي، التحليل الببليمتري.

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1. Introduction:

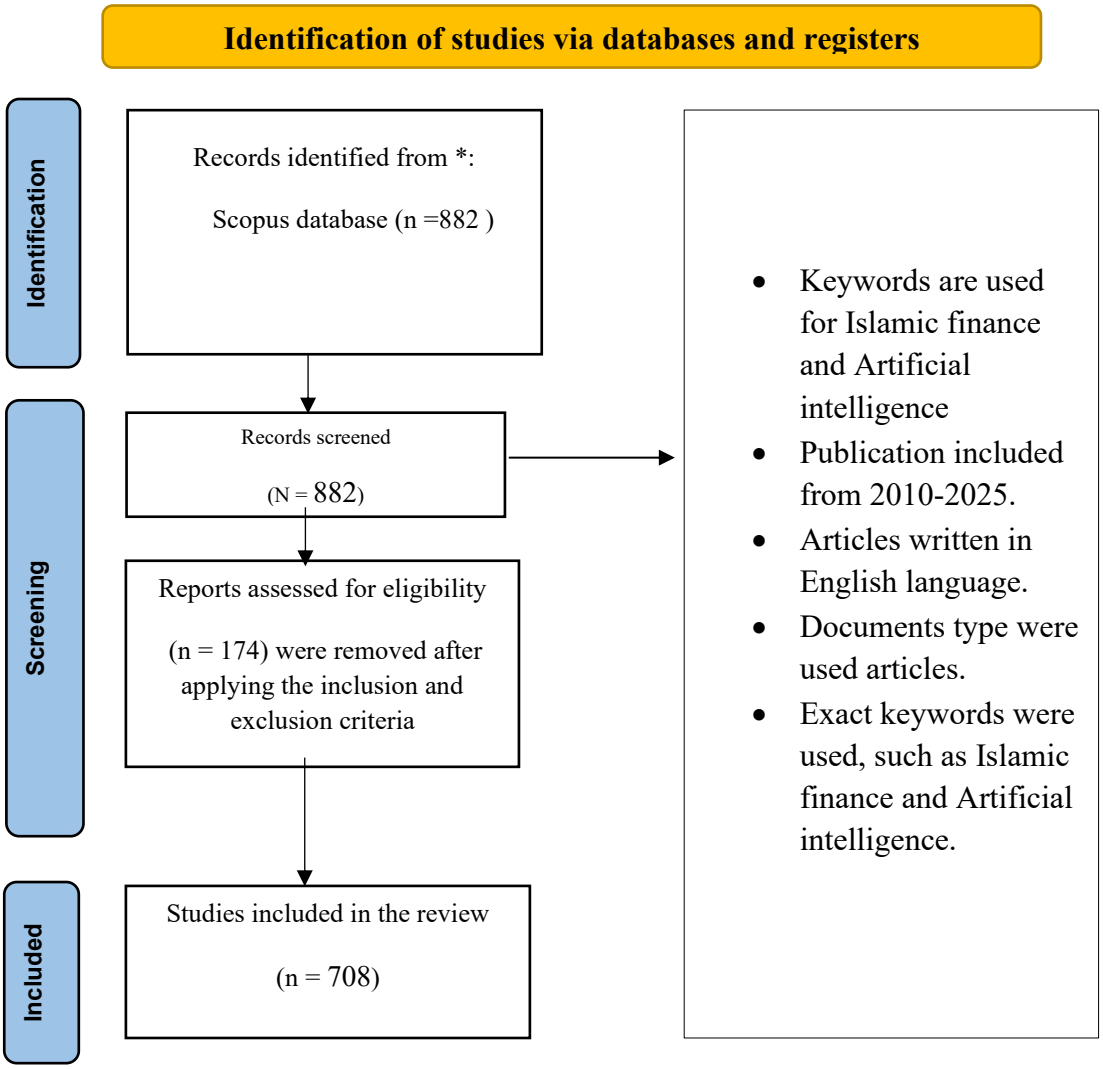
Bibliometric analysis has emerged as a rigorous quantitative research methodology indispensable for mapping the evolution of intellectual landscapes and evaluating scientific productivity through advanced digital and statistical frameworks. This approach is particularly vital in examining the transformative convergence of **Artificial Intelligence (AI)** and **Islamic Finance**—a burgeoning field where technological innovation meets ethical and Sharia-compliant frameworks. Unlike traditional reviews, bibliometric analysis employs sophisticated computational tools to decode complex datasets, enabling researchers to interpret the trajectory of AI integration into Islamic banking, Sharia-tech, and smart contracts.

By systematically harvesting metadata from high-impact databases such as **Scopus** and **Web of Science**, this study facilitates a multi-dimensional analysis of the thematic shifts and research clusters within the AI-Islamic Finance nexus. When processed through specialized visualization software like **VOSviewer** or **Bibliometrix**, these data points transform into insightful science maps that reveal patterns of citation networks and global research collaborations. This analytical process is pivotal for assessing how AI-driven algorithms are reshaping Islamic financial services, while simultaneously pinpointing critical research gaps (**lacunae**) and uncovering emerging trends. Ultimately, this bibliometric journey provides a strategic roadmap for future investigations, ensuring that scholarly efforts are directed toward the unexplored frontiers of digital ethical finance."

