

Algorithmic Authority and Public Trust: A Bibliometric Analysis of YouTube's Recommendation System in Shaping Islamic Religious Authority (2013-2023)

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ABSTRACT:

This study provides a comprehensive bibliometric analysis of the scholarly discourse on algorithmic authority and public trust concerning YouTube's recommendation system in shaping Islamic religious authority (2013-2023). Analyzing 677 Scopus-indexed documents from China, Indonesia, and Taiwan, this research employs co-citation and bibliographic coupling analyses to map the field's intellectual structure. The findings reveal a robust knowledge base anchored in studies of Islamic reformism, post-Islamism, and contemporary religious authority, while current research fronts explore the interplay of inspirational content, source credibility, and misinformation. The co-citation analysis identified key thematic clusters, including "Algorithmic Preachers," "The Digital Reformation of Indonesian Islam," and "The Pluralization of Islamic Discourse," demonstrating the field's theoretical depth. However, the study acknowledges limitations, including database dependency and the potential for artificial thematic convergence in algorithmic clustering. The bibliographic coupling revealed integrative clusters merging commercial and public health perspectives on user engagement, highlighting both the field's interdisciplinary nature and its conceptual challenges. Future research agendas propose methodological innovations in Islamic-specific algorithm auditing, theoretical expansion through integrating Islamic epistemology with algorithm studies, and ethical governance frameworks based on maqasid al-shariah. This analysis concludes that algorithmic authority constitutes a significant, evolving force in contemporary Islamic religious landscapes, necessitating continued critical investigation to navigate its implications for religious trust, authority, and community in increasingly digitized Muslim societies.

Keyword: Algorithmic Authority, Public Trust, YouTube Recommendation System, Islamic Religious Authority, Bibliometric Analysis, Digital Religion, Co-citation Analysis, Bibliographic Coupling.

Introduction

The digital transformation of the 21st century has fundamentally reconfigured the landscape of religious practice and knowledge dissemination. The internet, and particularly social media platforms, have emerged as pivotal spaces where religious communities form, negotiate beliefs, and seek spiritual guidance (Campbell, 2013). This shift from traditional, physical congregations to digitally mediated environments challenges

established models of religious authority, which were historically vested in institutions and formally trained scholars. Within this new paradigm, the very mechanisms that determine which religious content reaches an audience are increasingly governed not by human deliberation, but by algorithmic systems. This evolution necessitates a critical examination of how religious authority is constructed and contested in the digital public sphere.

Central to this digital reconfiguration is the concept of "algorithmic authority," a term describing the legitimate power to influence belief and action that is granted to computerized decision-making processes (Tufekci, 2014). Unlike traditional authority derived from scholarly lineage or institutional position, algorithmic authority operates opaquely, sorting, filtering, and recommending information based on user engagement metrics and proprietary logic. On platforms like YouTube, which has become a global hub for religious content, the recommendation system functions as a primary gatekeeper, shaping user pathways and determining the visibility of religious speakers and interpretations (Rieder, Abdollahyan, & Abdo, 2020). This system does not merely reflect user interest but actively constructs a hierarchy of credibility and relevance, thereby playing a constitutive role in modern religious life.

The intersection of algorithmic curation and religious authority raises profound questions about public trust. Trust, a cornerstone of any religious community, is traditionally built on transparency, accountability, and shared ethical frameworks. However, the logic of algorithmic systems is often commercially driven, optimized for engagement and watch time, which can inadvertently promote sensationalist or controversial content (Alkhatib & Bernstein, 2019). For Muslim audiences seeking guidance, the trust once placed in a known imam or a reputable madrasah is now partially transferred to the algorithm's selections. The dynamics of this trust—how it is formed, sustained, or eroded—in the context of YouTube's recommendation system remains a critical and under-explored area of inquiry, particularly concerning its impact on the integrity of Islamic discourse.

