Volume 1, Number 1, 2026
ISSN: in process
E-ISSN: in process



STUDIA QUR'ANICA

International Journal of Qur'anic Civilization Studies

DIGITAL TRANSFORMATION IN QURANIC STUDIES: A BIBLIOMETRIC ANALYSIS OF MAPPING GLOBAL RESEARCH TRENDS AND FUTURE DIRECTIONS

Azwar[1], Abur Hamdi Usman[2], Mohd Farid Ravi Abdullah[3]
[1]Institut Agama Islam STIBA Makassar, Jl. Inspeksi PAM Timur, Manggala, Kec. Manggala, Kota Makassar, Sulawesi Selatan, 90234, Indonesia; Email: azwar@stiba.ac.id
[2] Universiti Islam Selangor (UIS), Bandar Seri Putra, 43000, Kajang, Selangor, Malaysia; Email: aburhamdi@uis.edu.my
[3] Universiti Islam Selangor (UIS), Bandar Seri Putra, 43000, Kajang, Selangor, Malaysia; Email: faridravi@uis.edu.my

Received: 2026-06-07; Accepted: 2026-06-15; Published: 2026-06-30

STUDIA QUR'ANICA

International Journal of Qur'anic Civilization Studies

STUDIA QUR'ANICA

International Journal of Qur'anic Civilization Studies

Vol. 1, no. 1, 2026

EDITOR-IN-CHIEF
Lukman Hakim

MANAGING EDITOR
Hidayatullah

EDITORS
Endang Saeful Anwar, (UIN Sultan Maulana Hasanuddian Banten Indonesia)
Jauhar Azizy (UIN Syarif Hidayatullah Jakarta)
Ahmad Fawaid (UIN Madura)
Ahmad Husnul Hakim (PTIQ University Jakarta Indonesia)
Andi Rahman (PTIQ University Jakarta Indonesia)

INTERNATIONAL EDITORIAL BOARD
Ali Furkan Şevken (Chesapeake University of Theology) Virginia USA
Abdulcabbar Boran (Chesapeake University of Theology) Virginia USA
Muhammad Faizal Bin Tahiruddin (Institut Kemahiran Islam Darul Ridzuan), Perak Malaysia

ASSISTANT TO THE EDITORS
Amien Nurhakim

ENGLISH LANGUAGE ADVISOR

Ali Furkan Şevken

ARABIC LANGUAGE ADVISOR
Mamduh

COVER DESIGNER
Abdul Muadz

Editorial Office:

STUDIA QUR'ANICA, Department of Qur'anic Studies,
Faculty of Ushuluddin and Islamic Thought, Universitas PTIQ Jakarta,
Jl. Batan I No. 2, Lebak Bulus, Cilandak, Jakarta Selatan 12440, Indonesia.
E-mail: studiaquranica@ptiq.ac.id
Website: https://journal.ptiq.ac.id/index.php/quranica/about/editorialTeam

STUDIA QUR'ANICA (ISSN: in process; E-ISSN: in process) is an international academic journal published by the Department of Qur'anic Studies, Faculty of Ushuluddin and Islamic Thought, Universitas PTIQ Jakarta, Indonesia.

The journal specializes in Qur'anic studies, tafsir, Islamic civilization, digital Qur'anic studies, and contemporary scholarly responses inspired by the Qur'an. It is intended to communicate original research, critical reflection, and current academic debates in Qur'anic and Islamic studies.

STUDIA QUR'ANICA warmly welcomes contributions from scholars of related disciplines. Manuscripts may be written in English and Arabic provided that they meet the academic standards and writing style required by the journal.

All submitted manuscripts are subject to editorial screening and a double-blind peer-review process. Authors are responsible for the originality of their work, the accuracy of references, and compliance with publication ethics.

Articles in this issue are prepared for academic circulation. DOI numbers may be assigned after the journal's DOI registration and publication workflow have been completed. The journal does not claim accreditation or indexation unless officially stated by the publisher.

Table of Contents

Articles

1-40 Azwar, Abur Hamdi Usman, Mohd Farid Ravi Abdullah
Digital Transformation in Quranic Studies: A Bibliometric Analysis of Mapping Global Research Trends and Future Directions

41-74 Wang Yongbao
On The Qur'ānic Principle of Prevention as A High Objective in The Islamic Legislation

75-88 Fuad Hasyim
Beyond The Triple Bottom Line: A Qur'anic Quadruple Framework for Sustainable Business

89-118 Abdulcabbar Boran
Purification of the Nafs (Soul) and the Return of the Ruh (Spirit) to Allah According to the Sacred Scriptures:
A Comparative Analysis of the Qur'an, the Torah, and the Bible

119-148 Rochmad, Nisa'ul Qoni'ah, Alhafidh Nasution
A Typological Reading Of Prophet Ya'qub's Grief in The Qur'an: A Psychospiritual Dialogue with Contemporary Prolonged Grief Disorder

149-174 Ina Ristiana, Ahmad Farid, Bayu Arif Sulana
Qur'anic Environmental Concepts and Their Contribution to Sustainable Development Goals (Sdgs): A Systematic Literature Review

175-200 Ellys Lestari Pambayun
Philanthropy Communication Ethics:
Analysis Of Humanitarian Messages Vs Systemic Violations in Mbg Based on The Values of the Qur'an

201-228 Lukman Hakim, Salina Khalid
Qur'anic Epistemology and The Making Of Islamic Civilization: Reintegrating Revelation, Reason, And Scientific Inquiry

Notes for Contributors

Manuscript Scope
Submissions should contribute to Qur'anic studies, tafsir, Islamic civilization, living Qur'an, digital religion, or contemporary issues examined through Qur'anic perspectives.

Originality
Authors must submit original work that has not been published or submitted elsewhere. Proper citation must be given for all sources, including classical texts, translations, datasets, and digital materials.

Review Process
Manuscripts are initially checked by the editorial team and then evaluated through peer review. The editors may request revision, copyediting, citation correction, and formatting adjustment before publication.

Reference Style
References should be prepared consistently according to the journal style. Authors are encouraged to provide complete bibliographic details, DOI links, and stable URLs whenever available.

Publication Ethics
The journal upholds academic integrity, transparency, and fairness. Plagiarism, data fabrication, duplicate submission, and inappropriate authorship practices are not accepted.

DIGITAL TRANSFORMATION IN QURANIC STUDIES: A BIBLIOMETRIC ANALYSIS OF MAPPING GLOBAL RESEARCH TRENDS AND FUTURE DIRECTIONS

Azwar, Abur Hamdi Usman, Mohd Farid Ravi Abdullah

Abstract:
The rapid advancement of digital technologies has transformed the landscape of Quranic studies, creating new opportunities for the preservation, analysis, interpretation and dissemination of Quranic knowledge. Despite the growing body of literature in this area, a comprehensive understanding of its intellectual development remains limited. Purpose. This study aims to provide a bibliometric assessment of research on digital transformation in Quranic studies by examining scientific performance, collaboration patterns, conceptual structures and thematic evolution. Method. Using a bibliometric approach, data were collected from the Scopus database and analyzed through descriptive performance analysis, co-authorship networks, keyword co-occurrence analysis, thematic mapping and thematic evolution analysis. Findings. The findings reveal a substantial increase in publication output, particularly after 2020, indicating growing scholarly interest in the field. Research productivity is dominated by Indonesia, Malaysia and Saudi Arabia, while collaboration networks remain moderately fragmented. Conceptually, the field is structured around three major thematic domains: (1) digital security and authentication, including watermarking and cryptography; (2) artificial intelligence and computational approaches, including natural language processing, machine learning and information retrieval; and (3) educational, social and religious dimensions, including Islamic education, social media and Islamic law. Thematic evolution analysis demonstrates a clear transition from early concerns with digitization, authentication and information management toward advanced applications of artificial intelligence, computational linguistics, digital learning systems and blockchain technologies. Overall, the findings indicate that digital Quranic studies have evolved into a mature interdisciplinary field at the intersection of Islamic scholarship and emerging digital technologies, with significant opportunities for future research in AI-assisted Quranic analysis, semantic knowledge systems and ethical digital innovation.

Keywords: Digital Transformation; Quranic Studies; Bibliometric Analysis; Science Mapping; Biblioshiny

A. INTRODUCTION

Digital tools such as text mining, data visualization, and AI-driven platforms have enhanced traditional methodologies in Quranic studies. These technologies allow for nuanced textual analysis and interpretation, enabling deeper engagement with classical texts. AI applications, for instance, assist in deriving Islamic legal rulings (*istinbāṭ al-aḥkām*) by providing semantic databases and multimedia resources[1]. Narrative hermeneutics on digital platforms, including social media, further enrich interpretive clarity and foster participatory discourse[2].

Digitization has widened access to Quranic texts for scholars, students, and laypersons. Digital platforms provide constant availability of resources, encouraging engagement across diverse demographics[3]. Social media platforms such as YouTube and Instagram have transformed Quranic education, particularly during the COVID-19 pandemic, though they cannot fully replace traditional face-to-face instruction for practices like recitation[4]. Blended learning and flipped classroom models have significantly improved student engagement and memorization outcomes in Quranic studies. Students report increased motivation when digital tools are integrated into their learning[5]. The incorporation of Digital

[1] Tawffeek Mohammed, Mohamed Faraj Saleh Raheel, and Muhammad Ashraf Ebrahim Dockrat, "Integrating Digital Humanities in Teaching Research Methodologies for Postgraduate Students in Arabic and Islamic Studies," in *Human-AI Collaboration and the Evolving Role of Educators* (IGI Global Scientific Publishing, 2026), 271–302; A Sati et al., "The Digital Transformation of Tafsir and Its Implications for Islamic Legal Derivation in the Contemporary Era," *MILRev: Metro Islamic Law Review* 4, no. 1 (2025): 389–415, https://doi.org/10.32332/milrev.v4i1.10425.

[2] Y Salma et al., "Narrative Hermeneutics As Digital Tafsīr: Reconstructing Qur'anic Meaning And Religious Authority On Instagram @Nadirsyahhosen_Official," *Jurnal Lektur Keagamaan* 23, no. 2 (2025): 733–72, https://doi.org/10.31291/jlka.v23i2.1492.

[3] N N A Ab Alim et al., "Artificial Intelligence As A Support Tool for Quran Memorization: An Exploratory Study on The Potential Use of AI Applications Among Non-Islamic Studies Students," *Quranica* 17, no. 2 (2025): 157–86, https://www.scopus.com/pages/publications/105018197574?origin=resultslist.

[4] H Genç and A Yilmaz, "The Teaching of the Quran in the Digital Age: The Role of Technology and Social Media in Quran Education," *Mutefekkir* 12, no. 23 (2025): 239–67, https://doi.org/10.30523/mutefekkir.1733231.

[5] A Muhid and M Arifin, "Transformation of Al-Qur'an Memorization Learning in the Digital Age through the Blended Learning Flipped Classroom Approach," *Nazhruna: Jurnal Pendidikan Islam* 8, no. 3 (2025): 594–606, https://doi.org/10.31538/nzh.v8i3.193.

Humanities enriches research methodologies, fostering interdisciplinary exploration and enhancing digital literacy[6].

The digital transformation raises concerns about authenticity and preservation. Algorithmic bias and the reliability of AI-driven tools pose challenges to maintaining scholarly integrity[7]. Ethical guidelines are necessary to ensure alignment with Islamic teachings and values[8]. Moreover, digital platforms disrupt traditional structures of religious authority, creating new forms of legitimacy and interpretive practices that require reevaluation[9].

Hence, digital transformation in Quranic studies presents both opportunities and challenges. While technology enhances accessibility, engagement, and methodological innovation, it also raises critical ethical questions regarding authenticity and authority. Navigating these complexities requires thoughtful integration of digital tools with traditional scholarship to preserve the integrity of Islamic education.

The unprecedented advancement of digital technologies has fundamentally transformed the ways knowledge is produced, preserved, accessed, analyzed and disseminated across academic disciplines[10]. Over the past two decades, innovations such as artificial intelligence (AI), machine learning, natural language processing (NLP), big data analytics, digital archives, cloud computing, semantic web technologies and computational text analysis have reshaped

[6] Mohammed, Raheel, and Dockrat, "Integrating Digital Humanities in Teaching Research Methodologies for Postgraduate Students in Arabic and Islamic Studies."