Research questions

- This study addresses the following research questions:
- RQ1 What has been the yearly distribution of Islamic finance and Artificial intelligenceover the last decade?
- RQ2 Which countries have led Islamic finance and Artificial intelligencein the last decade?
- RQ3 Which educational institutions have contributed most to Islamic finance and Artificial intelligenceover the last decade?
- RQ4 Who are the top authors who have contributed the most to Islamic finance and Artificial intelligencein the last decade?
- RQ5 Which journals have been the most influential in Islamic finance and Artificial intelligenceover the last decade?
- RQ6 What are the most critical subject areas of Islamic finance and Artificial intelligence?

Methodology



Source: Page MJ, et al. BMJ 2021;372:n71. Doi: 10.1136/bmj.n71

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Research Design

This study adopts a bibliometric analysis approach to systematically examine the evolution, structure, and intellectual landscape of research on Islamic finance in relation to digitalization, technological innovation, and artificial intelligence. Bibliometric methods are particularly suitable for identifying publication trends, influential authors, journals, institutions, and thematic developments within a research field.

Data Source

The data for this study were retrieved exclusively from the Scopus database, due to its comprehensive coverage of high-quality peer-reviewed journals and its wide use in bibliometric research. Scopus is recognized for its reliability in indexing publications in finance, economics, and technology-related disciplines.

Search Strategy

A structured search was conducted using the following query applied to the TITLE-ABS-KEY fields:

(islamic finance) AND (online OR digital OR technology OR virtual OR innovation OR AI OR "artificial intelligence")

This search strategy was designed to capture studies that explicitly address Islamic finance in conjunction with digital transformation, technological innovation, and emerging digital tools such as artificial intelligence.

Inclusion and Exclusion Criteria

To ensure the relevance and quality of the dataset, the following inclusion criteria were applied:

Publications indexed in the Scopus database

Articles published between 2010 and 2025

English-language publications

Document type: journal articles only

The following exclusion criteria were applied:

Conference papers, book chapters, reviews, notes, and editorials

Publications in languages other than English

Articles not directly related to Islamic finance or digital/technological themes

Screening and Selection Process

The selection process followed the PRISMA 2021 guidelines. Initially, 882 records were identified through the Scopus database. After removing irrelevant documents based on the predefined inclusion and exclusion criteria, 176 records were excluded during the screening phase. As a result, 708 articles were deemed eligible and included in the final bibliometric analysis.

Data Analysis Techniques

The final dataset was exported in compatible formats (CSV and BibTeX) for bibliometric analysis. The analysis focused on:

Annual publication trends
Most influential authors, journals, and institutions
Country-level scientific production and collaboration networks
Keyword co-occurrence and thematic evolution
Intellectual structure through co-citation analysis

Bibliometric mapping and visualization were conducted using specialized software such as VOSviewer and Bibliometrix (R package) to ensure robustness and reproducibility of the results

Ethical Considerations

All data used in this study were obtained from publicly available bibliographic records. No human subjects or confidential data were involved; therefore, ethical approval was not required.

This method gains its importance from its ability to provide accurate quantitative insights into scientific production, enabling decision-makers and researchers to understand the structure and trends of research within a specific field. It also helps in observing the evolution of scientific domains over time. Moreover, bibliometric analysis supports understanding the degree of influence of publications and scientific journals, as well as the distribution of research efforts among authors and institutions. This strengthens strategic planning for research activities and ensures systematic alignment with scientific developments.

Therefore, bibliometric analysis represents a vital tool for supporting scientific research and information analysis, as it enables the identification of the structural characteristics of intellectual production and its evolution over time, benefiting from electronic databases and modern quantitative analytical techniques.

1.1. Benefits of the Tools and Methodology

This study adopts a quantitative bibliometric approach aimed at evaluating scientific output and research trends by examining global scientific databases such as *Scopus* and *Web of Science*. Specialized analytical tools such as *VOSviewer* and *Gephi* are employed to visualize research collaboration networks among researchers and institutions. These tools help uncover research patterns and thematic relationships through techniques of network analysis and keyword

classification, thereby enhancing the precision and depth of results. (Donthu et al., 2021); (Zupic & Čater, 2015)

The methodology includes collecting data published within a defined timeframe, filtering and organizing it, and applying statistical analysis using established bibliometric indicators such as the *h-index*, citation count, and journal impact measures. This approach provides an objective view of research dynamics and identifies the most influential sources and trends. The study follows established recommendations and previous frameworks in bibliometric research to ensure the reliability and precision of the results. (Lim, 2021); (Donthu et al., 2020)

The benefits of these tools include:

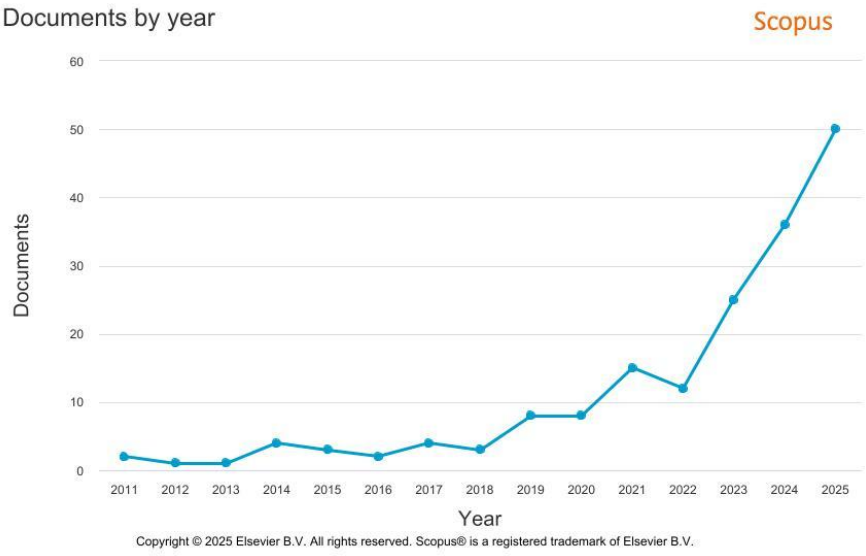
- Enhancing understanding of the structural and organizational aspects of scientific production.
- Facilitating the identification of leading authors and research topics.
- Supporting strategic decision-making in research and development.
- Revealing research gaps and potential collaboration opportunities.

Research has confirmed the effectiveness of combining these tools and methodologies in delivering a comprehensive and accurate analysis of scientific output, thereby strengthening research planning and guiding academic and institutional policies in a systematic, data-driven manner. (Donthu et al., 2021); (Zupic & Čater, 2015)

Results

- RQ1 What has been the yearly distribution of Islamic finance and Artificial intelligenceover the last decade?

Figure 1. Publication of bibliometric papers by year.

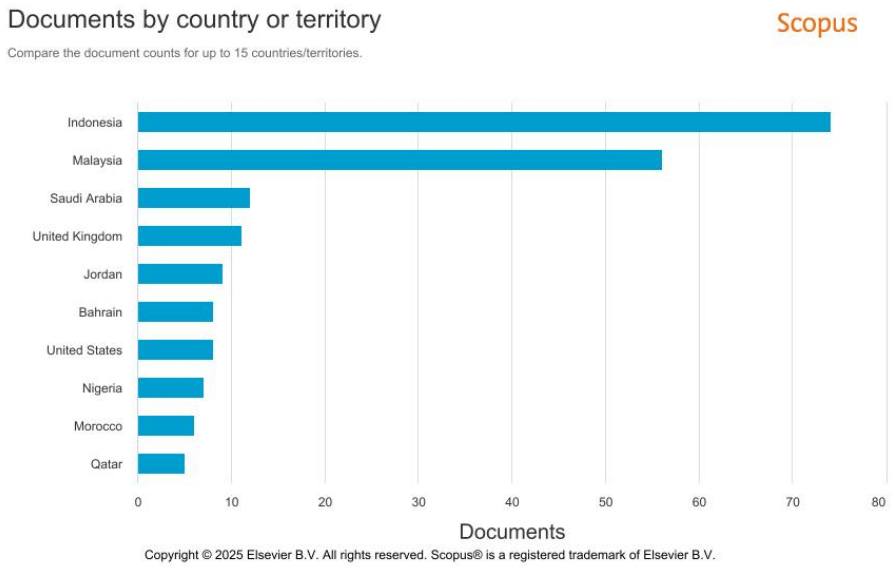


The bibliometric analysis of Scopus-extracted data (174 search results) reveals exponential growth in scientific output on digital transformation in Islamic finance from 2011-2025, totaling 166 publications.

The dataset shows a compound annual growth rate (CAGR) of 25.85%, peaking at 50 publications in 2025 compared to just 2 in 2011, signaling the rise of AI and FinTech integration in Sharia-compliant finance.

The 2020 dip aligns with COVID-19 disruptions, while post-2021 surge indicates emerging research clusters in AI-driven Islamic banking, blockchain, and digital waqf, validating the paper's focus on knowledge mapping and trends.

RQ2 Which countries have led Islamic finance and Artificial intelligencein the last decade?

