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Islamic Ethics in Artificial Intelligent: A Bibliometric Analysis

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Abstract

This bibliometric study examines the development of scholarship on Islamic ethics and artificial intelligence (AI) from 2005 to 2024. Using Scopus-indexed publications, refined through OpenRefine and analysed with VOSviewer, the study identifies 655 peer-reviewed journal articles in English and Malay addressing the intersection of Islamic ethical principles and AI technologies. The findings show that research is primarily concentrated in Social Sciences, Computer Science, and Arts and Humanities. Keyword co-occurrence analysis highlights "artificial intelligence," "ethics," "machine learning," and "ChatGPT" as central themes. Co-authorship and country analyses indicate that the United States and the United Kingdom dominate scholarly output, with Germany and Italy also playing influential roles. Citation analysis reveals that foundational AI ethics frameworks—particularly those by Floridi et al. and Hagendorff—serve as key intellectual anchors, bridging normative theory and applied ethics. The study concludes that while interest in Islamic ethics and AI is growing, the field remains geographically and disciplinarily concentrated. Future research should promote broader global collaboration and expand into underrepresented areas such as finance and public policy to enrich ethical discourse.

Keywords: Islamic Ethics, Ethics, Artificial Intelligence, Bibliometric, Research Trends

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Introduction

Islamic ethics tied to artificial intelligence (AI) is a new discipline that aims to bring Islamic values, ethics, practices and traditions into specific domains associated with the use of AI. It is undoubtedly fast developing as these technologies move into communications, education, business or decision-making. Establishing ethical frameworks for AI that promote and safeguard justice, fairness, privacy and the welfare of society that do not disturb, violate or negate Islamic values are extremely significant (Abadalhady et al., 2025; Gorian & Osman, 2024). From the studies, it looks like the way Islamic ethics is cross fertilizing with AI ethics is not only about Islamic obligations and legislating specific types of conduct as guided by particular religious beliefs, but that it is also encouraging ethical conduct which are inherently aligned to the higher objectives of Islamic law collectively termed Maqasid al-Shariah (Al Kubaisi, 2024; Arifardhani et al., 2025).

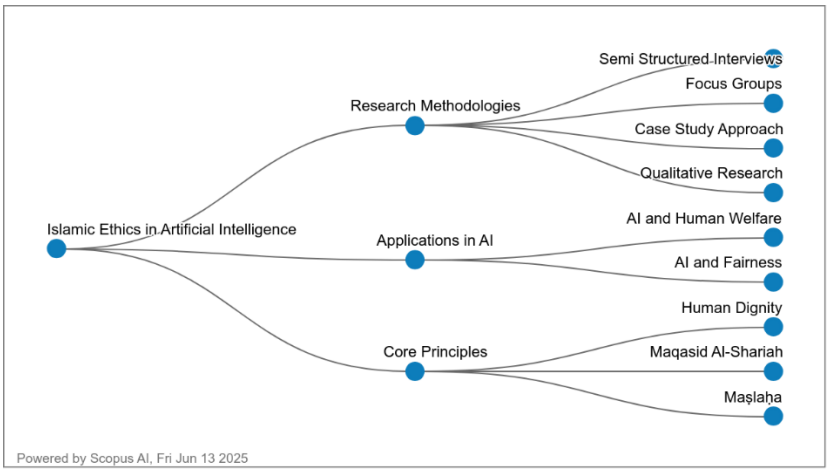
Islamic ethics in AI will be grounded in several important principles, including the legitimacy of design and function, neutrality and impartiality, safety, control, and responsibility, and respect of privacy and intellectual property (Al Kubaisi, 2024). On a broader scale, privacy as a value, is at the heart of all these principles and is strongly tied to Shariah law, dignity as an individual and the need to protect personal boundaries (Gorian & Osman, 2024). Also, an important determinant of ethical decision-making in AI is the concept of "maṣlaḥa" (public interest) where there is a duty-based consideration of the purpose of AI alongside the utility-based approach of contributing positively to society (Elmahjub, 2023). Therefore, these key principles provide the foundations required to develop AIs that are technologically advanced, ethically responsible, and culturally sensitive.

The integration of Islamic ethics into artificial intelligence (AI) may establish fundamental issues and positive visionary steps. One issue may be establishing that the AI is transparent and devoid of harmful individual- or group-level biases (Rapi et al., 2024) , and creating a forum for ongoing conversation among AI developers, Islamic scholars, and those using their AI products to create practical, ethically sound guidelines (Abadalhady et al., 2025). Of course, AI adoption in Islamic contexts also offers potential purposeful steps to improve educational quality, improve administrative processes, and improve financial inclusion and sustainability of the Halal industry (Masood et al., 2025; Rapi et al., 2024). Incorporating Islamic ethical principles into AI development provides developers with the ability to engage in AI development that is intended to promote the advancements of their AI product while continuing to help maintain the integrity of the traditional Islamic university and value system through the use of Islamic ethical engagement (Rapi et al., 2024; Thalgi, 2025).