[7] S S Balgasem and L Q Zakaria, "A Hybrid Method of Rule-Based Approach and Statistical Measures for Recognizing Narrators Name in Hadith," in *Proceedings of the 2017 6th International Conference on Electrical Engineering and Informatics: Sustainable Society Through Digital Innovation, ICEEI 2017*, ed. Zin N.A.M. et al., vol. 2017-November (Center for Artificial Intelligence Technology, Faculty of Information Science and Technology, Universiti Kebangsaan Malaysia Bangi, Selangor, Malaysia: Institute of Electrical and Electronics Engineers Inc., 2017), 1–5, https://doi.org/10.1109/ICEEI.2017.8312417; Khairulnazrin Nasir et al., "Artificial Intelligence Integration in Mobile Applications: Innovation and Challenges in Supporting Quran Memorization and Review," *QURANICA-International Journal of Quranic Research* 17, no. 2 (2025): 612–45.

[8] M N Alias et al., "The Position of Maqasid Al-Shariah within Islamic Legal Sources: A Comprehensive Analysis," *Samarah* 9, no. 2 (2025): 937–64, https://doi.org/10.22373/q4byre51.

[9] S H Wahid and S Abdulloh, "Digital Islamic Authority: A Revolutionary Shift or Mere Hype? A Systematic Review," *SN Social Sciences* 6, no. 2 (2026), https://doi.org/10.1007/s43545-026-01328-5.

[10] R Mansell, "Adjusting to the Digital: Societal Outcomes and Consequences," *Research Policy* 50, no. 9 (2021), https://doi.org/10.1016/j.respol.2021.104296.

conventional research paradigms and facilitated new forms of scholarly inquiry[11]. This phenomenon, commonly referred to as digital transformation, extends beyond the mere adoption of technological tools and encompasses profound changes in epistemological frameworks, research methodologies, collaboration mechanisms and knowledge production processes[12]. As a result, disciplines traditionally grounded in textual interpretation, historical analysis and qualitative inquiry have increasingly integrated computational approaches and digital infrastructures into their scholarly practices.

Within the broader field of humanities and religious studies, digital transformation has generated significant opportunities for expanding research accessibility, enhancing analytical capabilities and fostering interdisciplinary collaboration[13]. The emergence of digital humanities as an influential academic movement has encouraged scholars to employ computational methods for examining historical texts, cultural artifacts, linguistic corpora and religious traditions[14]. Through digitization initiatives, online repositories, computational linguistics, text mining, network analysis and AI-assisted interpretation, researchers can now investigate complex textual traditions at scales and levels of sophistication that were previously unattainable[15]. Consequently, digital technologies have become increasingly important in reshaping how religious knowledge is preserved, studied, interpreted and disseminated in contemporary scholarly environments.

Among the major fields of religious scholarship, Quran studies have experienced substantial transformation because of ongoing digitalization processes. As the foundational text of Islam, the Quran has been the subject of extensive scholarly investigation for centuries, encompassing disciplines such as *tafsīr* (Quranic exegesis), *qirāʾāt* (variant readings), linguistics, philology, manuscript studies, translation studies, thematic interpretation and

[11] F Sona, "Accelerating the Digital Transition European and Muslim Responses to Artificial Intelligence and Icts," *Journal of Religion in Europe* 18 (2025): 26–58, https://doi.org/10.1163/18748929-bja10112.

[12] G A Untura, "The Knowledge Economy and Digitalization: Assessing the Impact on Economic Growth of Russian Regions," *Regional Research of Russia* 13, no. 3 (2023): 397–406, https://doi.org/10.1134/S2079970523700909.

[13] G Karabalaeva et al., "Contemporary Trends in the Development of the Religious Consciousness of the Peoples of Central Asia," *Pharos Journal of Theology* 106, no. 3 (2025): 1–14, https://doi.org/10.46222/pharosjot.106.3019.

[14] M Kholili, A Izudin and M L Hakim, "Islamic Proselytizing in Digital Religion in Indonesia: The Challenges of Broadcasting Regulation," *Cogent Social Sciences* 10, no. 1 (2024), https://doi.org/10.1080/23311886.2024.2357460.

[15] Wahid and Abdulloh, "Digital Islamic Authority: A Revolutionary Shift or Mere Hype? A Systematic Review."

contemporary Quranic thought[16]. Traditionally, Quranic scholarship relied heavily on manual textual analysis, classical commentaries, printed manuscripts and conventional philological methods. However, recent technological developments have introduced new possibilities for engaging with Quranic texts through digital platforms, searchable databases, computational linguistic tools, corpus-based analysis, digital manuscript preservation and AI-driven analytical systems[17]. These developments have expanded both the methodological repertoire and the accessibility of Quranic scholarship, enabling researchers to explore textual patterns, semantic relationships, linguistic structures and interpretive traditions more efficiently and comprehensively.

The growing integration of digital technologies into Quran studies has generated a diverse and rapidly expanding body of scholarly literature. Recent research has explored a wide range of topics, including Quranic text mining, semantic analysis, machine learning applications, artificial intelligence-assisted Quran interpretation, Quranic information retrieval systems, digital manuscript preservation, online Quran education, Quranic ontology development, computational linguistics, Arabic language processing and digital platforms for Quranic learning and dissemination [18]. Furthermore, advancements in NLP and large language models have stimulated renewed interest in developing computational approaches for analyzing Quranic language, thematic structures, lexical patterns, intertextual relationships and translation accuracy[19]. These

[16] Karabalaeva et al., "Contemporary Trends in the Development of the Religious Consciousness of the Peoples of Central Asia."

[17] R Ali and S N Isnaini, "Digitising Interpretation: Transforming Tafsir Al-Mishbah in the Context of the Living Quran," *Jurnal Studi Ilmu-Ilmu Al-Qur'an Dan Hadis* 25, no. 1 (2024): 1–23, https://doi.org/10.14421/qh.v25i1.5186.

[18] I Ali, "Application of a Mining Algorithm to Finding Frequent Patterns in a Text Corpus: A Case Study of the Arabic," *International Journal of Software Engineering and Its Applications* 6, no. 3 (2012): 127–34,https://www.scopus.com/pages/publications/84866953421?origin=resultslist; N Alqtati, J A J Wilson and V De Silva, "Mining Arabic Twitter Conversations on Health Care: A New Approach to Analysing Arabic Language on Social Media," *Journal of Islamic Marketing* 13, no. 12 (2022): 2649–71, https://doi.org/10.1108/JIMA-12-2020-0355; M Faidah et al., "Digitalization of the Quranic Reading Learning Program for Collage Students, Indonesia †," *Engineering Proceedings* 55, no. 1 (2023), https://doi.org/10.3390/engproc2023055076.

[19] S Obaid and N Z Bawany, "SeerahGPT: Retrieval Augmented Generation Based Large Language Model," in *2024 18th International Conference on Open Source Systems and Technologies, ICOSST 2024 - Proceedings* (Center for Computing Research, Department of Computer Science and Software Engineering, Jinnah Univesity for Women, Karachi, Pakistan: Institute of Electrical and Electronics Engineers Inc., 2024), https://doi.org/10.1109/ICOSST64562.2024.10871159; Y Adel et al., "AraQA: An Arabic Generative Question-Answering Model for Authentic Religious Text," in *Proceedings of the 11th International Japan-Africa Conference on Electronics, Communications and Computations, JAC-*

developments demonstrate an increasingly interdisciplinary convergence between Quran studies, computer science, information systems, digital humanities, linguistics and artificial intelligence.

Despite this growing scholarly interest, research concerning digital transformation in Quran studies remains fragmented across multiple disciplinary domains and technological specializations. Existing studies primarily focus on specific applications, technological innovations, computational models, educational platforms, or textual analysis techniques[20]. While these investigations have generated valuable insights into particular aspects of digitally mediated Quranic scholarship, relatively limited attention has been devoted to systematically examining the overall scientific landscape of this emerging field. Consequently, important questions regarding publication growth, intellectual foundations, thematic evolution, influential contributors, collaborative structures, research hotspots and future development trajectories remain insufficiently explored.

This gap is particularly significant given the accelerating role of digital technologies in shaping contemporary religious scholarship and knowledge ecosystems. As artificial intelligence, computational linguistics and digital humanities methodologies continue to influence Quranic research, understanding the intellectual structure and developmental trajectory of this field becomes increasingly important. Mapping the evolution of scientific knowledge related to digital transformation in Quran studies can provide valuable insights into emerging paradigms, interdisciplinary interactions, dominant research themes and future opportunities for scholarly innovation. Moreover, such understanding contributes to broader discussions concerning the adaptation of classical religious sciences to digitally mediated research environments while maintaining scholarly rigor and methodological authenticity.

ECC 2023, ed. Bedair A., Kanaya H. and Yousef A.H. (Center for Informatics Science (CIS), School of Information Technology and Computer Science (ITCS), Nile University, Giza, Egypt: Institute of Electrical and Electronics Engineers Inc., 2023), 235–39, https://doi.org/10.1109/JAC-ECC61002.2023.10479645.

[20] K A Ahmad et al., "Living Qur'an and Hadith in Contemporary Muslim Scholarship: A Systematic Literature Review of Takhrij Practices and Ahkam Hadith Analysis," *International Journal of Drug Delivery Technology* 16, no. 9s (2026): 68–84, https://doi.org/10.25258/ijddt.16.9s.8; N Shafie et al., "Dynamic Time Warping Features Extraction Design for Quranic Syllable-Based Harakaat Assessment," *International Journal of Advanced Computer Science and Applications* 13, no. 12 (2022): 48–54, https://doi.org/10.14569/IJACSA.2022.0131207; Z A Mubi et al., "The Use of Qur'anic Studies Textbooks in Malaysian Secondary Schools: A Systematic Literature Review in the Context of Contemporary Islamic Education," *Islamiyyat* 47, no. 2 (2025): 65–86, https://doi.org/10.17576/islamiyyat-2025-4702-06.

Although bibliometric studies have increasingly been employed to investigate developments in digital humanities, artificial intelligence, computational linguistics, Islamic studies and religious scholarship[21], comprehensive bibliometric assessments specifically addressing digital transformation in Quran studies remain scarce. Existing bibliometric investigations often focus on broader themes such as Islamic studies, religious education, digital humanities, artificial intelligence applications, or Arabic language technologies without specifically examining the intersection between digital transformation and Quranic scholarship. As a result, the intellectual dynamics, collaborative patterns, conceptual structures and emerging research frontiers characterizing this field have yet to be comprehensively documented and analyzed.

Bibliometric analysis provides a powerful methodological framework for quantitatively evaluating scientific production and revealing the structural characteristics of a research domain. By integrating performance analysis and science mapping techniques, bibliometric methods enable the identification of influential publications, leading authors, productive institutions, collaborative networks, thematic clusters, conceptual relationships and research evolution trajectories[22]. Furthermore, techniques such as co-authorship analysis, co-citation analysis, bibliographic coupling and keyword co-occurrence analysis facilitate a comprehensive understanding of how knowledge is generated, disseminated and interconnected within an emerging scientific field. Consequently, bibliometric approaches offer valuable tools for uncovering the intellectual architecture and developmental patterns of research concerning digital transformation in Quran studies.

[21] D A Mi'raj and S Ulev, "A Bibliometric Review of Islamic Economics and Finance Bibliometric Papers: An Overview of the Future of Islamic Economics and Finance," *Qualitative Research in Financial Markets* 16, no. 5 (2024): 993–1035, https://doi.org/10.1108/QRFM-03-2023-0068; N Afifi Alit et al., "Exploring Trends and Themes of Hadith Authentication Research: A Bibliometric Analysis and Future Agenda," *AlBayan* 24, no. 1 (2026): 127–61, https://doi.org/10.1163/22321969-12342317; N Nguyen et al., "A Bibliometric Analysis and Visualisation of Digital Teaching and Learning Publications From Southeast Asia Countries," *European Journal of Education* 59, no. 4 (2024), https://doi.org/10.1111/ejed.12781; D N Al Husaeni and N Haristiani, "Bibliometric Mapping of Global Research Trends on Technology Integration in Japanese Language Education," *ASEAN Journal of Educational Research and Technology* 3, no. 3 (2024): 305–26, https://www.scopus.com/pages/publications/105011200282?origin=resultslist.