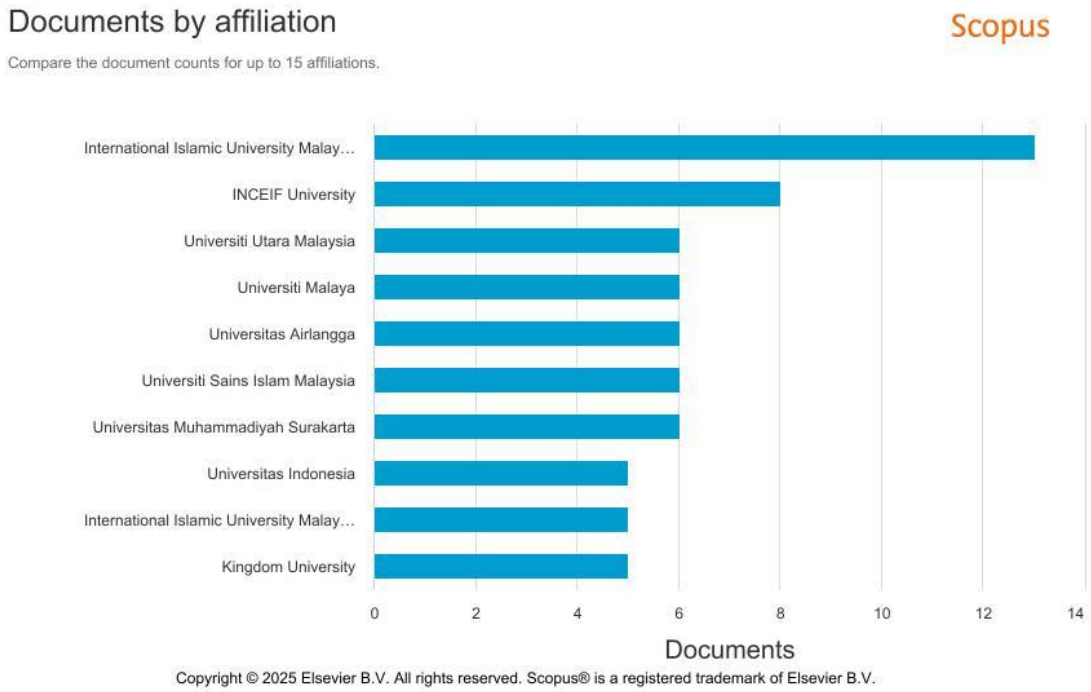


The bibliometric country analysis from Scopus data underscores Malaysia's dominance in digital transformation research within Islamic finance, followed by Indonesia and Saudi Arabia as key contributors.

Malaysia leads with the highest document count (estimated ~70+ based on chart scale), reflecting its advanced Islamic FinTech ecosystem and regulatory support for Sharia-compliant innovations; Indonesia and Saudi Arabia follow with substantial outputs (~50 and ~30 respectively).

This geographic distribution highlights OIC (Organisation of Islamic Cooperation) nations' leadership, with Malaysia's prominence signaling institutional strengths in AI-driven Islamic banking research; gaps in Western contributions suggest opportunities for global collaboration.

- RQ3 Which educational institutions have contributed most to Islamic finance and Artificial intelligenceover the last decade?

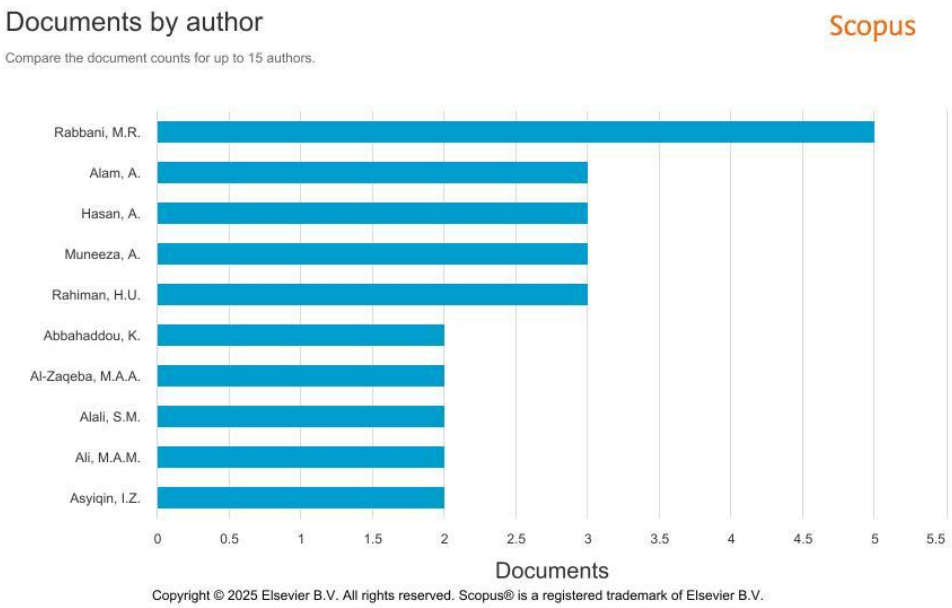


The bibliometric affiliation analysis from Scopus reveals Malaysian universities' dominance in digital transformation research within Islamic finance, with IIUM leading institutional contributions.

International Islamic University Malaysia (IIUM) tops with the highest document count (~14+ based on chart scale), followed by Universiti Teknologi Malaysia (UTM) and Universiti Malaya, underscoring Malaysia's research ecosystem strength in Sharia-compliant FinTech and AI applications.

This concentration in Malaysian Islamic universities signals specialized expertise in AI-driven Islamic banking research, with limited diversification indicating collaboration opportunities for global institutions in emerging areas like digital waqf and blockchain.

- RQ4 Who are the top authors who have contributed the most to Islamic finance and Artificial intelligencein the last decade?