In summary, the landscape of Islamic ethics in AI **(Figure 1)** is important to ensure technology and its growth align with Islamic principles. Through an emphasis on principles such as justice, privacy, and helping the community while also confronting issues around transparency and bias, we can design AI systems that are new but morally accepted. Therefore, this study was intended to perform scientific mapping, as well as a bibliometric analysis, relating to the studies on Islamic ethics in artificial intelligence based on the following research questions:

1. What is the level of overall impact and research output in Islamic ethics in artificial intelligence, and what subject areas are most defined by this topic?
2. Which documents in the domain of Islamic ethics in artificial intelligence have the most citations in order to show significance?
3. What is the geographical distribution of contributions and which countries have the most publications in Islamic ethics in artificial intelligence?
4. What are the leading keywords and trends in themes on Islamic ethics in artificial intelligence capturing current research?
5. What are the connections and patterns of international collaboration according to network or co-authorship links, in the domain of Islamic ethics in artificial intelligence?

Figure 1: Landscape of Islamic Ethics in Artificial Intelligent



Literature Review

Islamic ethics in artificial intelligence (AI) is an emerging area that looks to incorporate moral and ethical principles from an Islamic perspective into the design and use of AI technologies. This is timely, as AI becomes involved in more aspects of life, leading to ethical considerations that must be approached from the Islamic viewpoint. The Islamic sources of ethics, such of the Quran and the Sunnah (the actions of the Prophet), provide a solid basis from which to develop guidelines for the ethical use of AI. The guidelines incorporate elements of justice, fairness, privacy, and human dignity (Abadalhady et al., 2025; Al Kubaisi, 2024; Gorian & Osman, 2024).

A number of primary ethical principles from an Islamic ethical perspective have been established as follows, legitimacy of design and function, neutrality and impartiality, safety, control and accountability (responsibility), respect for privacy, and, codified systems and regulations (Al Kubaisi, 2024). Additionally, as stipulated in the following adherence to: environmental sustainability, respect for individual, institutional and intellectual property, humanity, and achieving balance (Al Kubaisi, 2024) result in unified ethical principles. The, ethical principles are based on what is

known as the goals of Islamic law (Maqasid al-Shariah) which include protection of religion, protection of life, protection of intellect, protection of progeny, and protection of property (Elmahjub, 2023). The application of these ethical principles ensures that any development or use of artificial intelligence technology meets the proper ethical standards as prescribed by the Islamic worldview and ethical framework.

The upholding of Islamic ethics in artificial intelligence touches upon many areas, such as communication and governance. It is important that the AI tools used in communication uphold a moral guideline that reflects Islamic ethics such as justice, fairness, privacy, and the interest of the community. Islamic scholars should have a hand in the AI development process and consider explaining algorithms transparently using non-technical language. The privacy of data should also be taken seriously (Abadalhady et al., 2025). Furthermore, in the case of governance, some countries have created ethical governance frameworks related to AI ethical delivery. The Kingdom of Saudi Arabia and the United Arab Emirates have developed ethical frameworks that meet Islamic principles. This allows for the commencement of the new technology of AI to be governed within the guidelines of Islamic law ensuring privacy and security. Such frameworks which underscore ethical cultural values inherent in technology and culture are responsible values (Gorian & Osman, 2024).

While some progress has been made, many challenges still exist in fully advancing Islamic ethics into AI. One challenge is the need for ongoing monitoring and adaptation of ethical principles as technology itself does not remain stagnant (Laine et al., 2025). Moreover, the challenge is compounded further by the need for a pluralist approach to ethical AI benchmarking, given the diversity of the ethical traditions or epistemologies, including Islamic ethics, to capture the global context of AI development (Elmahjub, 2023). Future research should identify ethical risks and gaps, further develop precise ethical guidelines, with transparent AI systems to ensure accountability and compliance to Islamic ethics in addition to any (inter)national ethical developments (Elmahjub, 2023; Gorian & Osman, 2024). These challenges should not dissuade the field from its pursuit to ensure that AI technologies are not only innovative but they will endure ethical integrity and cultural sensitivity.

To summarize, awareness of Islamic ethics' leading role in AI is critical to ensuring that AI technologies are designed and used in accordance with Islamic values. By adhering to its ethical values core principles and in addressing the issues of ethical governance, the field can achieve its goal of advocating for responsible use of AI that embraces human dignity, privacy, and justice.