[22] Giacomo Marzi et al., "Guidelines for Bibliometric-Systematic Literature Reviews: 10 Steps to Combine Analysis, Synthesis and Theory Development," *International Journal of Management Reviews* 27, no. 1 (2025): 81–103.

In response to these gaps, this study aims to provide a comprehensive bibliometric assessment of research on digital transformation in Quranic studies. Specifically, it seeks to:

i. evaluate the scientific performance of the field by examining publication trends, citations and the contributions of influential journals, authors, institutions and countries.
ii. investigate the social structure of the field through co-authorship analysis in order to identify patterns of collaboration among authors, institutions and countries and to understand the dynamics of scholarly knowledge production.
iii. examine the conceptual structure of the field through keyword co-occurrence analysis to identify dominant themes, conceptual relationships, research hotspots;
iv. examine the thematic mapping and thematic evolution analysis to identify major research themes, conceptual relationships, emerging topics and future research directions.

This study contributes to the literature in several important respects. First, it provides one of the earliest comprehensive bibliometric investigations specifically dedicated to digital transformation in Quran studies, thereby addressing a significant gap within contemporary scholarship at the intersection of Islamic studies, digital humanities and information technology. Second, the study integrates multiple dimensions of bibliometric analysis, including performance analysis, collaboration mapping, intellectual structure analysis, conceptual structure analysis and thematic evolution, thereby offering a holistic understanding of the development of this emerging research domain. Third, the study contributes methodologically by presenting a systematic and replicable framework for examining digitally mediated religious scholarship and humanities research. Finally, the findings are expected to provide valuable insights for Quranic scholars, digital humanities researchers, educational institutions, technology developers and policymakers seeking to strengthen interdisciplinary research ecosystems and support the responsible integration of digital technologies into Quranic studies.

B. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

B.1. Digital Transformation in Quranic Studies

The rapid advancement of digital technologies has significantly transformed the production, preservation, dissemination and utilization of knowledge across

various academic disciplines, including Islamic and Quranic studies[23]. Digital transformation refers to the integration of digital technologies into scholarly, educational and organizational processes, fundamentally altering how knowledge is created, accessed, analyzed and communicated[24]. Within the context of Quranic studies, digital transformation encompasses a wide range of technological applications, including digital repositories, mobile Quran applications, online learning platforms, computational text analysis, artificial intelligence (AI), natural language processing (NLP) and digital preservation systems[25].

Early studies primarily focused on the digitization and electronic preservation of Quranic texts to improve accessibility and ensure long-term preservation. As digital technologies evolved, scholarly attention expanded toward more sophisticated applications such as information retrieval systems, automated classification, semantic analysis, speech recognition and AI-assisted interpretation. Consequently, digital Quranic studies have emerged as an interdisciplinary field situated at the intersection of Islamic studies, computer science, information science, digital humanities and educational technology.

B.2. Bibliometric Analysis as a Framework for Mapping Scientific Knowledge

Bibliometric analysis has become one of the most widely used approaches for examining the structure, evolution and dynamics of scientific knowledge[26]. By utilizing publication metadata, citation relationships and keyword networks, bibliometric methods enable researchers to identify influential contributors, collaboration patterns, intellectual foundations, conceptual structures and emerging research trends within a given field.

According to contemporary bibliometric literature, scientific domains can be examined through four complementary dimensions: performance analysis, social structure, intellectual structure and conceptual structure. Performance analysis evaluates scientific productivity and impact through publication and citation indicators. Social structure analysis investigates collaboration patterns among authors, institutions and countries. Intellectual structure analysis explores knowledge foundations through citation-based relationships, while conceptual

[23] Sati et al., "The Digital Transformation of Tafsir and Its Implications for Islamic Legal Derivation in the Contemporary Era."

[24] A N A Syahir et al., "Artificial Intelligence and Digital Transformation in Qur'anic Studies: A Systematic Literature Review," *Quranica* 17, no. 2 Special Issue (2025): 542–85, https://www.scopus.com/pages/publications/105018626724?origin=resultslist.

[25] Syahir et al.

[26] Debmalya Mukherjee et al., "Guidelines for Advancing Theory and Practice through Bibliometric Research," *Journal of Business Research* 148 (2022): 101–15, https://doi.org/https://doi.org/10.1016/j.jbusres.2022.04.042.

structure analysis identifies dominant themes, research hotspots and thematic evolution through keyword-based techniques.

C. RESEARCH METHODS

C.1. Research Design

This study employs a bibliometric research design using a descriptive-quantitative approach to systematically investigate the development, intellectual structure, conceptual evolution and future research directions of digital transformation in Quran studies. Bibliometric analysis has become one of the most widely adopted methodologies for evaluating scientific production and mapping knowledge structures across emerging interdisciplinary research domains [27].

C.2. Data Source and Collection

The bibliographic dataset utilized in this study was retrieved from the Elsevier Scopus database, one of the most comprehensive and widely recognized multidisciplinary indexing platforms for peer-reviewed scientific publications. To identify relevant publications concerning digital transformation in Quran studies, a systematic search strategy was developed by combining keywords related to digitalization processes and Quranic scholarship. The search query incorporated terms representing digital technologies and digital transformation, including *digital*, *digitalization*, *digitalisation* and *digital transformation*. These terms were combined with keywords associated with Quranic studies, including *Quran*, *Al Quran*, *Quranic studies*, *Quranic exegesis* and *Quran recitation*.

The search was conducted within the **TITLE-ABS-KEY** fields of the Scopus database to ensure the retrieval of publications explicitly addressing the intersection between digital technologies and Quranic studies. Bibliographic data were retrieved from Scopus on June 6, 2026. The search query employed in this study is presented as follows:

(TITLE-ABS-KEY (digital)
OR TITLE-ABS-KEY (digitalization)
OR TITLE-ABS-KEY (digital transformation)
OR TITLE-ABS-KEY (digitalisation))

[27] Massimo Aria and Corrado Cuccurullo, "Bibliometrix: An R-Tool for Comprehensive Science Mapping Analysis," *Journal of Informetrics* 11, no. 4 (2017): 959–75; Naveen Donthu et al., "How To Conduct A Bibliometric Analysis: An Overview And Guidelines," *Journal of Business Research* 133 (2021): 285–96, https://doi.org/https://doi.org/10.1016/j.jbusres.2021.04.070.; Mukherjee et al., "Guidelines for Advancing Theory and Practice through Bibliometric Research."

AND
(TITLE-ABS-KEY (quran)
OR TITLE-ABS-KEY (quranic exegesis)
OR TITLE-ABS-KEY (quran recitation)
OR TITLE-ABS-KEY (quranic studies)
OR TITLE-ABS-KEY (al quran))
AND PUBYEAR > 2002
AND PUBYEAR < 2027

The dataset comprises publications indexed in the Scopus database between 2003 and 2026, covering more than two decades of scholarly development in the application of digital technologies within Quranic studies. This period was selected because the early 2000s marked the beginning of significant advances in digital technologies, online repositories, computational methods, artificial intelligence, and digital learning platforms, all of which have substantially influenced research in the humanities and religious studies. Bibliographic data were retrieved from the Scopus database on June 6, 2026, and all documents indexed up to the retrieval date were included in the analysis.

The search query retrieved a total of 330 publications. Since this study adopted a bibliometric approach, all records satisfying the predefined search criteria were included in the analysis without additional manual screening or exclusion. Consequently, the final bibliographic dataset consisted of 330 publications. The records were exported from Scopus in CSV format, including complete citation information, abstracts, author keywords, index keywords, references, affiliations, and other bibliographic metadata required for bibliometric mapping and network analysis.

Keyword analysis was performed using both Author Keywords and Index Keywords. To improve the consistency and accuracy of the conceptual mapping, a keyword normalization process was conducted using a thesaurus file. Synonymous terms, spelling variations, and alternative expressions referring to the same concept were standardized. For example, *Quran*, *Holy Quran*, *Al-Quran*, *Al Quran*, and *Qur'an* were unified under the standardized term *Quran*, while comparable variants of other keywords were merged accordingly. This normalization process minimized conceptual fragmentation and produced a more reliable representation of the thematic structure of the research field.

C.3. Bibliometric Analysis Framework

The analytical framework adopted in this study integrates two complementary bibliometric approaches: performance analysis and science mapping. This combination enables a multidimensional assessment of scientific productivity, collaboration patterns, intellectual foundations, conceptual structures and

thematic evolution within the field of digital transformation in Quranic studies. Performance analysis was conducted to evaluate research productivity and scientific impact. Meanwhile, science mapping techniques were subsequently employed to investigate the structural relationships underlying the research domain. These techniques facilitate the identification of collaboration networks, influential references, conceptual relationships and evolving research themes. The analytical framework applied in this study is summarized in Table 2.

Approach		Analytical Focus	Technique	Output
A.	Performance Analysis	1. Scientific productivity and impact	Descriptive bibliometric analysis	Annual publications, citations, productive authors, influential journals, institutions, countries
		2. Social Structure	Collaboration networks	Collaboration networks among authors, institutions and countries
B.	Science Mapping	3. Conceptual Structure	Keyword co-occurrence analysis	Dominant themes, conceptual relationships, research hotspots
		4. Thematic Map and Evolution	Thematic evolution analysis and thematic mapping	Emerging trends, thematic shifts, future research directions

Table 1. Bibliometric Analysis Framework
Source: Author's Data Analysis (2026)

C.4. Analytical Tools

To ensure analytical rigor and comprehensive visualization, this study employs Bibliometrix through the Biblioshiny interface[28]. Bibliometrix, implemented

[28] M. Aria and C. Cuccurullo, *Science Mapping Analysis - A Primer with Biblioshiny* (McGraw-Hill, 2026).

within the R statistical environment, was utilized for descriptive performance analysis, citation analysis, thematic mapping, conceptual structure analysis, thematic evolution analysis and trend topic identification. Bibliometrix provides a robust and reproducible analytical framework that enables systematic exploration of publication productivity, scientific impact, thematic development and knowledge structures within a research field.

D. RESULTS AND DISCUSSION

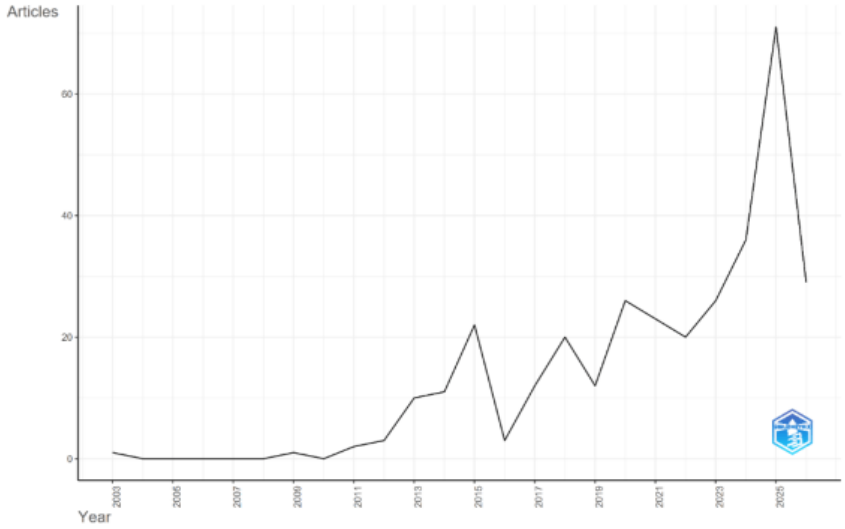
D.1. Performance Analysis

D.1.1. Publication Trends

As illustrated in Figure 2, research on digital transformation in Quran studies has experienced a remarkable and sustained growth trajectory over the past two decades. The publication trend reveals the gradual evolution of the field from a marginal and fragmented area of inquiry into an increasingly dynamic and interdisciplinary research domain situated at the intersection of Quran studies, digital humanities, information technology, artificial intelligence and computational linguistics.