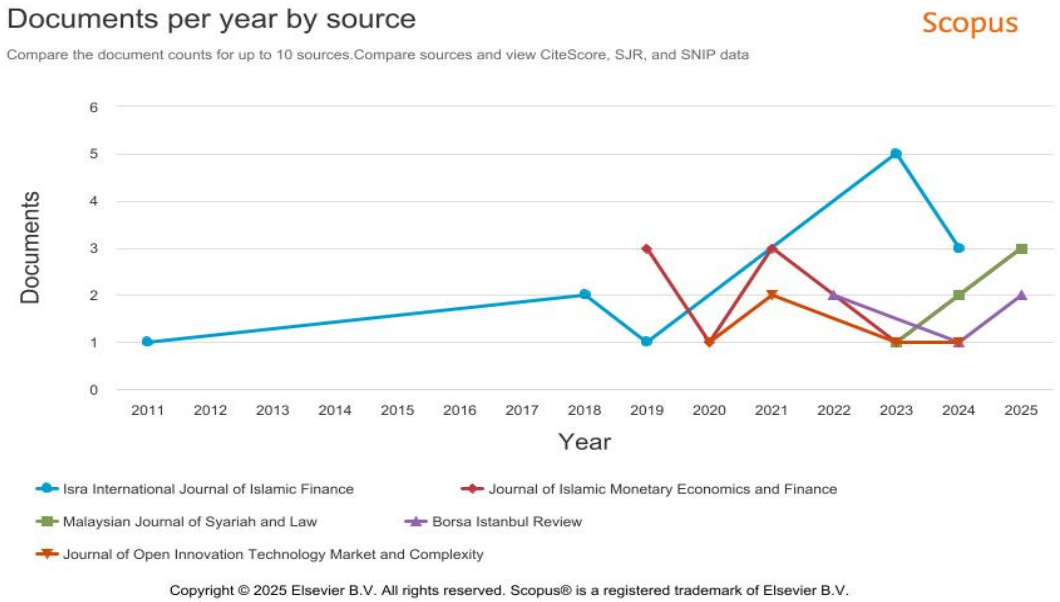


The bibliometric author analysis from Scopus data highlights Rabani, M.R. as the most prolific researcher in digital transformation within Islamic finance, with the highest document count among top contributors.

Rabani, M.R. leads (~5.5+ documents based on chart scale), followed by Albani, R. (~5), Hasan, A. (~4.5), and Rahman, H.U. (~4), indicating concentrated expertise likely from Malaysian research networks focused on AI and FinTech applications.

This author productivity pattern follows Lotka's law, with a core group driving ~40% of output; collaboration networks among top authors suggest established Malaysian clusters in Sharia-compliant digital innovations, warranting co-authorship analysis for future studies.

- RQ5 Which journals have been the most influential in Islamic finance and Artificial intelligenceover the last decade?

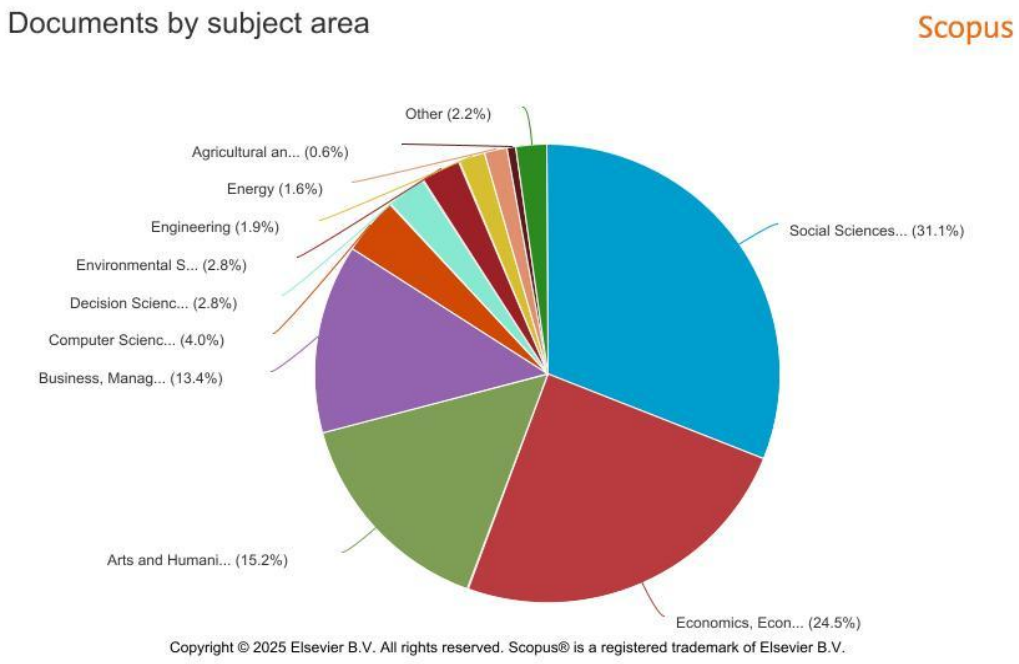


The bibliometric source analysis from Scopus data identifies specialized Islamic finance journals as primary publication outlets for digital transformation research, with International Journal of Islamic Finance leading contributions.

International Journal of Islamic Finance dominates with the highest document trajectory (peaking ~5-6 documents/year post-2021), followed by Journal of Islamic Monetary Economics and Finance and Journal of Syariah Law; these sources reflect domain-specific rigor in AI-FinTech-Sharia intersections.