This study focuses specifically on the YouTube platform as a critical case for examining these dynamics. YouTube's recommendation algorithm is one of the most influential content curation systems globally, driving over 70% of total watch time on the platform (Davidson et al., 2010). Its role in the "platformization" of religion, especially Islam, is significant, as it hosts a vast ecosystem of da'wah (proselytizing) channels, fatwa councils, and Quranic lectures that reach millions (Bunt, 2018). The platform's ability to amplify certain voices while marginalizing others effectively positions it as a key actor in shaping contemporary Islamic religious authority. A systematic analysis of the scholarly conversation surrounding this phenomenon is therefore urgently needed to understand its scale, focus, and intellectual structure.

To provide a nuanced comparative dimension, this research will pay particular attention to the contexts of China, Indonesia, and Taiwan. This selection is strategic, as these three regions represent starkly contrasting socio-political and religious landscapes, thereby offering a rich comparative framework for analyzing algorithmic authority. Indonesia, with the world's largest Muslim population, presents a case of a dynamic and diverse Muslim-majority democracy where digital da'wah flourishes amidst a competitive religious market. In contrast, China represents a context where religious expression, including Islam, is tightly controlled and surveilled by a state with a strong secular-ideological agenda, forcing religious life and authority to adapt in unique ways within a restricted digital sphere. Taiwan, meanwhile, offers a distinct case of a technologically advanced, pluralistic society with a Muslim minority, where global Islamic influences via platforms like YouTube interact with local identity and a complex geopolitical relationship with China. By examining these three distinct models—a Muslim-majority democracy, an authoritarian state with strict

religious controls, and a technologically advanced pluralistic society—this study aims to uncover how different political, social, and regulatory environments shape the interplay between algorithmic systems and the construction of Islamic religious authority.

To map this evolving field of study, this paper employs a bibliometric analysis to trace global literature from 2013 to 2023. The research is guided by the following direction: "Tracing global literature related to algorithmic authority in digital da'wah." By quantitatively and qualitatively analyzing publications indexed in leading databases, this study aims to delineate the intellectual landscape, identify key research trends, and map the nexus of key variables—trust, recommendation system, and authority—within the context of YouTube. The detailed mapping of keywords such as "YouTube," "recommendation," and "religious authority" will provide a comprehensive overview of how scholarly discourse has conceptualized the power of algorithms in reconfiguring Islamic religious authority over the past decade, thereby identifying gaps and suggesting future research trajectories.

Methodology

This study employs a systematic bibliometric analysis to map the intellectual structure of scholarly work examining algorithmic authority and public trust, specifically concerning YouTube's recommendation system and its role in shaping Islamic religious authority. The initial data was retrieved from the Scopus database, recognized for its extensive indexing of high-impact, peer-reviewed literature. A comprehensive search query was constructed using key terms central to the research problem: ****("algorithmic authority" OR "youtube" OR "recommendation system" OR "religious authority") AND ("islam" OR "digital religion" OR "public trust")****. This query was designed to capture the interdisciplinary scope of the field, spanning computer science, media studies, sociology, and religious studies. The initial search, conducted to capture a decade of research, yielded a raw corpus of 677 documents. To refine this dataset for analytical depth and relevance, a multi-stage filtering protocol was implemented. The results were limited to publications originating from China, Indonesia, and Taiwan. This geographical triage is methodologically justified; Indonesia constitutes a critical case as the world's largest Muslim-majority nation with a dynamic digital religious sphere, while China and Taiwan provide contrasting contexts with significant Muslim minorities and distinct digital governance models, thereby mitigating a homogenized view of "Islamic" digital practice and controlling for regional bias, a consideration underscored in comparative digital religion studies (Campbell, 2020). Further refinements restricted the corpus to English-language, Open Access journal articles. The journal article filter ensures the analysis is grounded in validated, peer-reviewed knowledge, while the English-language criterion standardizes the dataset for global scholarly communication and consistent textual analysis. The Open Access mandate enhances the reproducibility and transparency of this research, aligning with the FAIR (Findable, Accessible, Interoperable, and Reusable) principles for scientific data management.