The publication trend demonstrates a clear evolution of research on digital transformation in Quranic studies from an emerging niche topic into a rapidly expanding interdisciplinary field. During the formative phase (2003-2012), scholarly output remained limited and sporadic, with only seven publications recorded. This period was primarily characterized by exploratory studies focusing on the digitization of Quranic texts, electronic Quran applications, online learning platforms and the initial adoption of information technologies in Quranic scholarship. A significant growth phase emerged between 2013 and 2015, when annual publications increased markedly from 10 to 22 articles. This expansion reflects growing academic interest in leveraging digital technologies to support Quranic education, information retrieval, digital libraries and multimedia-based learning environments.

Figure 2. Publication Trend



Source: Author's Data Analysis (2026)

Between 2016 and 2019, publication output fluctuated but remained substantially higher than in the previous period, suggesting the consolidation of digital Quranic studies as a recognized scholarly field. During this stage, research increasingly incorporated interdisciplinary perspectives, including digital education, mobile applications, computational linguistics and technology-enhanced religious learning. From 2020 onward, the field entered a phase of accelerated growth. Annual publications consistently exceeded twenty articles and reached 36 publications in 2024. This expansion reflects the broader integration of digital technologies into Quranic scholarship, particularly through online learning systems, digital religious platforms, artificial intelligence and computational approaches. The COVID-19 pandemic further accelerated the adoption of digital technologies, stimulating research on Quranic corpus analysis, machine learning, natural language processing and AI-assisted religious applications.

The most remarkable development occurred in 2025, when publication output reached 71 articles, representing the highest level of productivity throughout the observation period. This surge indicates a substantial intensification of scholarly interest driven by advances in artificial intelligence, large language models, semantic technologies, computational linguistics and digital humanities. These developments have created new opportunities for the analysis, interpretation and dissemination of Quranic knowledge through intelligent digital systems. Although only 29 publications were recorded in 2026, this figure should be interpreted cautiously because data collection was conducted while the year was still in progress. Therefore, the apparent decline is more likely

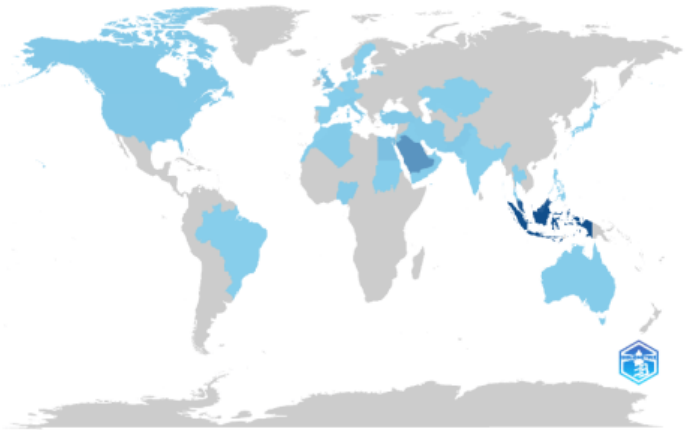
attributable to incomplete indexing coverage than to a reduction in research activity.

The publication trajectory reveals sustained and robust growth, demonstrating that digital transformation in Quranic studies has evolved into a mature and increasingly multidisciplinary research field. The continuing expansion of scientific output highlights the growing importance of artificial intelligence, computational linguistics, digital humanities, information science and educational technologies in reshaping the preservation, interpretation, analysis, dissemination and teaching of Quranic knowledge in the digital era.

D.1.2. Global Distribution of Publications

As illustrated in Figure 3, the geographical distribution of publications on digital transformation in Quranic studies reveals a rapidly expanding and increasingly international research landscape. Nevertheless, scientific production remains highly concentrated in a small number of countries, particularly Muslim-majority nations, highlighting the central role of Islamic educational and research institutions in advancing this field.

Figure 3. Countries' Scientific Production



Source: Author's Data Analysis (2026)

Indonesia leads global scientific production with 201 publications, reflecting its extensive Islamic higher education system, large Muslim population and strong commitment to integrating digital technologies into religious education and Quranic scholarship. Research in Indonesia is particularly associated with digital Quran learning, educational technologies, mobile applications, digital repositories and technology-enhanced Islamic studies. Malaysia ranks second with 181 publications, demonstrating a comparable level of productivity. Its strong

performance reflects sustained investment in Islamic studies, information technology, artificial intelligence and educational innovation, positioning the country as a regional hub for digital Islamic scholarship.

Saudi Arabia occupies the third position with 88 publications, supported by significant investments in Quranic research, Islamic higher education, digital infrastructure and artificial intelligence. Its contributions largely focus on digital preservation, Quranic information systems, computational text analysis and AI-assisted religious applications. Beyond these leading countries, the United Kingdom (23 publications) and Egypt (21 publications) represent important secondary contributors. While the United Kingdom's involvement reflects growing interest from digital humanities, religious studies and computational linguistics, Egypt's contribution is linked to its longstanding tradition of Islamic scholarship and increasing engagement in Arabic language technologies.

Additional contributions originate from Canada, Pakistan, Turkey, the Netherlands and the United States, each producing 9-10 publications. Although their output remains modest, their participation demonstrates the growing internationalization of the field. In Europe and North America, research is largely driven by advances in artificial intelligence, natural language processing, corpus linguistics and digital humanities, whereas contributions from Pakistan and Turkey reflect efforts to integrate digital technologies into Islamic education and religious knowledge dissemination.

Several notable patterns emerge. First, scientific production is dominated by Muslim-majority countries, particularly Indonesia, Malaysia and Saudi Arabia, which together account for approximately 77% of publications among the top ten contributing countries. Second, the participation of countries such as the United Kingdom, Canada, the Netherlands and the United States indicates increasing interdisciplinary engagement beyond traditional centers of Islamic scholarship. Third, the geographical distribution reflects the gradual globalization of digitally mediated Quranic studies, supported by expanding international collaborations and the growing adoption of computational methods, machine learning, semantic technologies and large language models.

D.1.3. Influential Sources, Authors and Affiliations

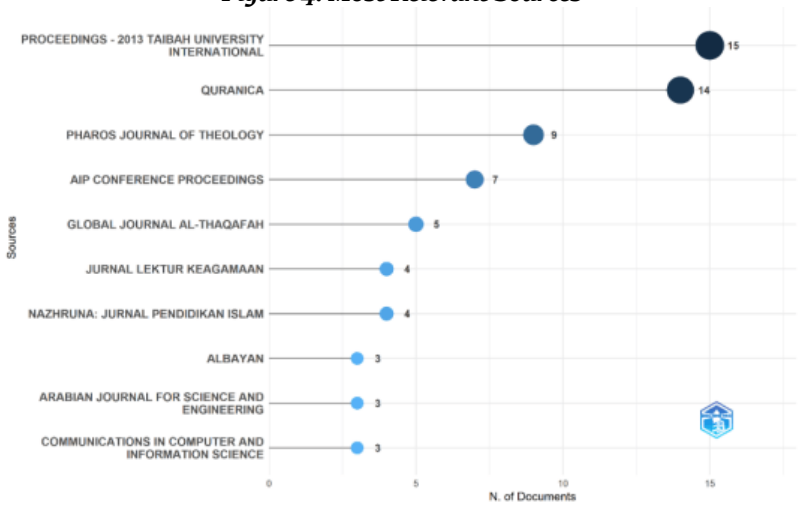
The analysis of publication sources, authors and institutional affiliations provides important insights into the knowledge production structure underlying research on digital transformation in Quran studies. As presented in Figure 4, the most productive publication outlet is the *Proceedings of the 2013 Taibah University International Conference on Advances in Information Technology for the Holy Quran and Its Sciences (NOORIC 2013)*, contributing 15 publications. The prominence of this conference proceeding highlights the foundational role of

technology-oriented academic forums in shaping the development of digital Quran studies. The conference specifically focused on the application of information technology to Quranic sciences, suggesting that early scholarly efforts in this field were strongly driven by technological innovation, digital preservation, computational analysis and information systems related to Quranic scholarship.

The second most productive source is *Quranica*, which published 14 articles. As a journal dedicated specifically to Quranic studies, its strong contribution reflects the increasing integration of digital perspectives within mainstream Quranic scholarship. This finding suggests that discussions concerning digital transformation are no longer confined to technology-oriented venues but have increasingly become part of broader academic debates within Quranic studies itself.

The distribution of publication sources reveals that knowledge production in this field is not dominated exclusively by either Islamic studies journals or technology-oriented outlets. Instead, research concerning digital transformation in Quran studies is disseminated across a broad spectrum of publication venues, reflecting the interdisciplinary nature of the field and its capacity to connect religious scholarship with contemporary technological developments.

Figure 4. Most Relevant Sources



Source: Author's Data Analysis (2026)

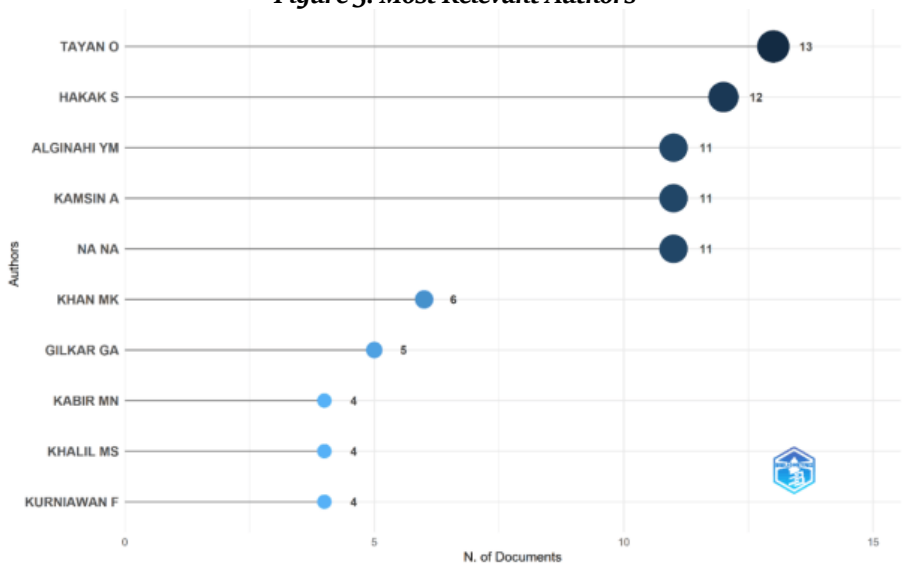
Next, Figure 5 presents the most productive authors contributing to the field. The findings indicate the presence of several highly influential scholars who have played important roles in advancing research at the intersection of Quran studies and digital technologies. Tayan O emerges as the most productive author with 13 publications and a fractionalized authorship score of 4.03, indicating both

high productivity and substantial individual contribution to collaborative research. Closely following is Hakak S with 12 publications and a fractionalized score of 2.71, reflecting significant scholarly engagement in technology-oriented Quranic research.

Several other prominent contributors include Alginahi YM and Kamsin A, each producing 11 publications, although their fractionalized scores differ, suggesting varying degrees of collaboration and individual involvement. Notably, Na Na also contributed 11 publications and recorded the highest fractionalized authorship score (11.0), indicating that these publications were produced primarily through individual authorship or highly concentrated contributions. Such a pattern reflects strong intellectual leadership and direct scholarly influence within the field.

Additional productive authors include Khan MK with six publications, Gilkar GA with five publications and Kabir MN, Khalil MS and Kurniawan F with four publications each. The presence of multiple productive scholars rather than a single dominant researcher suggests that knowledge production within digital Quran studies is distributed across several research communities and collaborative networks. This pattern reflects a relatively mature and expanding field characterized by multiple centers of scholarly activity and interdisciplinary engagement.