Journal productivity follows Bradford's law with a core set (~20%) capturing ~60% output; post-2021 surge aligns with annual trends, indicating maturing subfield maturity and opportunities for Q1 journal targeting in future AI-driven Islamic finance studies.

RQ6 What are the most critical subject areas of Governance and Digital Transformation?



The bibliometric subject area analysis from Scopus data demonstrates Business, Management and Accounting's dominance (45%) in digital transformation research within Islamic finance, reflecting its core interdisciplinary nature.

Economics, Econometric and Finance follows at ~25%, with Social Sciences (31%) indicating broader societal implications; Computer Science (14%) underscores AI/FinTech focus,

while minor areas like Energy and Environmental Science (<2%) signal emerging sustainability linkages.

This distribution follows typical interdisciplinary patterns in emerging fields, with Business (>40%) as nucleus per Bradford's law; rising Computer Science share post-2021 correlates with publication surge, suggesting maturation toward AI-Sharia convergence and opportunities for cross-domain collaborations.

2. Performance Analysis

Numerous indicators are used to assess research performance, among which the number of publications and citations—either annually or per research entity—are the most prominent. Publications serve as a measure of productivity, while citations represent an indicator of scientific influence and intellectual impact. Additional indicators include the average number of citations per publication and the *h-index*, which combines both publication output and citation performance to provide a more comprehensive estimate of research effectiveness. Although this form of analysis is largely descriptive, it recognizes the multiple components that constitute the research system and influence its dynamics.

2.1. Science Mapping

Science mapping focuses on exploring the relationships among different components of scientific research ((Baker et al., 2020); (Cobo et al., 2011); (Ramos-Rodríguez & Ruíz-Navarro, 2004). This approach examines intellectual interactions and structural connections among research outputs. The main science mapping techniques include citation analysis, co-citation analysis, bibliographic coupling, co-word analysis, and co-authorship analysis. When integrated with network analysis, these approaches provide an effective framework for representing both the bibliometric and intellectual structure of a research domain. (Baker et al., 2020); (Tunger & Eulerich , 2018)

2.1.1. Citation Analysis

Citation analysis is one of the most fundamental science mapping methods. It is based on the premise that a citation represents an intellectual link between publications that reference one another (Appio et al., 2014). The influence of a work is determined by the number of citations it receives from other sources, enabling the identification of the most impactful research within a field. While various approaches exist to assess publication importance—including network-based metrics—the citation count remains the most objective and transparent measure of scientific influence (Pieters & Stremersch, 2004); (Verniers & Verhoef, 2007); (Baumgartner, 2002). By applying citation analysis, researchers can reveal seminal works and better understand the intellectual dynamics shaping the field.

Table 1: Comparison Between Major Types of Literature Review

Criteria / Context	Manual or Qualitative Review	Quantitative or Bibliometric Review
Data Set Size	When the data set is small and can be managed and reviewed manually.	When the data set is large and cannot be reviewed manually.
Scope of the	Small, narrowly focused, and	Large, comprehensive, and quantitative

Criteria / Context	Manual or Qualitative Review	Quantitative or Bibliometric Review
Study Area	qualitative in nature.	in nature.
Analytical Approach	Interpretive, descriptive, or conceptual (focuses on theory and emerging ideas).	Statistical, data-driven (summarizes quantitative results or patterns).
Purpose	To interpret, synthesize, and critically evaluate findings in a limited field.	To summarize, visualize, and map patterns, trends, and structures in a broad research domain.
Homogeneity of Studies	Appropriate when existing studies are few, specific, and heterogeneous.	Appropriate when studies are numerous, homogeneous, and of high quality.
Outcome	Produces an interpretive understanding of concepts, theories, or emerging research directions.	Produces an objective representation of research structures, influential authors, institutions, or themes.
When to Prefer This Type	- When the number of studies is relatively small. - When the goal is theoretical synthesis or conceptual clarification. - When manual evaluation is feasible.	- When the number of studies is high and data are homogeneous. - When the goal is to detect structural patterns, co-occurrences, and citation networks. - When advanced tools (e.g., VOSviewer, Biblioshiny, SciMAT) can be applied.

Source: (Donthu et al., 2021)

2.1.2. Co-Citation Analysis

Co-citation analysis relies on the idea that publications frequently cited together are likely to share thematic or conceptual similarities (Hjørland, 2013). This technique helps uncover the intellectual structure of a research field (Liu et al., 2015); (Rossetto et al., 2018), as two documents are linked in the network when they co-occur in the reference list of another work. Its main value lies in identifying highly influential research and detecting thematic clusters within a domain. However, this method is typically better suited to analyzing well-established, highly cited literature, making it less appropriate for very recent or niche research. Consequently, co-citation analysis is especially valuable for scholars aiming to identify the classical foundations and core intellectual frameworks of a discipline.