Methodology

Bibliometrics refers to the combination, management, and analysis of bibliographic characteristics derived from research publications (Verbeek et al., 2002). It includes descriptive statistics in the field's publishing journals, year of publication and lead author classification (Wu & Wu, 2017), as well as more technical methods, such us document co-citation analysis. An iterative process involving an appropriate keyword framework, literature searches, and data analysis represent effective literature reviews, bibliography development and accurate outcomes, respectively (Fahimnia et

al., 2015). Bibliometric analyses provide the reader with a broad perspective on the selected area of study over the specified time frame (Gokhale et al., 2020). Bibliometric methodology was used, thus we consulted the Scopus database to search for existing studies. The Scopus is a world-class research platform that helps discover, analyze and share knowledge across the sciences, social sciences, arts, and humanities. The Scopus database is helpful relative to the efficiency and effectiveness of the research workflow (*Why Choose Scopus—Scopus Benefits*, n.d.). The Scopus database was desirable because it indexes the top journals in the various field and gives appropriate data for a bibliometric analysis. The process used to access the Scopus database and discover appropriate studies.

The next section consists of compelling chosen search terms, initial screening of search results, and refinement of search results. Thus, the study attempted to limit to top-tier publication as it suggests a level of potential usefulness in identifying the theoretical lens of the mevolution of research domain. For these aforementioned reasons, the study relied on Scopus database with using Scopus advanced search to collect the data (Sudakova et al., 2022). Furthermore, to guarantee the inclusion of top-tier publications, only articles published in carefully peer-reviewed and high-quality academic journals were considered to the exclusion of books and conference proceedings. Elsevier's Scopus, has a comprehensive content and global coverage includes large quantity of journals with independent review by international panel of independent subject matter experts. In addition, to ensure the selection of reputable sources, only articles from reputed academic journal were used that have undergone a thorough process of peer review and not books or conference proceedings (Liu et al., 2015). Scopus coverage currently much better due to large and global coverage with a number of journal selections, their impact is on recently published articles (Aghaei Chadegani et al., 2013). Scopus database collections offers a wide range of citation and bibliographic records in the social science and humanities domain and was therefore selected for retrieving articles for this study (Aghaei Chadegani et al., 2013; Olijnyk, 2015).

Data Search Strategy

The search strategy was designed to capture a focused yet comprehensive corpus of peer-reviewed research on Islamic ethics in artificial intelligence from 2005 to 2024. By restricting the search to TITLE fields, we ensured that retrieved records explicitly foreground ethical and moral dimensions using the root term "ethic*" alongside "moral," "integrity," and the specific phrase "Islamic ethic" in conjunction with key AI descriptors ("AI," "artificial intelligent," "artificial technology," "cybernetics"). The Boolean operators guarantee that only documents addressing both ethics and AI are retrieved, while the PUBYEAR filter (2005–2024) delimits the temporal scope to two decades of scholarship. Further refinement through Scopus's LIMIT-TO clauses restricting PUBSTAGE to "final," DOCTYPE to "ar" (article), and LANGUAGE to English or Malay ensured that only fully published, peer-reviewed journal articles accessible to our linguistic competencies were included **(Table 1)**.

Complementing the automated query, we applied explicit inclusion and exclusion criteria to enhance the dataset's thematic relevance and methodological

rigor. We accepted articles in English and Malay published as final journal articles between 2005 and 2024, excluding earlier works and non-article formats (e.g., conference papers, books, reviews, and in-press articles) **(Table 2)**. This yielded a final sample of n = 655 documents. By focusing on fully published journal articles in our two selected languages, we prioritized scholarly works that have undergone rigorous peer review and are widely accessible, thereby enhancing the validity and replicability of our bibliometric analysis. The resulting dataset provides a robust foundation for mapping publication trends, thematic clusters, and collaborative networks in the emerging field of Islamic ethics in AI.

Table 1: Search String

Database	Search String
Scopus	TITLE ((“ethic*" OR "moral" OR " integrity" OR "Islamic ethic”) AND (“AI" OR "artificial intelligent" OR "artificial technology" OR "cybernetics”)) AND PUBYEAR > 2004 AND PUBYEAR < 2025 AND (LIMIT-TO (PUBSTAGE, "final”)) AND (LIMIT-TO (DOCTYPE, "ar”)) AND (LIMIT-TO (LANGUAGE, "English”) OR LIMIT-TO (LANGUAGE, "Malay”))

Table 2: The Selection Criterion

Criterion	Inclusion	Exclusion
Language	English & Malay	Non-English & Malay
Time line	2005 – 2024	< 2005
Literature type	Journal (Article)	Conference, Book, Review
Publication Stage	Final	In Press