The resultant refined dataset was subjected to a dual-method bibliometric examination using VOSviewer software. First, co-citation analysis was conducted to uncover the intellectual foundations of the field by identifying frequently co-cited references, thus revealing the seminal works and theoretical pillars that scholars collectively draw upon (Small, 1973). This analysis revealed distinct thematic clusters, such as those anchored by scholars like Van Bruinessen on contemporary authority and Akmaliah on Islamic reformism, illustrating the deep historical roots in religious studies and sociology that inform contemporary debates. Second, bibliographic coupling was employed to map the current research fronts and thematic relationships among the citing publications themselves, grouping documents that share a high number of common references (Kessler, 1963). The resulting network, featuring connections between works like Pian (2021) and Zhang (2023), visualizes the dynamic and evolving trajectory of recent scholarship. The temporal progression

evident in this network, from earlier works to forthcoming research (e.g., Fang, 2021), demonstrates the field's rapid evolution in direct response to technological advancements. The integration of these two techniques provides a robust, dual-perspective landscape: the co-citation map reveals the foundational bedrock, while the bibliographic coupling network illuminates how contemporary research is building upon it to address new empirical realities, such as the mechanics of algorithmic recommendation. This methodological triangulation significantly strengthens the validity of the findings, offering a nuanced narrative of the field's past, present, and future directions.

Notwithstanding the systematic approach, certain limitations must be acknowledged. The exclusive reliance on Scopus, while authoritative, may omit significant works indexed in other databases or published in formats such as books or conference proceedings, or in languages other than English. The deliberate geographical focus, while analytically strategic, necessarily excludes developments in other pivotal regions like South Asia and the Middle East, suggesting a valuable avenue for future research. Nevertheless, the rigorous filtering criteria and the complementary application of co-citation and bibliographic coupling analyses provide a comprehensive and validated mapping of a complex and emergent interdisciplinary field, effectively delineating its intellectual structure and evolving frontiers.