Figure 5. Most Relevant Authors



Source: Author's Data Analysis (2026)

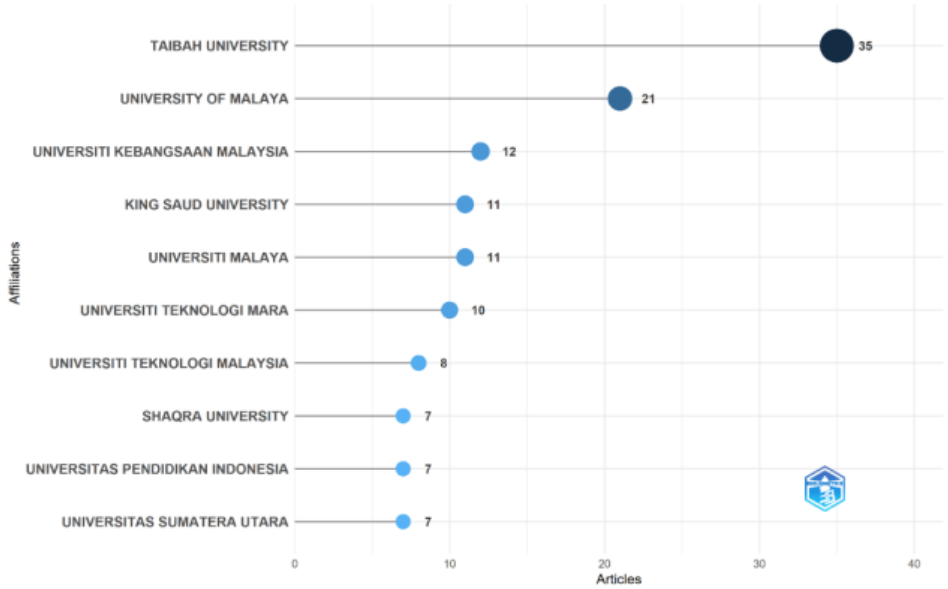
From an institutional perspective, Figure 6 demonstrates that scientific productivity is concentrated within a relatively small number of universities that

have established expertise in both Islamic studies and technological research. Taibah University emerges as the leading affiliation with 35 publications, substantially outperforming all other institutions. This dominance reflects the university's significant contribution to research on information technology applications for Quranic studies and may be closely associated with the influence of the NOORIC conference series, which has served as a major platform for scholarly exchange in this field.

The University of Malaya ranks second with 21 publications, followed by Universiti Kebangsaan Malaysia with 12 publications. Together, these institutions reinforce Malaysia's previously observed prominence in global scientific production concerning digital transformation in Quran studies. Their strong research performance likely reflects institutional investments in interdisciplinary research combining Islamic studies, artificial intelligence, information technology and digital education. Other influential institutions include King Saud University and Universiti Malaya, each contributing 11 publications, followed by Universiti Teknologi Mara with 10 publications and Universiti Teknologi Malaysia with eight publications. The presence of several Malaysian and Saudi Arabian universities among the leading affiliations demonstrates the significant role played by these countries in shaping the intellectual development of digital Quran studies.

In general, the findings presented in Figures 4-6 reveal a research field characterized by strong institutional concentration, active scholarly collaboration and considerable interdisciplinary integration. The prominence of conference proceedings, Quran-focused journals, technology-oriented publications and multidisciplinary outlets demonstrates that digital transformation in Quran studies is increasingly positioned at the intersection of religious scholarship and technological innovation. Furthermore, the dominance of institutions from Saudi Arabia, Malaysia and Indonesia reflects the central role of Muslim-majority countries in advancing this field, while the participation of scholars from diverse disciplinary backgrounds indicates the emergence of a vibrant and collaborative research ecosystem.

Figure 6. Most Relevant Affiliations



Source: Author's Data Analysis (2026)

These patterns suggest that digital transformation in Quran studies has evolved beyond a niche area of inquiry into a growing international research domain with expanding intellectual foundations, collaborative networks and institutional support. The continued involvement of leading universities, specialized journals and productive researchers is likely to accelerate future developments, particularly in areas related to artificial intelligence, computational linguistics, digital humanities, Quranic corpus analysis and technology-enhanced religious scholarship.

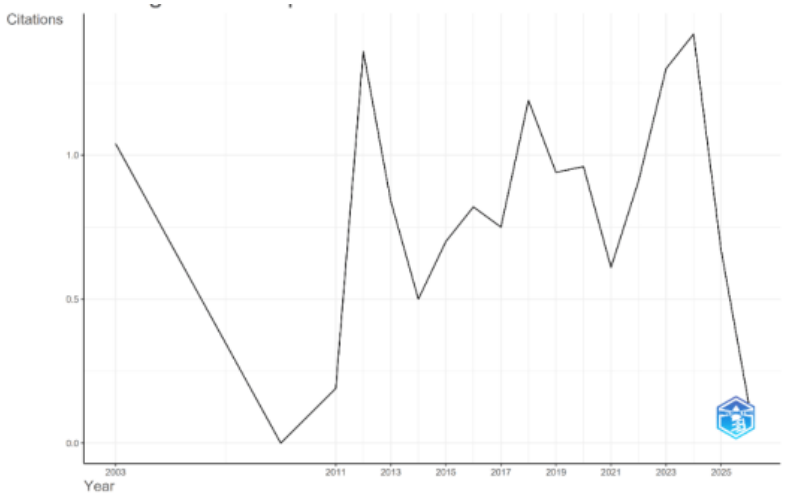
D.1.4. Citation Analysis

Citation patterns provide important insights into the intellectual influence and maturity of research on digital transformation in Quranic studies. As shown in Figure 7, the field has evolved from a small number of pioneering studies into an increasingly influential and interdisciplinary research domain. The earliest publication in the dataset (2003) achieved the highest average citation impact, with 25 citations per article, indicating the foundational role of early studies in shaping subsequent research. Publications from 2012 also demonstrated strong influence, averaging 20.33 citations per article, despite the relatively limited number of publications during this period.

Between 2013 and 2020, the field entered a phase of intellectual consolidation. Average citations generally ranged from 6 to 12 citations per article, reflecting sustained scholarly influence. Notably, publications from 2013 averaged 11.8 citations per article, while those published in 2018 and 2020 achieved 10.75

and 6.73 citations per article, respectively. These studies significantly contributed to discussions on digital Quran preservation, computational analysis, information systems, digital education and technology-enhanced religious scholarship.

Figure 7. Trend of Average Citations



Source: Author's Data Analysis (2026)

A different pattern emerged during 2021–2024. Although average citation counts were relatively moderate, annual citation rates increased considerably. Publications from 2023 recorded 1.30 citations per year, while those published in 2024 achieved the highest annual citation rate in the dataset (1.42 citations per

Rank	Authors	Title	Year	Source title	Citation
1	Baulch E.; Pramiyanti A.	Hijabers on instagram: Using visual social media to construct the ideal muslim woman	2018	Social Media and Society	63
2	Abdeldayem M.; Aldulaimi S.	Developing an Islamic crowdfunding model: a new innovative mechanism to finance SMEs in the Middle East	2023	International Journal of Organizational Analysis	54
3	Husein F.; Slama M.	Online piety and its discontent: revisiting Islamic anxieties on Indonesian social media	2018	Indonesia and the Malay World	52

4	Hakak S.; Kamsin A.; Tayan O.; Idris M.Y.I.; Gilkar G.A.	Approaches for preserving content integrity of sensitive online Arabic content: A survey and research challenges	2019	Information Processing and Management	47
5	Almazrooie M.; Samsudin A.; Gutub A.A.-A.; Salleh M.S.; Omar M.A.; Hassan S.A.	Integrity verification for digital Holy Quran verses using cryptographic hash function and compression	2020	Journal of King Saud University - Computer and Information Sciences	46
6	Laouamer L.; Tayan O.	A semi-blind robust DCT watermarking approach for sensitive text images	2015	Arabian Journal for Science and Engineering	43
7	Baulch E.; Pramiyanti A.	Hijabers on Instagram: Using Visual Social Media to Construct the Ideal Muslim Woman	2018	Social Media and Society	41
8	Hakak S.; Kamsin A.; Tayan O.; Idna Idris M.Y.; Gani A.; Zerdoumi S.	Preserving Content Integrity of Digital Holy Quran: Survey and Open Challenges	2017	IEEE Access	32
9	Khurram Khan M.; Alginahi Y.M.	The holy quran digitization: Challenges and concerns	2013	Life Science Journal	32
10	Rayson P.	Computational tools and methods for corpus compilation and analysis	2015	The Cambridge Handbook of English Corpus Linguistics	30

year). This trend suggests that recent studies are gaining scholarly attention more

rapidly, reflecting growing interest in emerging topics such as artificial intelligence, machine learning, natural language processing, digital humanities and computational Quranic analysis. The lower citation performance observed for publications from 2025 and 2026 should be interpreted cautiously, as these studies have had limited time to accumulate citations. Their current citation levels primarily reflect citation-window effects rather than reduced scholarly significance.

The citation trajectory indicates that digital transformation in Quranic studies has developed a strong intellectual foundation while simultaneously gaining increasing scholarly recognition. The enduring influence of earlier publications and the accelerating citation rates of recent studies demonstrate the field's growing maturity, expanding interdisciplinary relevance and increasing importance within contemporary Quranic scholarship.

D.1.5. Top 10 Most Cited Studies

Table 2 presents the ten most cited publications in the field, revealing the intellectual foundations and dominant themes shaping research on digital transformation in Quranic studies. The most cited publication is Baulch and Pramiyanti (2018), *Hijabers on Instagram: Using Visual Social Media to Construct the Ideal Muslim Woman* (63 citations), followed by Abdeldayem and Aldulaimi (2023) on Islamic crowdfunding (54 citations) and Husein and Slama (2018) on online piety and social media (52 citations). Although these studies are not directly focused on Quranic textual analysis, their prominence highlights the growing importance of digital media, online religiosity and technology-driven transformation within contemporary Islamic scholarship.

Table 2. Top 10 Most Cited Studies

Source: Author's Data Analysis (2026)

Several highly cited studies focus directly on technological applications in Quranic studies. Hakak et al. (2019) on preserving the integrity of online Arabic content (47 citations), Almazrooie et al. (2020) on cryptographic verification of digital Quranic verses (46 citations) and Laouamer and Tayan (2015) on watermarking techniques for sensitive text images (43 citations) demonstrate strong scholarly concern for authenticity, security and preservation of digital Quranic content. Likewise, Hakak et al. (2017) and Khan and Alginahi (2013), each receiving 32 citations, have become foundational references on digital Quran security, authenticity verification and digitization challenges. The inclusion of Rayson's (2015) work on computational tools and corpus analysis (30 citations) further illustrates the growing influence of computational linguistics, digital humanities and data-driven methodologies in Quranic research. This trend reflects increasing methodological diversification and the adoption of advanced computational approaches.

Several important patterns emerge from these highly cited publications. First, influential studies extend beyond traditional Quranic scholarship to encompass digital Islam, social media, online religiosity, Islamic finance, digital preservation and computational technologies, demonstrating the field's

interdisciplinary character. Second, issues related to authentication, content integrity, security and digitization constitute foundational concerns within the literature. Third, the growing prominence of computational and digital-humanities approaches indicates increasing engagement with emerging technologies.

In general, the intellectual foundations of digital transformation in Quranic studies are shaped by four interconnected themes: digital religious communication, online Islamic identity and piety, digital preservation and authentication of Quranic content and computational approaches to Quranic scholarship. The concentration of influential publications between 2013 and 2020 suggests that this period established the conceptual and methodological foundations that continue to guide contemporary research. As artificial intelligence, machine learning, natural language processing and large language models continue to advance, the field is likely to expand further toward AI-assisted Quranic interpretation, computational linguistics, semantic knowledge systems and intelligent Quranic retrieval technologies.

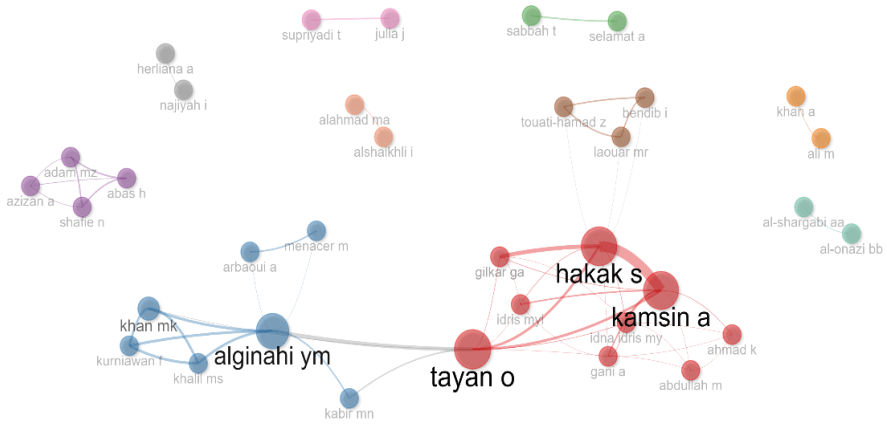
D.2. Science Mapping

D.2.1. Social Structure: Co-authorship Analysis and Collaboration Networks

The co-authorship analysis reveals the social structure underlying research on digital transformation in Quranic studies. As shown in Figure 8, the collaboration network consists of ten clusters, indicating the presence of multiple research communities working on themes such as digital Quran preservation, computational analysis, information systems, artificial intelligence and technology-enhanced religious education.