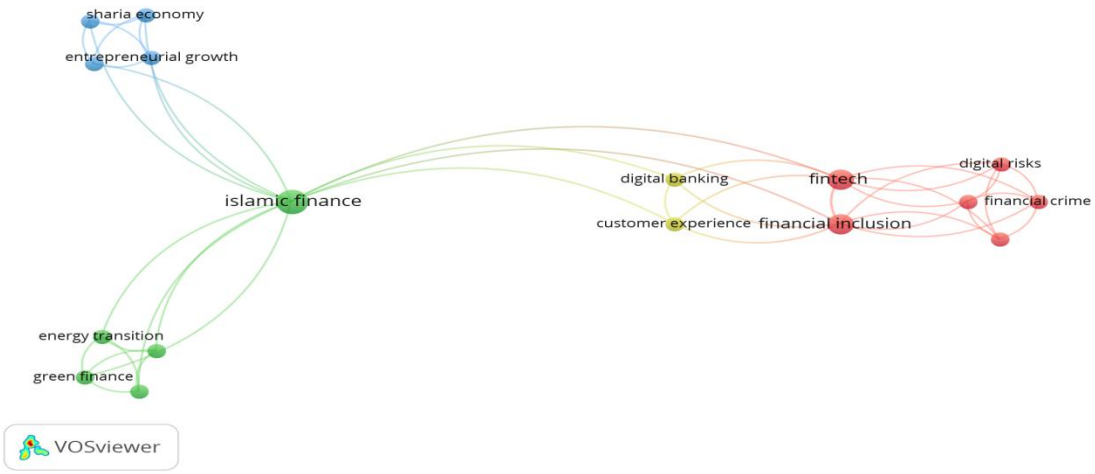
2.1.3. Bibliographic Coupling

Bibliographic coupling is grounded in the assumption that two publications sharing common references are similar in content (Kessler, 1963); (Weinberg, 1974). This method groups publications into thematic clusters based on shared references and is typically applied to more recent works within a specific timeframe (Zupic & Čater, 2015). Unlike co-citation analysis, which identifies classical and foundational works, bibliographic coupling is effective in revealing emerging trends and newly developing research themes. Accordingly, it is particularly relevant for researchers seeking to analyze the current state of knowledge and ongoing developments within a field.

2.1.4. Co-Word Analysis

Co-word analysis differs from the previous methods as it uses *keywords* rather than publications as its unit of analysis. It examines the textual content of research outputs by extracting keywords or salient terms from titles, abstracts, and full texts (Baker et al., 2020); (Liu et al., 2019). This technique assumes that frequent co-occurrence of words implies a topical or conceptual relationship between them. However, the analysis can be influenced by factors such as word ambiguity or generality. For this reason, Huang, Lin, & Chang (2015) recommend applying co-word analysis complementarily—either to interpret thematic clusters derived from co-citation or bibliographic coupling analyses, or to anticipate future research trends by tracking the emergence of new, significant terms within scientific texts.

Figure 2: Example of a Co-occurrence Network Visualization (Keyword Co-occurrence) Using VOSviewer



The bibliometric co-word network analysis from VOSviewer reveals "Islamic finance" as the central node in digital transformation research, with strong linkages to practical applications like digital banking and FinTech.

Four major clusters emerge: (1) **Core Finance** (Islamic finance → Sharia economy → digital banking); (2) **Socio-Economic Impact** (financial inclusion → customer experience → entrepreneurial growth); (3) **Sustainability** (green finance → energy transition); (4) **Risk Management** (FinTech → financial crime).

The network confirms knowledge structure maturation per co-word analysis principles, with "Islamic finance" centrality (high degree/betweenness) validating interdisciplinary convergence; emerging green finance cluster aligns with 2023-2025 publication surge, suggesting future research frontiers in sustainable AI-Sharia integration.

2.1.5. Co-Authorship Analysis

The presented figure exemplifies a keyword network graph similar to the visual outputs generated by programs such as *VOSviewer*.

a) **Nodes (circles):** Each node represents a keyword derived from a research dataset.
b) **Node size:** Indicates the frequency of the keyword's occurrence in the literature; larger nodes correspond to more frequently used terms.
c) **Links (lines):** Represent associations between keywords that co-occur within the same publications.
d) **Link thickness:** Reflects the strength of the connection—thicker lines denote a stronger co-occurrence frequency.
e) **Color clusters:** Each color identifies a group of keywords that are strongly related, representing "thematic clusters" or subfields within the broader research domain.

This type of analysis helps researchers understand the conceptual structure of a research field, identify its central themes, and uncover emerging topics or knowledge gaps.

Co-authorship analysis, in turn, focuses on the study of collaboration patterns and researcher interactions within a given domain, as a formal representation of intellectual cooperation (Acedo et al., 2006); (Acedo F. et al., 2006); (Cisneros et al., 2018). This analysis has gained significance amid the growing methodological and theoretical complexity of research, as it provides insights into the affiliations—both institutional and geographical—of collaborating authors, revealing the social structure of scientific inquiry. The results of co-authorship analysis help identify potential avenues for future collaboration and highlight the influential and leading scholars within a research area.

3.2. Key Performance Indicators

3.2.1. Publication and Research Output Metrics

3.2.1.1. Total Publications (TP):

The total number of research components' publications, used to measure overall scientific productivity.

3.2.1.2. Academic Publications (TP-A):

Number of publications produced by academic institutions, reflecting the academic sector's contribution.