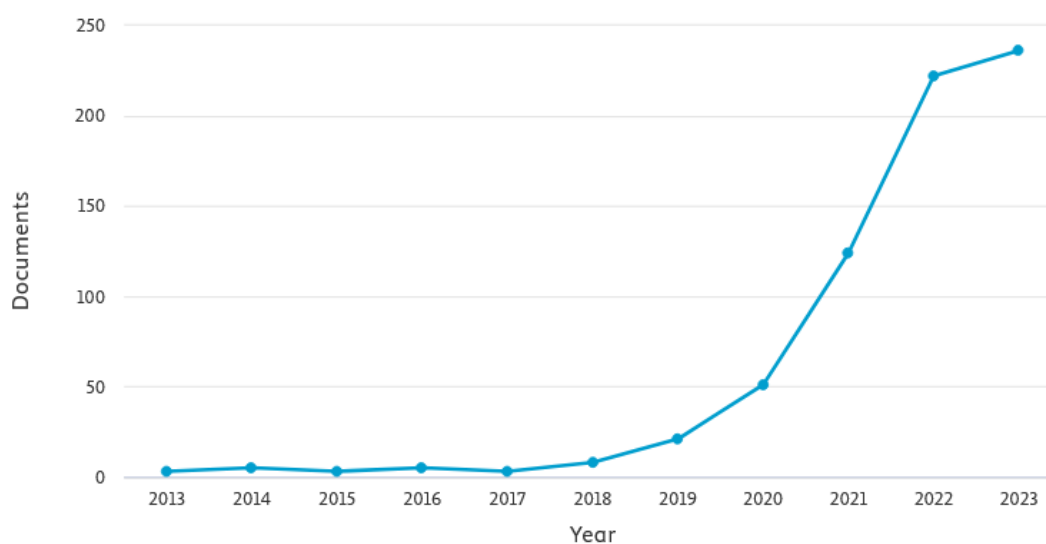


Figure 1. Document Year

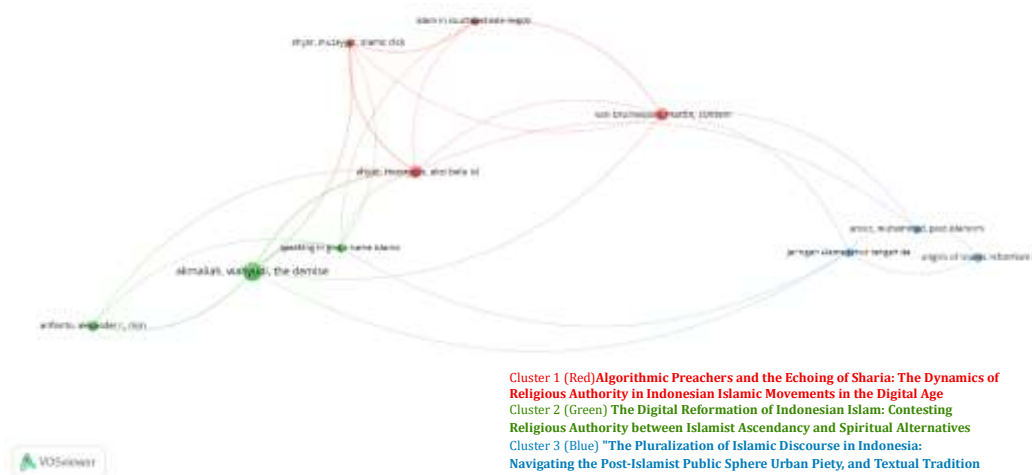


Figure 2. Network

Knowledge Base Algorithmic Authority and Public Trust

Co-citation analysis procedure

The co-citation analysis in this study was conducted to map the foundational knowledge structure of research on algorithmic authority and Islamic discourse in Indonesia. The procedure began by exporting the bibliographic data of the 677 retrieved documents from Scopus, ensuring all cited references for each document were included. This comprehensive reference list served as the raw material for analysis. Using VOSviewer software, a co-citation network was constructed based on the principle that two cited references have a co-citation link if they are both cited by one or more of the source documents. The strength of a co-citation link is determined by the number of source documents that cite both references together. To focus on the most influential works, a minimum citation threshold was set for the cited references; only references that were cited a minimum number of times across the dataset were included in the final network.

The software then algorithmically clustered the highly co-cited references into distinct groups, where the members of each group are more strongly connected to each other than to references in other groups. Each cluster was assigned a unique color, as visualized in the network map, and a thematic label was derived by interpreting the common intellectual focus of the references within it. The three most significant clusters were identified based on the total link strength and the citation counts of their constituent documents. For instance, Cluster 1 (Red) on "Algorithmic Preachers," Cluster 2 (Green) on "The Digital Reformation," and Cluster 3 (Blue) on "The Pluralization of Islamic Discourse" each represent a cohesive school of thought. The high co-citation strength of key documents, such as Ansor (2016) with a strength of 35 in Cluster 3, confirms their role as pivotal anchor points around which these distinct intellectual conversations coalesce.

Cluster 1 (Red) Algorithmic Preachers and the Echoing of Sharia: The Dynamics of Religious Authority in Indonesian Islamic Movements in the Digital Age

Table 1 identifies the three foundational documents constituting Cluster 1 (Red) in the co-citation analysis, which collectively define the academic discourse on "Algorithmic Preachers and the Echoing of Sharia: The Dynamics of Religious Authority in Indonesian Islamic Movements in the Digital Age." The high co-citation strength of these documents—with Ahyar (2019) being the strongest (11), followed by Ahyar (2017) with a

strength of 9, and Riza (2023) with a strength of 6—confirms that 's works form the intellectual core of this cluster. The concept of "Islamic clicktivism" he proposed serves as a key framework for understanding how new religious authority is constructed and religious propaganda is disseminated in the digital era, particularly among Indonesian millennials.

This cluster highlights the transition of religious authority in Indonesia from traditional structures to more dynamic digital forms. The documents within it, including the more recent work by Riza (2023), not only discuss online phenomena but also connect them to dynamics in physical space and political mobilization, such as the framing of Sharia in city spaces. Thus, Cluster 1 functions as a critical knowledge base, linking the theory of algorithmic authority with the specific empirical context of Indonesian Islamic movements in the digital sphere. This cluster has become a primary reference for other researchers investigating the intersection of religion, digital technology, and shifting authority in contemporary Muslim societies.