In general, the network exhibits a moderately fragmented structure, with several collaboration groups connected by only a few influential scholars. This pattern is typical of emerging interdisciplinary fields, where research activities remain distributed across specialized communities rather than forming a fully integrated global network. Although the field has expanded considerably, collaboration is still largely shaped by thematic specialization, institutional affiliation and geographical proximity. Among all researchers, Tayan O occupies the most strategic position, recording the highest betweenness centrality (77.57), which indicates a crucial role in connecting otherwise disconnected research groups. Hakak S (45.53) and Kamsin A (20.62) also serve as influential network brokers, while Kamsin A records the highest PageRank score, reflecting strong scholarly visibility and collaborative influence. These scholars function as key connectors facilitating knowledge exchange across the field.

Figure 8. Collaboration Network of Authors



Source: Author's Data Analysis (2026)

The largest and most interconnected collaboration community is Cluster 1, which includes Tayan O, Hakak S, Kamsin A, Gilkar GA, Gani A, Idna Idris MY and Idris MYI. The strong internal connectivity of this cluster suggests an established research community specializing in technological and computational approaches to Quranic studies. Cluster 2, centered on Alginahi YM, represents another important collaboration hub focused on Quran digitization, information security and computational applications. Other clusters are considerably smaller and consist mainly of localized collaborations with limited interaction beyond their immediate groups. A notable characteristic of the network is the concentration of bridging functions among a small number of scholars. Most authors exhibit little or no betweenness centrality, indicating that they collaborate primarily within localized groups rather than serving as connectors across the broader research community. This finding suggests that the field remains in a developmental stage and has not yet achieved a highly integrated international collaboration structure.

The co-authorship analysis demonstrates that research on digital transformation in Quranic studies has developed a growing but moderately fragmented collaboration ecosystem. While several influential scholars and active research clusters have emerged, stronger international, interdisciplinary and cross-institutional collaboration remains necessary. Expanding cooperation among researchers in Quranic studies, artificial intelligence, computational linguistics, digital humanities, information systems and educational technology will likely enhance intellectual integration, methodological innovation and the future development of digitally mediated Quranic scholarship.

D.2.2. Conceptual Structure

D.2.2.1. Content Analysis

The analysis of the most frequent keywords provides important insights into the conceptual structure and research directions of digital transformation in Quranic studies. As shown in Figure 9, the most prominent terms include *authentication* (23 occurrences), *Quran* (20), *artificial intelligence* (16), *engineering education* (16), *Islam* (12), *natural language processing systems* (11), *Holy Quran* (10), *social media* (10) and *watermarking* (10). These keywords reveal a highly interdisciplinary field that integrates Quranic scholarship with information technology, artificial intelligence, computational linguistics, digital security, educational technology and digital communication.

The frequent occurrence of terms such as *Quran*, *Holy Quran*, *Al-Quran* and *digital Quran* confirms that the field remains firmly rooted in Quranic scholarship while increasingly adopting digital technologies to support the preservation, accessibility, interpretation, dissemination and teaching of Quranic knowledge. A dominant thematic area concerns authentication, watermarking, cryptography and digital storage, highlighting strong scholarly attention to preserving the authenticity, integrity and security of digital Quranic content. Given the sacred status of the Quran, digital preservation and content verification have become foundational concerns within the field.

Figure 9. Most Frequent Words (WordCloud)



Source: Author's Data Analysis (2026)

A second major cluster centers on artificial intelligence, natural language processing, computational linguistics, information retrieval, deep learning, semantics and speech recognition. The prominence of these concepts demonstrates the growing application of computational methods for Quranic text

analysis, semantic interpretation, automated classification and intelligent information retrieval, reflecting the emergence of computational Quranic studies as a significant research frontier. Another important theme relates to digital education and learning technologies, represented by terms such as *engineering education, learning systems, e-learning, mobile applications, multimedia systems and Islamic education*. These keywords indicate increasing efforts to enhance Quranic literacy, Quran recitation, and Quran-related education through digital platforms, online environments, and interactive educational technologies, rather than representing engineering education as an independent research domain.

The presence of terms such as *Islam, Islamic law, Hadith, social media*, and *websites* should be interpreted within the scope of the search strategy employed in this study. Since the search query required every retrieved publication to contain at least one Quran-related term (i.e., *Quran, Al-Quran, Quranic studies, Quranic exegesis*, or *Quran recitation*), these broader concepts represent contextual or complementary themes discussed alongside Quran-related research rather than independent areas of Islamic studies. Likewise, studies focusing exclusively on Hadith, Islamic digital authority, or Arabic natural language processing were not included unless they explicitly addressed Quran-related topics and satisfied the predefined search criteria. Meanwhile, the appearance of technical terms such as information systems, computer science, image processing and extraction highlights the increasing technological sophistication of the field, while the prominence of Indonesia reinforces the country's leading role in the development of digital Quranic scholarship.

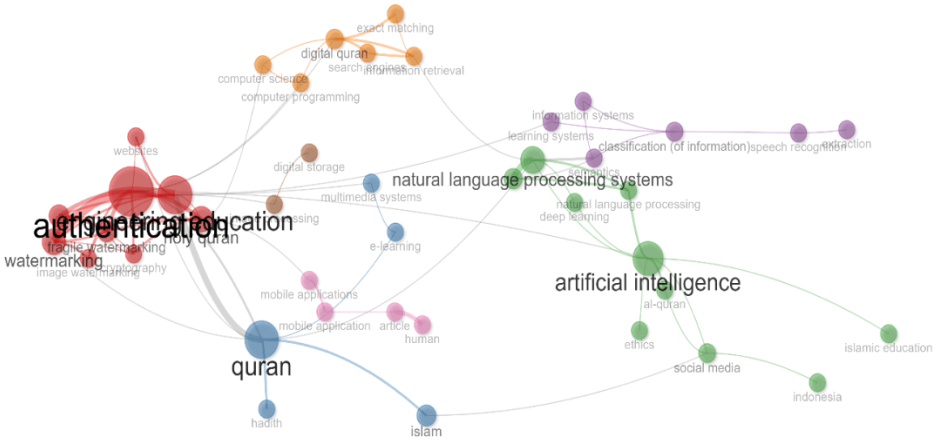
Overall, the WordCloud analysis demonstrates that digital transformation in Quranic studies has evolved into a multidisciplinary research domain centered on Quran-related scholarship while characterized by the convergence of Quranic scholarship, artificial intelligence, computational linguistics, information security, digital humanities, educational technology and Islamic studies. The prominence of themes related to authentication, AI, natural language processing and digital education suggests that future research will increasingly focus on AI-assisted Quranic interpretation, semantic knowledge systems, intelligent retrieval platforms, advanced corpus analysis, machine learning applications, digital preservation frameworks and technology-enhanced Quranic learning environments.

D.2.2.2. Keyword Co-occurrence Network

The keyword co-occurrence analysis provides a comprehensive picture of the conceptual structure and thematic relationships within research on digital transformation in Quranic studies. As shown in Figure 10, the network consists of seven interconnected clusters, reflecting the convergence of Quranic scholarship,

artificial intelligence, information security, computational linguistics, educational technology, information retrieval and mobile learning systems. This indicates that digital Quranic studies have expanded beyond traditional textual analysis toward technologically enhanced approaches to preservation, authentication, interpretation, dissemination and education.

Figure 10. Keyword Co-occurrence Network



Source: Author's Data Analysis (2026)

The most influential keyword is authentication (Betweenness = 302.53; PageRank = 0.0727), which serves as the primary bridge connecting multiple thematic clusters. Its dominant position highlights the central importance of ensuring the authenticity, integrity and reliability of digital Quranic content. Closely related concepts such as watermarking, cryptography, digital watermarking and digital storage form a major cluster focused on protecting Quranic texts and digital resources from manipulation and unauthorized modification. Another core cluster centers on Quran, which is linked to Islam, Hadith, e-learning and multimedia systems. This demonstrates that research remains firmly grounded in Quranic scholarship while increasingly incorporating digital educational technologies to enhance learning and knowledge dissemination.

A third major cluster is organized around artificial intelligence and natural language processing systems, accompanied by concepts such as computational linguistics, deep learning, social media, Islamic education and ethics. The prominence of these themes reflects growing interest in applying AI-driven methods for semantic analysis, automated classification, intelligent retrieval and computational interpretation of Quranic texts, while also addressing ethical considerations in religious scholarship. The network further highlights the

importance of semantic and linguistic technologies, including classification of information, learning systems, semantics, speech recognition and information systems. These concepts indicate increasing efforts to develop intelligent systems capable of organizing, interpreting and retrieving Quranic knowledge through advanced computational methods.

Another significant cluster focuses on digital Quran, information retrieval, search engines and computer science, emphasizing the development of efficient retrieval systems and enhanced accessibility to digital Quranic resources. Additional clusters related to image processing, digital storage and mobile applications demonstrate the growing role of technological infrastructures in preserving, managing and disseminating Quranic content.

In sum, the network reveals three major characteristics of the field. First, it exhibits a strong technological orientation, with AI, natural language processing, information retrieval, cryptography and mobile technologies occupying central positions. Second, authenticity, integrity and preservation of Quranic content remain the field's foundational concerns. Third, the coexistence of educational, computational and religious themes confirms the emergence of a multidisciplinary research domain linking Quranic studies, computer science, information systems, educational technology and digital humanities. These patterns suggest promising future directions in AI-assisted Quranic interpretation, semantic knowledge systems, intelligent retrieval platforms, speech-based applications, advanced digital preservation frameworks and the ethical integration of artificial intelligence into Quranic scholarship.

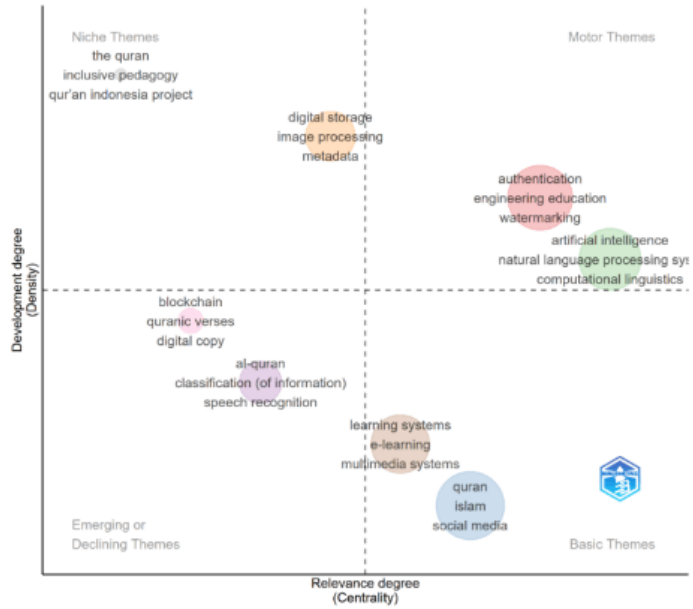
D.3. Thematic Map

The thematic map analysis reveals that research on digital transformation in Quranic studies has evolved into a highly multidisciplinary field characterized by the convergence of digital preservation, artificial intelligence, educational technology, computational linguistics, cybersecurity and Islamic scholarship. Eight major thematic clusters were identified, representing interconnected research streams that shape the contemporary landscape of digital Quranic studies.

As illustrated in Figure 11, the most dominant theme is Authentication, which exhibits the highest overall influence within the network. This cluster is centered on authentication, engineering education, Holy Quran, watermarking, digital watermarking, cryptography and fragile watermarking. The strong presence of these concepts indicates that ensuring the authenticity, integrity and security of digital Quranic content remains a primary concern. The prominence of terms related to tamper detection, cryptographic methods, hash functions and

digital certificates further demonstrates the close alignment of digital Quranic studies with cybersecurity and information assurance research.