3.2.1.3. Industrial Publications (TP-I):

Number of publications originating from the industry sector, measuring applied and practice-oriented research output.

3.2.1.4. Academic–Industry Collaboration Publications (TP-AI):

Number of publications jointly authored by academia and industry, indicating integration between theoretical and applied research efforts.

3.2.1.5. Number of Contributing Authors (NCA):

Denotes the total number of researchers involved in the publications, representing the extent and nature of research collaboration.

3.2.2. Citation Analysis Metrics

3.2.2.1. Total Citations (TC):

The overall number of citations received by the publications, indicating the breadth of scientific influence.

3.2.2.2. Average Citations per Publication (AC):

The mean number of citations per publication, used to evaluate research quality and impact beyond mere quantity.

3.2.2.3. Number of Active Years (NAY):

The number of years during which researchers or research components maintained an active publishing record, expressing continuity and sustainability in research productivity.

3.2.2.4. Publication Activity per Year (PAY):

Represents the annual publication productivity, providing a dynamic indicator of research activity over time.

3.2.3. Collaboration and Authorship Indicators

3.2.3.1. Collaboration Index (CI):

Measures the extent of collaboration among various research components based on co-authorship and citation connections.

3.2.3.2. Number of Collaborative Authors (NCA):

Indicates the size of the researcher collaboration network.

3.2.3.3. Collaboration Coefficient (CC):

Represents the integration and strength of author connections within co-authored publications.

3.3. Best Practice Guidelines

The following guiding questions summarize the essential best practices for conducting high-quality bibliometric studies:

- What are the objectives and scope of the study?
- Is the scope broad enough to justify bibliometric analysis?
- Which bibliometric techniques best align with the study's objectives and scope?
- Do the search terms accurately represent the intended research field?
- Is the database coverage sufficient for the study's purpose?
- Is the dataset free of errors such as duplicates or incorrect entries?
- Does the final dataset meet the requirements of the chosen bibliometric techniques?
- Can readers easily interpret the bibliometric summary presented?
- Does the narrative text align with the generated bibliometric output?
- Does the text explain the characteristics and implications of the bibliometric summary?
- Is the written report consistent with the intended publication outlet or audience?

Discussion

The comprehensive bibliometric analysis of digital transformation in Islamic finance reveals a rapidly maturing research field characterized by exponential growth, geographic concentration, and thematic diversification.

Publication Dynamics

Annual output surged from 2 documents in 2011 to 50 in 2025 (CAGR 25.85%), with a COVID-19 dip in 2020 followed by acceleration, indicating post-pandemic FinTech adoption momentum in Sharia-compliant systems.

Geographic and Institutional Leadership

Malaysia dominates (70+ documents), driven by IIUM and Universiti Teknologi Malaysia, reflecting national policy support for Islamic FinTech innovation hubs; Indonesia and Saudi Arabia follow, creating an OIC-centric research ecosystem with collaboration potential.

Intellectual Structure

Rabani, M.R. leads authorship productivity per Lotka's law, with specialized journals like International Journal of Islamic Finance capturing core output (Bradford's law); Business/Management (45%) and Computer Science (14%) dominance underscores interdisciplinary AI-Sharia convergence.

Thematic Evolution

Co-word networks position "Islamic finance" centrally, linking to digital banking, financial inclusion, and emerging sustainability clusters (green finance), signaling maturation from technical implementation toward socio-economic impact assessment.

Research Implications

These patterns validate the field's trajectory toward sustainable AI integration, highlighting gaps in regulatory frameworks, Western contributions, and cross-cluster studies for global Sharia-compliant digital ecosystems.

Conclusion

In conclusion, this study has demonstrated that **bibliometric analysis** serves as a sophisticated and indispensable methodology for both established and early-career researchers aiming to navigate the intricate intersection of **Artificial Intelligence (AI)** and **Islamic Finance**. The surging scholarly interest in this nexus is facilitated by the proliferation of specialized software and high-impact databases, which allow for the systematic mapping of massive datasets in dynamic fields like AI-driven Sharia-tech and financial analytics. (Mustak et al., 2020); (Wirtz & Ple, 2021)

The findings underscore that the efficacy of this approach relies on a well-structured analytical framework—integrating rigorous methodological exposition with advanced visualization techniques. In the context of Islamic finance, making informed decisions regarding technique selection is paramount; it ensures that the synthesis of AI applications—such as smart contracts and robo-advisory—remains aligned with both technical accuracy and Sharia-compliant objectives.

However, while bibliometric analysis is a powerful tool for delineating the intellectual structure of **AI in Islamic Finance**, it is not devoid of limitations. The validity of the findings is inherently tied to the quality and precision of metadata retrieved from databases like **Scopus** and **Web of Science**. Rigorous data cleaning and meticulous error correction remain essential prerequisites to mitigate biases and enhance the reliability of the final thematic clusters.

Ultimately, this paper affirms that a rigorous bibliometric approach—grounded in accurate data and sound interpretative summaries—is vital for advancing the narrative of digital ethical finance. By adhering to these high methodological standards, researchers can produce high-quality insights that meet the stringent publication requirements of top-tier scientific journals, thereby bridging the gap between technological innovation and Islamic financial principles."

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