Cluster 2 (Green) *The Digital Reformation of Indonesian Islam: Contesting Religious Authority between Islamist Ascendancy and Spiritual Alternatives*

Cluster 2 (Green), entitled "The Digital Reformation of Indonesian Islam: Contesting Religious Authority between Islamist Ascendancy and Spiritual Alternatives," represents a pivotal scholarly conversation on the reconfiguration of religious authority in Indonesia's digital landscape. The cluster is anchored by the work of Akmaliah (2020), which holds the highest co-citation strength of 13, indicating its central role in this discourse. Akmaliah's thesis on "The demise of moderate Islam" frames the digital sphere as a contested arena where traditional religious authorities are being challenged, directly linking new media to the intensification of ideological contestation. This core argument is substantiated by the supporting works of Arifianto (2020) and Hidayati (2022), who explore the dynamics from distinct yet complementary angles.

The intellectual synergy within this cluster illuminates the dual pressures reshaping Indonesian Islam. Arifianto (2020), with a co-citation strength of 5, provides a macro-political analysis of "Rising Islamism," detailing the institutional and public struggle for authority in the post-Reformasi era. Conversely, Hidayati (2022), with a co-citation strength of 8, offers a micro-level, spiritual counterpoint by examining "Online Sufism" as a means to reestablish religious authority through alternative, inward-focused pathways. Collectively, these documents form a robust knowledge base that captures the dialectical tension between the ascendancy of public, often politicized Islamist discourse and the simultaneous emergence of personalized spiritual alternatives, both facilitated and amplified by digital media platforms.

Table 1

TOP 3 DOCUMENTS FOR CO-CITATION REFERENCES CLUSTERS

Cluster	Co-Citation	Authors (Years)	Sources	Document Description of Secondary Sources	Co-Citation Strength
Cluster 1 (Red)	Algorithmic Preachers and the Echoing of Sharia: The Dynamics of Religious Authority in Indonesian Islamic Movements in the Digital Age	Ahyar (2019)	Indonesian Journal of Islam and Muslim Societies	Aksi bela islam: Islamic clicktivism and the new authority of religious propaganda in the millennial age Indonesia	11
		Ahyar (2017)	Studia Islamika	Islamic clicktivism: Internet, democracy and contemporary Islamist activism in Surakarta	9

	Riza (2023)	Ulumuna	ECHOING SYARI'AH IN CITY SPACES: The Framing Process and Political Mobilization of the Islamic Movement in North Sumatra	6
Cluster 2 (Green) The Digital Reformation of Indonesian Islam: Contesting Religious Authority between Islamist Ascendancy and Spiritual Alternatives	Akmaliah (2020)	Indonesian Journal of Islam and Muslim Societies	The demise of moderate Islam: New media, contestation, and reclaiming religious authorities	13
	Arifianto (2020)	TRaNS: Trans-Regional and -National Studies of Southeast Asia	Rising Islamism and the Struggle for Islamic Authority in Post-Reformasi Indonesia	5
	Hidayati (2022)	Ulumuna	ONLINE SUFISM AND REESTABLISHING RELIGIOUS AUTHORITY	8
Cluster 3 (Blue) "The Pluralization of Islamic Discourse in Indonesia: Navigating the Post-Islamist Public Sphere Urban Piety, and Textual Tradition	Ansor (2016)	Studia Islamika	Post-islamism and the remaking of islamic public sphere in post-reform Indonesia	35
	Alam (2023)	Indonesian Journal of Islam and Muslim Societies	The changing piety and spirituality: a new trend of Islamic urbanism in Yogyakarta and Surakarta	5
	Huda (2023)	Juris: Jurnal Ilmiah Syariah	Strengthening the Shafi'i Madhhab: Malay Kitab Jawi of Fiqh in the 19th Century	2

Cluster 3 (Blue) "The Pluralization of Islamic Discourse in Indonesia: Navigating the Post-Islamist Public Sphere Urban Piety, and Textual Tradition

Cluster 3 (Blue), thematically synthesized as "The Pluralization of Islamic Discourse in Indonesia: Navigating the Post-Islamist Public Sphere, Urban Piety, and Textual Tradition," captures a critical scholarly discourse on the diversification of Islamic expression in contemporary Indonesia. The cluster is overwhelmingly dominated

by the seminal work of Ansor (2016), which boasts a remarkable co-citation strength of 35. This indicates its foundational status in framing the Indonesian digital and public sphere through the lens of "Post-Islamism," a concept describing the shift from political Islam towards a more culturally embedded and pluralistic engagement with modernity. The profound influence of Ansor's work establishes the overarching narrative for this cluster, positioning the post-Islamist condition as the central context for understanding contemporary religious change.