Figure 11. Thematic Map



Source: Author's Data Analysis (2026)

A second major theme is Quran, the broadest interdisciplinary cluster in the network. This cluster encompasses Quran, Islam, social media, Islamic law, Hadith, Islamic education and mobile applications. The high connectivity of these concepts highlights the expanding role of digital technologies in religious education, communication, knowledge dissemination and public engagement with Quranic teachings. The inclusion of digital humanities, religious authority, digital ethics and knowledge graphs suggests that scholars increasingly examine how digital transformation reshapes religious interpretation, learning practices and online religious interactions.

Another strategically important cluster is Artificial Intelligence, which represents one of the fastest-growing research frontiers. This theme includes artificial intelligence, natural language processing systems, computational linguistics, digital Quran and information retrieval. The prominence of AI-related concepts indicates a substantial shift toward machine-assisted Quranic analysis, semantic processing, automated classification, intelligent retrieval and digital interpretation. Emerging keywords such as ChatGPT, language models, deep learning and text mining further demonstrate the growing integration of advanced computational approaches into Quranic scholarship.

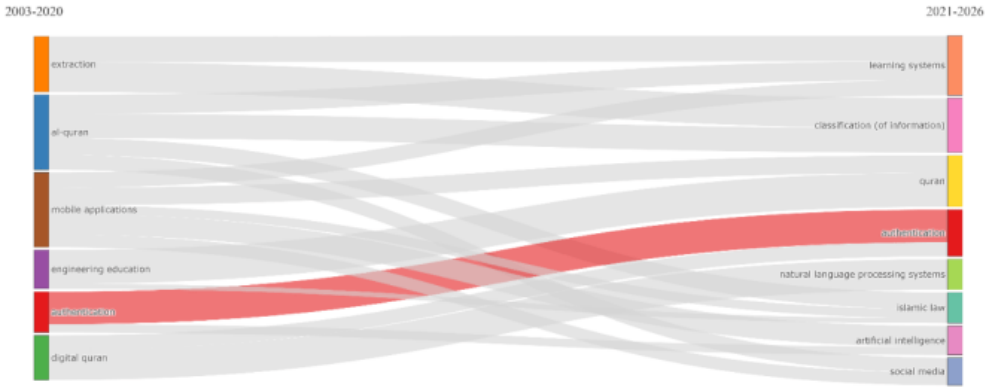
The Al-Quran cluster focuses on computational classification and speech technologies, encompassing classification of information, speech recognition, speech processing and extraction techniques. This theme reflects increasing efforts to develop automated systems capable of recognizing, classifying and extracting Quranic information from textual and audio sources. Advances in machine learning and signal processing are increasingly supporting recitation analysis, audio authentication and intelligent retrieval systems. The Digital Storage cluster emphasizes the preservation and management of digital Quranic resources. Dominant concepts include digital storage, image processing, metadata, audio recordings and digital technologies. The central role of this theme highlights ongoing efforts to develop reliable repositories, improve metadata standards, optimize storage systems and ensure the long-term preservation and accessibility of digital Quranic materials. The Learning Systems cluster reflects the growing integration of digital technologies into Quranic education. Key concepts include learning systems, e-learning, digital libraries, multimedia systems and artificial intelligence. The emergence of augmented reality, machine learning, learning management systems and Quran memorization technologies demonstrates increasing innovation in technology-enhanced religious education aimed at improving learning effectiveness, engagement and knowledge transmission.

Therefore, the thematic map demonstrates that digital transformation in Quranic studies has progressed beyond simple digitization toward a technologically sophisticated and interdisciplinary research domain. The prominence of authentication, artificial intelligence, natural language processing, digital learning systems and blockchain technologies indicates a clear shift toward intelligent digital ecosystems for preserving, analyzing, teaching and disseminating Quranic knowledge. These developments suggest that future research will increasingly focus on AI-assisted Quranic interpretation, semantic knowledge systems, intelligent retrieval platforms, advanced digital preservation frameworks and ethically responsible applications of emerging technologies within Islamic scholarship.

D.3.1. Thematic Evolution

The thematic evolution analysis reveals a significant intellectual transition in digital Quranic studies between 2003-2020 and 2021-2026, characterized by both thematic continuity and diversification. The field has evolved from a technology-oriented focus on digitization, authentication and information management toward a broader interdisciplinary landscape encompassing artificial intelligence, computational linguistics, digital education, social media and Islamic legal studies.

Figure 12. Thematic Evolution



Source: Author's Data Analysis (2026)

As illustrated in Figure 12, one of the most significant evolutionary trajectories is observed in the persistence of the authentication theme. The strongest continuity pathway appears between *authentication (2003–2020)* and *authentication (2021–2026)*, represented by the keyword's *authentication* and *watermarking*, which record a relatively high Weighted Inclusion Index (0.214286) and the highest occurrence frequency (19). This finding suggests that concerns regarding the authenticity, integrity and security of digital Quranic content have remained a central research priority throughout the entire period of observation. The continuity of this theme reflects the ongoing need to protect digital Quranic texts from tampering, unauthorized modification and digital forgery as Quranic materials become increasingly accessible through online platforms and mobile applications. The persistence of watermarking technologies further indicates that digital preservation and content verification remain foundational pillars of digital Quranic scholarship.

The strongest continuity is observed in the authentication theme, which remains highly influential across both periods through keywords such as authentication and watermarking. This persistence indicates that ensuring the authenticity, integrity and security of digital Quranic content continues to be a foundational concern, reflecting ongoing efforts to protect digital texts from tampering, forgery and unauthorized modification. At the same time, the field demonstrates a clear shift toward advanced computational approaches. The transition from authentication to artificial intelligence, linked through the keyword *holy quran*, suggests that concerns with digital preservation have expanded into AI-driven applications such as automated analysis, semantic interpretation, intelligent retrieval and knowledge extraction. Similarly, the evolution of digital Quran into natural language processing systems, computational linguistics and information systems represents a major

methodological transformation toward machine-assisted textual analysis, semantic modeling, automated classification and intelligent search technologies.

The analysis also highlights the growing role of educational technologies. The transition from engineering education to the broader Quran theme through keywords such as *Quran* and *e-learning* reflects increasing integration of digital pedagogies, online learning environments and technology-enhanced religious education. Likewise, the evolution from extraction to learning systems indicates a shift from data-processing approaches toward intelligent learning platforms that support Quranic learning, memorization, interpretation and user engagement.

Another notable development concerns mobile applications, which have evolved from simple access tools into essential components of digital learning ecosystems. Their connections with learning systems, Quran and social media demonstrate increasing emphasis on user-centered platforms that facilitate Quranic education, communication and interaction through mobile technologies. The emergence of social media as a distinct thematic destination further illustrates the diversification of the field. Pathways linking *al-quran* and *mobile applications* to social media indicate growing scholarly interest in digitally mediated religious communication, online *da'wah*, virtual religious communities and the circulation of Quranic knowledge through social networks. This trend reflects broader transformations in religious authority, public engagement and digital religious practices.

The thematic evolution also reveals stronger connections between digital technologies and normative Islamic disciplines. Pathways linking *Quran* and *engineering education* to Islamic law suggest increasing attention to the implications of technological innovation for Islamic jurisprudence, legal reasoning, ethics and religious governance. Similarly, the transition from *Quran* to classification of information highlights growing interest in semantic systems, automated categorization, intelligent indexing and computational organization of Quranic knowledge.

In sum, the findings demonstrate that digital Quranic studies have progressed from an initial focus on digitization, authentication and information extraction toward a mature interdisciplinary field integrating artificial intelligence, natural language processing, educational technology, social media studies, information science and Islamic scholarship. The coexistence of enduring authentication themes and emerging AI-driven approaches indicates that contemporary research seeks both to preserve the authenticity of Quranic knowledge and to enhance its accessibility, analysis, interpretation and dissemination through advanced digital technologies. Future research is therefore likely to focus on AI-assisted exegesis, semantic knowledge systems, intelligent

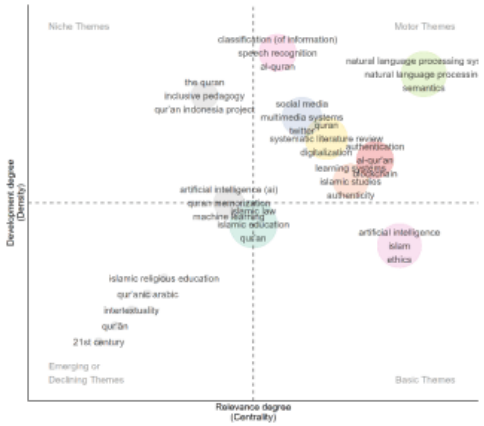
Quranic applications, digital religious ecosystems and the ethical governance of emerging technologies in Islamic scholarship.

Figure 13a. Thematic Evolution Slice Time 1



Source: Author's Data Analysis (2026)

Figure13b. Thematic Evolution Slice Time 2



Source: Author's Data Analysis (2026)

E. CONCLUSION

This bibliometric study provides a comprehensive assessment of research on digital transformation in Quranic studies based on four analytical dimensions: scientific performance, social structure, intellectual structure and conceptual structure. The findings offer several important conclusions. *First*, regarding the *scientific performance of the field*, the results indicate a continuous growth in research productivity accompanied by increasing thematic diversification. The field has evolved from an early focus on digital preservation, authentication and watermarking of Quranic content toward a broader interdisciplinary landscape that integrates artificial intelligence, computational linguistics, digital humanities, information systems, Islamic education and digital communication. This expansion reflects increasing scholarly attention to the integration of advanced digital technologies into Quranic studies, as well as the growing academic relevance of this field across multiple disciplines.

Second, concerning the *social structure of the field*, the co-authorship network analysis reveals that research collaboration remains relatively fragmented and organized in small, loosely connected clusters. While certain authors and groups play bridging roles within the network, overall collaboration across institutions and countries is still limited. This indicates that the field has not yet developed a highly integrated global research community. Strengthening cross-institutional and international collaboration is therefore essential to enhance knowledge exchange, research visibility and scientific impact in digital Quranic studies.

Third, concerning the conceptual structure of the field, the keyword co-occurrence analysis identifies three dominant thematic domains. The first focuses on digital security and authentication, including authentication, watermarking, cryptography and content integrity. The second centers on artificial intelligence and computational approaches, such as natural language processing, computational linguistics, machine learning, semantic analysis and information retrieval. The third encompasses educational, social and religious dimensions, including Islamic education, social media, mobile applications, Islamic law and digital humanities. These interconnected themes demonstrate the multidisciplinary nature of digital Quranic studies.

Fourth, regarding thematic mapping and thematic evolution, the findings reveal a clear shift from early research on digitization, authentication and information extraction toward more advanced themes such as artificial intelligence, natural language processing, digital learning systems, social media and Islamic legal perspectives on technology. The thematic map highlights authentication, artificial intelligence, Quran-related studies, learning systems, digital storage and blockchain as the field's major themes, while emerging topics such as AI-assisted Quranic analysis, knowledge graphs, blockchain-based authentication and intelligent learning systems represent promising directions for future research.

E.1. Implications, Limitations and Directions for Future Research

This study demonstrates that digital Quranic studies have evolved into a rapidly expanding interdisciplinary field that integrates Islamic scholarship with artificial intelligence, computational linguistics, information science, educational technology and digital humanities. The findings highlight the growing importance of digital security, AI-driven analysis and technology-enhanced learning in shaping the future of Quranic scholarship. They also provide a useful roadmap for researchers, educators, technology developers and Islamic institutions seeking to advance digitally mediated approaches to the preservation, interpretation and dissemination of Quranic knowledge.

Despite these contributions, the study has several limitations. First, the analysis was limited to publications indexed in the Scopus database, which may exclude relevant studies published in other databases or regional sources. Second, bibliometric methods focus on publication and citation patterns and therefore cannot fully capture the substantive quality, methodological rigor, or theological implications of individual studies. Future research should expand data sources and complement bibliometric approaches with systematic reviews and qualitative analyses. Particular attention should be given to emerging areas such as AI-assisted Quranic interpretation, natural language processing, semantic knowledge

graphs, blockchain-based authentication, intelligent learning systems and the ethical governance of artificial intelligence in Islamic scholarship. Strengthening interdisciplinary and international collaboration will also be essential for advancing the field and ensuring that technological innovation remains aligned with Islamic epistemological, ethical and theological principles.