Data Analysis

The data set which contained the study publication year, publication title, author name, journal, citation, and keyword was obtained from the Scopus database (2005 to 2025) in excel format, and the analysis was conducted using VOSviewer software version 1.6.15. This software was used for analysis and construction of maps using the VOS clustering method and map construction method. VOSViewer serves as a different alternative to an approach based on Multidimensional Scaling (MDS) (Van Eck & Waltman, 2010) and has similar end goals to MDS. Both approaches focus on placing items in a low-dimensional space, such that the distance between any two items corresponds to a meaningful degree of similarity or relatedness (Appio et al., 2014). Unlike MDS, which achieves this end by focusing on the calculation of similarity measures such as Jaccard indexes and cosine, VOS uses more appropriate techniques for normalizing co-occurrences frequencies (Van Eck & Waltman, 2007), for example the association strength (ASij) is calculated as:

$$AS_{ij} = \frac{C_{ij}}{w_i w_j}$$

which is "proportional to the ratio between on the one hand the observed number of cooccurrences of i and j and on the other hand the expected number of co-occurrences of i and j under the assumption that co-occurrences of i and j are statistically independent" (Van Eck & Waltman, 2010).

Thus, through the application of this index, VOSviewer produces a map with respect to the items after minimizing the weighted sum of the square distances between each pair of items, as indicated in Appio et al. (2016), where the LinLog/modularity normalization was applied. Additional overall exploration of the dataset was presented by applying VOSviewer and some visualization methods, which uncovered patterns that were based on mathematics relationships, and examples of the analyses that were done included keyword co-occurrence, citation analysis, and document co-citation analysis. In addition, keyword co-occurrence analysis (Zhao, 2017) can be used when examining how a research area has developed over a period of time, and it has been successful in recognizing trending topics in different fields (Li et al., 2016). Just like keyword co-occurrence analysis, citation analysis can also help locate, analyze and examine important research challenges, trends and methodologies in addition to examining the relevance of the historical context of the critical areas of focus in the discipline (Allahverdiyev & Yucesoy, 2017). Document co-citation analysis is one of the most commonly used bibliometric methods (Appio et al., 2016; Fahimnia et al., 2015; Liu et al., 2015) and produces a map depending on the network theory to position relevant structures in the data set (Liu et al., 2015).

Result and Finding

Subject Areas Contribute Most Significantly to Islamic Ethics in AI

Figure 2: Subject Areas for Islamic Ethics in AI

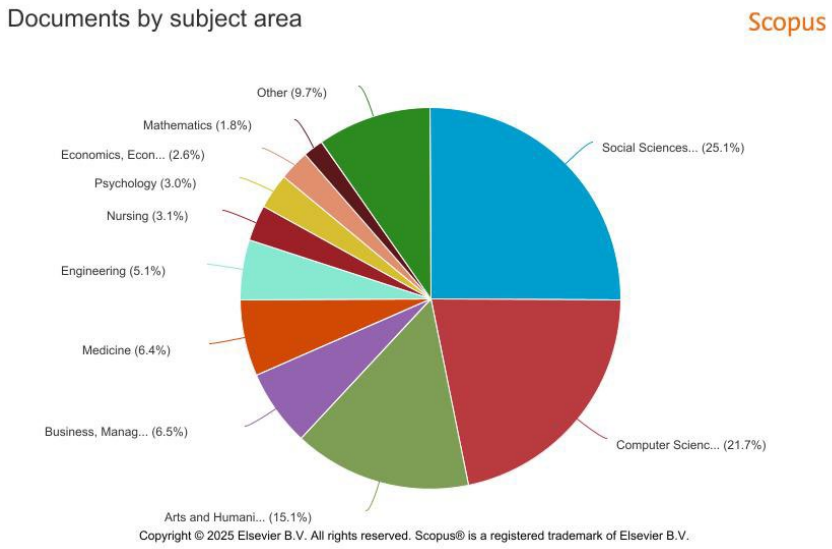


Table 3: Subject Areas for Islamic Ethics in AI

No	Subject Area	Total Publication	Percentage %
1	Social Sciences	312	25.1
2	Computer Science	269	21.7
3	Arts and Humanities	188	15.1
4	Business, Management and Accounting	81	6.5
5	Medicine	80	6.4
6	Engineering	63	5.1
7	Nursing	38	3.1
8	Psychology	37	3.0
9	Economics, Econometrics and Finance	32	2.6
10	Mathematics	22	1.8
11	Other	120	9.7

Figure 2 and **Table 3** indicated the dominance of Social Sciences (25.1 %) and Computer Science (21.7 %) in publications on Islamic ethics in artificial intelligence reflects the field's strong interdisciplinary foundations: scholars are as concerned with the societal, cultural and normative implications of AI as they are with its technical development. The sizable share of Arts and Humanities (15.1 %) further underscores the importance of philosophical, theological and historical perspectives in framing ethical questions, while Business, Management and Accounting (6.5 %) and Medicine (6.4 %) indicate growing interest in sector-specific applications and governance frameworks. This top tier comprising over two-thirds of all publications demonstrates that debates around Islamic ethics in AI are being shaped by a balance of social critique, humanistic inquiry and technical exploration.