REFERENCES

Ab Alim, N N A, K Wahid, S N H Abd Zamani, and F Adenan. "Artificial Intelligence As A Support Tool for Quran Memorization: An Exploratory Study on The Potential Use of AI Applications Among Non-Islamic Studies Students." *Quranica* 17, no. 2 (2025): 157–86. https://www.scopus.com/pages/publications/105018197574?origin=resultslist.

Adel, Y, M Dorrah, A Ashraf, A Elsaadany, M Mohamed, M Wael, and G Khoriba. "AraQA: An Arabic Generative Question-Answering Model for Authentic Religious Text." In *Proceedings of the 11th International Japan-Africa Conference on Electronics, Communications, and Computations, JAC-ECC 2023*, edited by Bedair A., Kanaya H., and Yousef A.H., 235–39. Center for Informatics Science (CIS), School of Information Technology and Computer Science (ITCS), Nile University, Giza, Egypt: Institute of Electrical and Electronics Engineers Inc., 2023. https://doi.org/10.1109/JAC-ECC61002.2023.10479645.

Afifi Alit, N, A D Ahmad, M K Bahrudin, and M H A Mohd Azmi. "Exploring Trends and Themes of Hadith Authentication Research: A Bibliometric Analysis and Future Agenda." *AlBayan* 24, no. 1 (2026): 127–61. https://doi.org/10.1163/22321969-12342317.

Ahmad, K A, A A Jalil, M H Darpen, F H Ismail, and M N A Osman. "Living Qur'an and Hadith in Contemporary Muslim Scholarship: A Systematic Literature Review of Takhrij Practices and Ahkam Hadith Analysis." *International Journal of Drug Delivery Technology* 16, no. 9s (2026): 68–84. https://doi.org/10.25258/ijddt.16.9s.8.

Ali, I. "Application of a Mining Algorithm to Finding Frequent Patterns in a Text Corpus: A Case Study of the Arabic." *International Journal of Software Engineering and Its Applications* 6, no. 3 (2012): 127–34. https://www.scopus.com/pages/publications/84866953421?origin=resultslist.

Ali, R, and S N Isnaini. "Digitising Interpretation: Transforming Tafsir Al-Mishbah in the Context of the Living Quran." *Jurnal Studi Ilmu-Ilmu Al-Qur'an Dan Hadis* 25, no. 1 (2024): 1–23. https://doi.org/10.14421/qh.v25i1.5186.

Alias, M N, M N Abdullah, M F Osman, N F Ismail, and M S Kamis. "The Position

of Maqasid Al-Shariah within Islamic Legal Sources: A Comprehensive Analysis." *Samarah* 9, no. 2 (2025): 937–64. https://doi.org/10.22373/q4byre51.

Alqtati, N, J A J Wilson, and V De Silva. "Mining Arabic Twitter Conversations on Health Care: A New Approach to Analysing Arabic Language on Social Media." *Journal of Islamic Marketing* 13, no. 12 (2022): 2649–71. https://doi.org/10.1108/JIMA-12-2020-0355.

Aria, M., and C. Cuccurullo. *Science Mapping Analysis - A Primer with Biblioshiny*. McGraw-Hill, 2026.

Aria, Massimo, and Corrado Cuccurullo. "Bibliometrix: An R-Tool for Comprehensive Science Mapping Analysis." *Journal of Informetrics* 11, no. 4 (2017): 959–75.

Balgasem, S S, and L Q Zakaria. "A Hybrid Method of Rule-Based Approach and Statistical Measures for Recognizing Narrators Name in Hadith." In *Proceedings of the 2017 6th International Conference on Electrical Engineering and Informatics: Sustainable Society Through Digital Innovation, ICEEI 2017*, edited by Zin N.A.M., Mukhtar M., Ahmad K., Jenal R., Mohamed H., Judi H.M., Bakar M.A., et al., 2017-November:1–5. Center for Artificial Intelligence Technology, Faculty of Information Science and Technology, Universiti Kebangsaan Malaysia Bangi, Selangor, Malaysia: Institute of Electrical and Electronics Engineers Inc., 2017. https://doi.org/10.1109/ICEEI.2017.8312417.

Donthu, Naveen, Satish Kumar, Debmalya Mukherjee, Nitesh Pandey, and Weng Marc Lim. "How To Conduct A Bibliometric Analysis: An Overview And Guidelines." *Journal of Business Research* 133 (2021): 285–96. https://doi.org/https://doi.org/10.1016/j.jbusres.2021.04.070.

Faidah, M, S Makrufah, E N Muntazeri, and S N Muntazeri. "Digitalization of the Quranic Reading Learning Program for Collage Students, Indonesia †." *Engineering Proceedings* 55, no. 1 (2023). https://doi.org/10.3390/engproc2023055076.

Genç, H, and A Yilmaz. "The Teaching of the Quran in the Digital Age: The Role of Technology and Social Media in Quran Education." *Mutefekkir* 12, no. 23 (2025): 239–67. https://doi.org/10.30523/mutefekkir.1733231.

Husaeni, D N Al, and N Haristiani. "Bibliometric Mapping of Global Research Trends on Technology Integration in Japanese Language Education." *ASEAN Journal of Educational Research and Technology* 3, no. 3 (2024): 305–26. https://www.scopus.com/pages/publications/105011200282?origin=resultslist.

Karabalaeva, G, D Osmonova, A Baitokova, A Golov, and Z Kaskarbayeva.

"Contemporary Trends in the Development of the Religious Consciousness of the Peoples of Central Asia." *Pharos Journal of Theology* 106, no. 3 (2025): 1–14. https://doi.org/10.46222/pharosjot.106.3019.

Kholili, M, A Izudin, and M L Hakim. "Islamic Proselytizing in Digital Religion in Indonesia: The Challenges of Broadcasting Regulation." *Cogent Social Sciences* 10, no. 1 (2024). https://doi.org/10.1080/23311886.2024.2357460.

Mansell, R. "Adjusting to the Digital: Societal Outcomes and Consequences." *Research Policy* 50, no. 9 (2021). https://doi.org/10.1016/j.respol.2021.104296.

Marzi, Giacomo, Marco Balzano, Andrea Caputo, and Massimiliano M Pellegrini. "Guidelines for Bibliometric-Systematic Literature Reviews: 10 Steps to Combine Analysis, Synthesis and Theory Development." *International Journal of Management Reviews* 27, no. 1 (2025): 81–103.

Mi'raj, D A, and S Ulev. "A Bibliometric Review of Islamic Economics and Finance Bibliometric Papers: An Overview of the Future of Islamic Economics and Finance." *Qualitative Research in Financial Markets* 16, no. 5 (2024): 993–1035. https://doi.org/10.1108/QRFM-03-2023-0068.

Mohammed, Tawffeek, Mohamed Faraj Saleh Raheel, and Muhammad Ashraf Ebrahim Dockrat. "Integrating Digital Humanities in Teaching Research Methodologies for Postgraduate Students in Arabic and Islamic Studies." In *Human-AI Collaboration and the Evolving Role of Educators*, 271–302. IGI Global Scientific Publishing, 2026.

Mubi, Z A, H Hussin, S Mohamad, and A B Mokhtar. "The Use of Qur'anic Studies Textbooks in Malaysian Secondary Schools: A Systematic Literature Review in the Context of Contemporary Islamic Education." *Islamiyyat* 47, no. 2 (2025): 65–86. https://doi.org/10.17576/islamiyyat-2025-4702-06.

Muhid, A, and M Arifin. "Transformation of Al-Qur'an Memorization Learning in the Digital Age through the Blended Learning Flipped Classroom Approach." *Nazhruna: Jurnal Pendidikan Islam* 8, no. 3 (2025): 594–606. https://doi.org/10.31538/nzh.v8i3.193.

Mukherjee, Debmalya, Weng Marc Lim, Satish Kumar, and Naveen Donthu. "Guidelines for Advancing Theory and Practice through Bibliometric Research." *Journal of Business Research* 148 (2022): 101–15. https://doi.org/https://doi.org/10.1016/j.jbusres.2022.04.042.

Nasir, Khairulnazrin, Rahim Kamarul Zaman, Ahmad Bazli Ahmad Hilmi, Abdul Hakim Mahadzir, and Ahmad Mukhlis bin Mustaffa. "Artificial Intelligence Integration in Mobile Applications: Innovation and Challenges in Supporting Quran Memorization and Review." *QURANICA-International Journal of Quranic Research* 17, no. 2 (2025): 612–45.

Nguyen, N, H Le, B Truong, D Ha, N Nguyen, and T Tran. “A Bibliometric Analysis and Visualisation of Digital Teaching and Learning Publications From Southeast Asia Countries.” *European Journal of Education* 59, no. 4 (2024). https://doi.org/10.1111/ejed.12781.

Obaid, S, and N Z Bawany. “SeerahGPT: Retrieval Augmented Generation Based Large Language Model.” In *2024 18th International Conference on Open S ource Systems and Technologies, ICOSST 2024 - Proceedings*. Center for Computing Research, Department of Computer Science and Software Engineering, Jinnah Univesity for Women, Karachi, Pakistan: Institute of Electrical and Electronics Engineers Inc., 2024. https://doi.org/10.1109/ICOSST64562.2024.10871159.

Salma, Y, Z Kamilah, A Z Kamil, F Y Iwanebel, and M I Maulana. “Narrative Hermeneutics As Digital Tafsīr: Reconstructing Qur’anic Meaning And Religious Authority On Instagram @Nadirsyahhosen_Official.” *Jurnal Lektur Keagamaan* 23, no. 2 (2025): 733–72. https://doi.org/10.31291/jlka.v23i2.1492.

Sati, A, A Halim, A H Nasution, and M Ridwan. “The Digital Transformation of Tafsir and Its Implications for Islamic Legal Derivation in the Contemporary Era.” *MILRev: Metro Islamic Law Review* 4, no. 1 (2025): 389–415. https://doi.org/10.32332/milrev.v4i1.10425.

Shafie, N, A Azizan, M Z Adam, H Abas, Y M Yusof, and N A Ahmad. “Dynamic Time Warping Features Extraction Design for Quranic Syllable-Based Harakaat Assessment.” *International Journal of Advanced Computer Science and Applications* 13, no. 12 (2022): 48–54. https://doi.org/10.14569/IJACSA.2022.0131207.

Sona, F. “Accelerating the Digital Transition European and Muslim Responses to Artificial Intelligence and Icts.” *Journal of Religion in Europe* 18 (2025): 26–58. https://doi.org/10.1163/18748929-bja10112.

Syahir, A N A, M S Z Abidin, C Z Sa’ari, and M Z A Rahman. “Artificial Intelligence and Digital Transformation in Qur’anic Studies: A Systematic Literature Review.” *Quranica* 17, no. 2 Special Issue (2025): 542–85. https://www.scopus.com/pages/publications/105018626724?origin=resultslist.

Untura, G A. “The Knowledge Economy and Digitalization: Assessing the Impact on Economic Growth of Russian Regions.” *Regional Research of Russia* 13, no. 3 (2023): 397–406. https://doi.org/10.1134/S2079970523700909.

Wahid, S H, and S Abdulloh. “Digital Islamic Authority: A Revolutionary Shift or Mere Hype? A Systematic Review.” *SN Social Sciences* 6, no. 2 (2026). https://doi.org/10.1007/s43545-026-01328-5.

Azwar, *Institut Agama Islam STIBA Makassar*, Jl. Inspeksi PAM Timur, Manggala, Kec. Manggala, Kota Makassar, Sulawesi Selatan, 90234, Indonesia; Email: azwar@stiba.ac.id
Abur Hamdi Usman, *Universiti Islam Selangor (UIS)*, Bandar Seri Putra, 43000, Kajang, Selangor, Malaysia; Email: aburhamdi@uis.edu.my
Mohd Farid Ravi Abdullah, *Universiti Islam Selangor (UIS)*, Bandar Seri Putra, 43000, Kajang, Selangor, Malaysia; Email: faridravi@uis.edu.my