Beyond these leading areas, the mid-range subjects reveal where the field is seeking new ground. Engineering (5.1 %) and Mathematics (1.8 %) contributions suggest that methodological rigor and formal ethics-by-design approaches are emergent but still underrepresented. Meanwhile, Nursing (3.1 %), Psychology (3.0 %) and Economics, Econometrics and Finance (2.6 %) indicate niche but growing attention to the human–machine interface in care, cognition and economic decision-making. The "Other" category (9.7 %) captures diverse interdisciplinary outliers, such as education, law or environmental studies—pointing to the potential for future growth in novel application domains and hybrid frameworks. Together, these distributions highlight both the established cores of scholarship and the fertile margins awaiting deeper inquiry.

The Highest Citation Counts, Indicating Their Impact And Significance

Table 4: Highest Cited Publications

No.	Authors & Years	Title	Source title	Cited by
1.	Floridi et al. (2018)	AI4People—An Ethical Framework for a Good AI Society: Opportunities, Risks, Principles, and Recommendations	Minds and Machines.	1440
2.	Hagendorff (2020)	The Ethics of AI Ethics: An Evaluation of Guidelines	Minds and Machines.	1054
3.	Morley et al. (2020)	From What to How: An Initial Review of Publicly Available AI Ethics Tools, Methods and Research to Translate Principles into Practices	Science and Engineering Ethics.	431
4.	Shneiderman (2020)	Bridging the gap between ethics and practice: Guidelines for reliable, safe, and trustworthy human-centered AI systems	ACM Transactions on Interactive Intelligent Systems.	430
5.	Perkins (2023)	Academic Integrity considerations of AI Large Language Models in the post-pandemic era: ChatGPT and beyond	Journal of University Teaching and Learning Practice.	386
6.	Holmes et al. (2022)	Ethics of AI in Education: Towards a Community-Wide Framework	International Journal of Artificial Intelligence in Education.	359
7.	Crawford et al. (2023)	Leadership is needed for ethical ChatGPT: Character, assessment, and learning using artificial intelligence (AI)	Journal of University Teaching and Learning Practice.	332
8.	Durán & Jongsma (2021)	Who is afraid of black box algorithms? On the epistemological and ethical basis of trust in medical AI	Journal of Medical Ethics.	302
9.	Ryan (2020)	In AI We Trust: Ethics, Artificial Intelligence, and Reliability	Science and Engineering Ethics.	302
10.	Hancock et al. (2020)	AI-Mediated Communication: Definition, Research Agenda, and Ethical Considerations	Journal of Computer-Mediated Communication.	296

The most cited articles from 2005 to 2024 reveal that the discourse on AI ethics is driven by efforts to develop normative frameworks and bridge theory with practice. The top-cited work by Floridi et al. (2018), *"AI4People—An Ethical Framework for a Good AI Society"* with 1440 citations, demonstrates the foundational role of structured ethical principles in guiding AI development. Similarly, Hagendorff (2020) critical evaluation of AI ethics guidelines with 1054 citations, highlights scholarly concern about the efficacy and implementation of such frameworks. Morley et al. (2020) and Shneiderman (2020) further contribute to this trend by analyzing tools and proposing guidelines that operationalize ethical principles, indicating a clear shift from abstract theorizing to actionable ethics **(Table 4)**.

A number of other high citation volume papers indicate a growing sector-specific and application-specific focus. Perkins (2023) and Crawford et al. (2023) highlight issues and responsibilities surrounding the use of artificial intelligence and ChatGPT in education, an area highlighted as of increasing urgency in the wake of the pandemic. Holmes et al. (2022) speak to the benefits of a shared ethical framework in AI education, while Durán & Jongsma (2021) highlight epistemological concerns in medical AI. Ryan (2020) and Hancock et al. (2020) explore issues of trust, communication, and human-technology relations in the AI context **(Table 4)**. Overall, the most cited papers demonstrate that scholarship on AI ethics is not only theoretical conceptualizations and approaches to implementing successful AI ethics but also practical, focusing on challenges, sector-specific ethical dilemmas, and the need to work together across disciplines on managing sector challenges.

Which Countries Lead in Publications Related to Islamic Ethics in AI

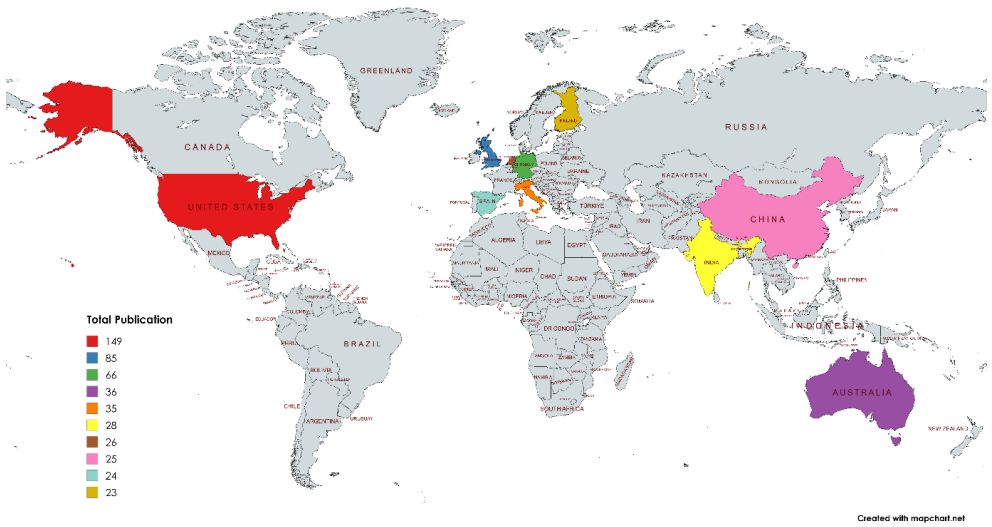


Figure 3: Productive Publications by Countries

Table 5: Productive Publications by Countries

No.	Country	Total Publication	Percentage %
1.	United States	149	17.70
2.	United Kingdom	85	10.10
3.	Germany	66	7.84
4.	Australia	36	4.28
5.	Italy	35	4.16
6.	India	28	3.33
7.	Netherlands	26	3.09
8.	China	25	2.97
9.	Spain	24	2.85
10.	Finland	23	2.73

The findings suggest that the United States of America has produced a substantial amount of literature on Islamic ethics in artificial intelligence, with 149 publications, which represents 17.70% of the total. The United States' leadership in this research area affirms its significant research capacity and extensive academic infrastructure for both artificial intelligence and ethics, as well as its substantial leadership in research on AI ethics in general. The United Kingdom emerges with 85 publications (10.10%) as a significant contributor to Islamic ethics in artificial intelligence literature and to interdisciplinary discussions on ethics in artificial intelligence and to research outputs. Germany (7.84%), Australia (4.28%), and Italy (4.16%) are also present in prominent positions and provide evidence for some significant and active involvement of Western Europe and Oceania in this level of research **(Table 5)**. These countries are typically well resourced by their academic institutions and belong to a number of global research networks, including global research partnerships, which underpin sustained approaches to academic success.

The top ten representation of India (3.33%) and China (2.97%) is indicative of growing globalization of scholarly contributions of emerging economies within global conversations and, by extension, AI and ethics. While their overall percentage is still quite small at, there is certainly evidence of a slow trend toward geographic diversity in scholarship. The Netherlands (3.09%), therefore, Spain (2.85%), and Finland (2.73%) round out the list with their contributions meaningful despite their smaller academic populations **(Table 5)**. The total contribution of these ten countries suggests the concentration of the research remains the Global North. The inclusion and invitation of scholars from the Global South is needed to enrich and diversify the global conversations on Islamic ethics and AI **(Figure 3)**.

The Most Prominent Keywords and Thematic Trends

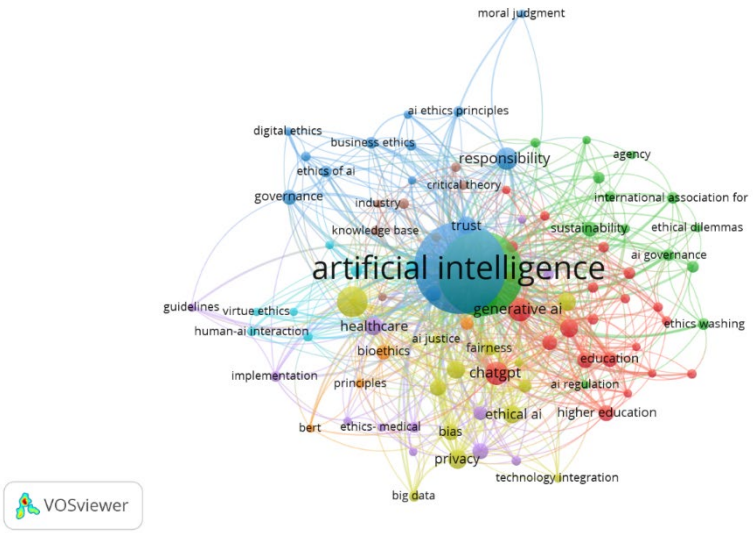


Figure 4: A Keyword Co-occurance Map

Figure 4 indicted the co-occurrence map's two most prominent nodes "artificial intelligence" (296 occurrences, total link strength 604) and "ethics" (257 occurrences, total link strength 493) serve as the intellectual backbone of the field, underscoring both the ubiquity of AI research and the centrality of ethical reflection in that discourse. Their high link strengths reflect frequent thematic pairing with a wide array of other keywords, suggesting that virtually every strand of AI scholarship engages with normative questions. This dominant pairing signals that, from foundational algorithmic development through to application domains, discussions of Islamic ethics in AI invariably return to broader questions of what AI is and ought to be, positioning ethics not as an add-on but as an integral lens.

Beyond these core terms, a distinct technical cluster emerges around "machine learning" (43 occurrences, link strength 112), "ChatGPT" (28; 82), and "generative AI" (28; 76). These nodes indicate a surge of interest in contemporary AI paradigms and, by extension, raise fresh ethical concerns regarding autonomous content creation and model governance. Their moderate link strengths show that while these technologies are popular, their ethical embedding is still forming relative to the foundational AI–ethics dyad. Complementing this cluster is a tight web of terms "responsibility" (26; 54), "privacy" (20; 58), "transparency" (17; 63), "explainability" (15; 43), and "bias" (14; 43), which together delineate the principal dimensions through which Islamic ethical principles (e.g., justice, *amanah*/trust) are being operationalized in AI scholarship.

A third, more heterogeneous cluster reflects application domains and emergent contexts: "academic integrity" (17; 46) and "higher education" (14; 36) spotlight debates spurred by AI's impact on learning and assessment; "healthcare" (17; 47) and "clinical decision support systems" (7; 20) foreground patient-cantered concerns;

while “sustainability” (13; 33) and “governance” (13; 33) gesture toward macro-level policy frameworks. Smaller but noteworthy nodes such as “covid-19” (7; 11) and “digital transformation” (7; 23) reveal how recent global disruptions have accelerated ethical inquiries. Together, these clusters illustrate a maturing field: one that is expanding from abstract normative debates into concrete sector-specific examinations, yet still anchored by the twin pillars of AI and ethics.

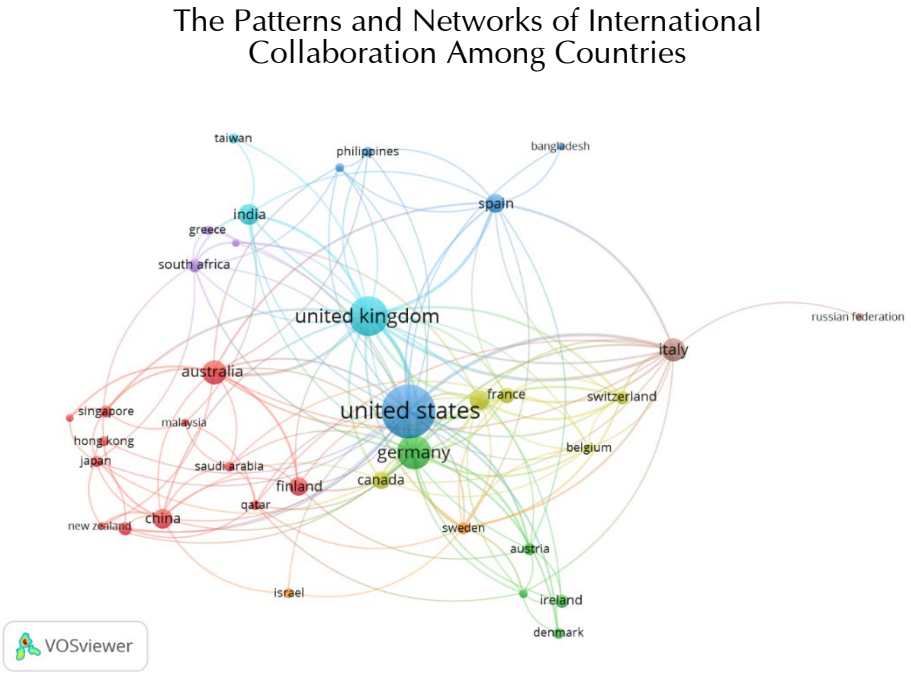


Figure 5: Network Collabaration by Countries

Figure 5 showed that The United States and the United Kingdom stand out as the principal hubs of co-authorship in Islamic ethics and AI research. Although the United States leads in sheer output with 149 documents and the highest citation count (5 688), it is the United Kingdom that exhibits the strongest collaborative integration, with a total link strength of 61 despite producing fewer documents (85) and accruing 4 177 citations. This suggests that UK-based scholars may be more networked across international partnerships, whereas US authors, while highly prolific and influential in terms of raw citation impact, are somewhat less centrally embedded in the transnational co-authorship network.

Western European nations form a cohesive secondary tier of collaboration. Germany (66 documents, 3 616 citations, link strength 49) and Italy (35, 2 107, 35) both demonstrate robust research output accompanied by substantial integration into the collaborative network. The Netherlands (26, 2 225, 22), Spain (24, 1 087, 20), Sweden (11, 1 820, 20), France (17, 1 755, 19), and Switzerland (14, 1 553, 19) likewise maintain moderate output levels but display relatively high citation counts per document, indicative of regionally concentrated expertise and strong

intra-European partnerships. Their link strengths reflect active engagement both within Europe and with leading Anglophone research centres.

Among traditional Anglophone and Oceania countries, Australia and Canada exhibit divergent profiles. Australia's 36 documents yield 1 274 citations and a link strength of 25, signalling a healthy balance between productivity, impact, and collaboration. In contrast, Canada's 21 documents, and comparatively low citation count (369) correspond with a link strength of just 16, suggesting a more nascent or inward-focused research community. New Zealand (5 documents, 82 citations, link strength 7) occupies an even more marginal position, pointing to opportunities for greater international engagement, particularly given its strong academic infrastructure in technology and ethics.

Several emerging-economy and non-Western research centres are represented but remain peripheral in the co-authorship network. China (26 documents, 386 citations, link strength 15) and India (28, 279, 13) have begun to contribute substantively but still lack the collaborative density of Western counterparts. Similarly, South Africa (13, 230, 12), Saudi Arabia (8, 265, 7), and Singapore (12, 373, 8) demonstrate early-stage research activity with modest citation impact and limited link strength. Even countries with lower output, such as Qatar (8, 118, 8) and Vietnam (5, 480, 4), reveal pockets of high citation impact per document, hinting at specialized expertise that could be leveraged through increased co-authorship and network integration. These patterns point to both the global reach of Islamic ethics in AI and the uneven distribution of collaborative ties that future initiatives might address.

Conclusion

The primary aim of this bibliometric investigation was to chart the evolution and structure of scholarship at the nexus of Islamic ethics and artificial intelligence from 2005 to 2024. Key questions concerned publication trajectories, thematic priorities, geographic contributions, and collaborative networks within this intersecting domain.

Findings indicate a pronounced growth in research output, with significant clusters forming around foundational disciplines such as social sciences, computer science, and the humanities. Core thematic hubs encompassing machine learning, privacy, responsibility, and transparency emerged from keyword co-occurrence analyses, while citation patterns identified landmark frameworks that bridge normative ethics and AI practice. Geographic mapping revealed leadership by the United States and the United Kingdom, alongside rising contributions from Europe, Asia, and Oceania. Co-authorship networks illustrated both dense collaborations among Western centres and opportunities for deeper integration of underrepresented regions.

This work contributes to the field by synthesizing dispersed literature into an integrated overview, thereby highlighting dominant trends and exposing under-explored intersections—particularly within healthcare, finance, and policy applications. The articulated maps and metrics provide a foundation for interdisciplinary dialogue and the alignment of AI development with Islamic ethical principles.

Practitioners and policymakers may draw on these insights to guide the design, governance, and deployment of AI systems in contexts where Islamic values are paramount. Emphasis on transparency, fairness, and accountability offers concrete touchpoints for embedding ethical considerations into technological innovation.

Limitations include reliance on journal articles in English and Malay and exclusion of in-press or non-article formats, which may overlook nascent debates. Future research could expand language and document-type scopes, incorporate qualitative case studies, and explore longitudinal shifts in sub-field dynamics.

Ultimately, this bibliometric analysis underscores the importance of systematic mapping for understanding how Islamic ethical frameworks intersect with AI research. Continued scholarly engagement and broader collaboration will be essential for nurturing an inclusive and ethically robust AI ecosystem.

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Conflict of Interest Statement

The authors declare that there are no conflicts of interest regarding the publication of this article. All contributions were made objectively without any personal, financial, or institutional influence that could compromise the integrity of the work.

Author's Contribution Statement

All authors have contributed significantly to the work and approved the final version of the manuscript. We believe that the findings of this study will contribute to the advancement of knowledge in Islamic thought and will be of interest to the readership of the journal.

1. **Muhamad Husni Hasbulah and Naimah Abu Kasim:** conceptualized the research idea, designed the study, performed data analysis and interpreted the findings.
2. **Muhammad Hafiz Hassan, Muhamad Haziq Hassan, Ku Mohd Syarbaini Ku Yaacob & Abdul Salam Zulkifli**: conducted the literature review, collected the data, and revised the manuscript critically for intellectual content, provided final editing, and coordinated the submission process.

Ethics Statement

This study was conducted in accordance with ethical principles and academic integrity. All procedures were carried out responsibly, with informed consent obtained from participants (when applicable) and strict confidentiality maintained.

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