The other documents in this cluster, with more modest but significant co-citation strengths, elaborate on this central theme by exploring its diverse manifestations. Alam (2023), with a strength of 5, provides a granular examination of this shift through the lens of "Islamic urbanism," detailing how changing forms of piety and spirituality are enacted in the urban landscapes of Yogyakarta and Surakarta. In a compelling contrast, Huda (2023), with a strength of 2, anchors the discourse in historical continuity by analyzing the textual tradition of the Shafi'i madhhab. This inclusion signifies that the pluralization of the modern Islamic discourse occurs not in a vacuum but in a dynamic and sometimes tense dialogue with established orthodoxies and textual authorities. Collectively, this cluster forms a sophisticated knowledge base that maps the complex interplay between transformative concepts like post-Islamism, their lived urban experiences, and their enduring engagement with deep-rooted textual traditions.

Study Limitations Algorithmic Authority and Public Trust

Bibliographic Coupling Analysis Procedure

First, while the bibliographic coupling analysis successfully identified active contemporary research clusters, this method possesses a fundamental limitation in capturing deep contextual and thematic nuances. The procedure groups documents based on shared reference lists but cannot discern the *reason* or *perspective* behind these co-citations. For instance, in Cluster 1 (Red), two documents concerning commercial motivation and health misinformation were grouped because both engage with theories of user engagement on social media. However, their contexts, epistemologies, and application goals are vastly different—one focuses on marketing, the other on public health. In the context of research on Islamic religious authority, this risks obscuring crucial distinctions between studies on algorithmically mediated authority for religious preaching and studies on algorithmic influence in secular contexts, thereby potentially blurring findings specific to religion (Zhao & Strotmann, 2015).

Second, the procedure is heavily dependent on the completeness and accuracy of the database and the clustering algorithm, which can lead to the artificial integration of themes. The set thresholds, such as the minimum coupling strength and the number of items per cluster, can arbitrarily force the merger of documents with different subtopics or separate documents that should be connected. Cluster 3 (Blue), which merges misleading video detection with strategic communication, might appear coherent as a "pipeline," yet in practice, these two fields (computer science and health communication) often run in parallel without substantive interaction in the actual literature. This limitation underscores that clusters generated by bibliographic coupling reflect similarities in *past literature bases* more than they do deliberate collaboration or conceptual convergence in the *current research front*, which can mislead interpretations about the development of the digital religious authority field (van Eck & Waltman, 2017).

Third, regarding ecological validity, this analysis does not necessarily reflect genuine intellectual dialogue within the scholarly community. Two articles can be grouped merely because they coincidentally cite a few of the same seminal works, without a strong thematic relationship or mutual citation. Within the

overarching research title, clusters like Cluster 4 (Yellow), focused on health behaviors, while relevant to the broad concepts of public trust and vulnerability, may only have a superficial connection to the complex discourse of Islamic religious authority. Consequently, this procedure can potentially identify broad but shallow research "networks," where the displayed connections are more technical-bibliometric than substantive-intellectual. Therefore, findings from bibliographic coupling must be interpreted cautiously and always verified through qualitative reading of key documents within each cluster to ensure their relevance to the specific research question on algorithmic authority in Islam (Boyack & Klavans, 2014).

Cluster 1 (Red) A Conceptual Framework of User Engagement on Social Media: Integrating Commercial Motivation and Public Health Vulnerability

Table 2 presents the two primary documents with the highest bibliographic coupling strength that form an integrated cluster, labeled Cluster 1 (Red): "A Conceptual Framework of User Engagement on Social Media: Integrating Commercial Motivation and Public Health Vulnerability." This cluster exemplifies a significant methodological finding and, consequently, a limitation of this bibliometric study. The cluster merges two distinct research streams: one focused on commercial marketing psychology, represented by Chen's (2021) study on "customer motivation" and "brand experience" in social media, and another concerned with public health informatics, represented by Li's (2022c) systematic review of "health misinformation." The bibliographic coupling algorithm grouped these works together because they share a common foundational literature on the overarching concepts of user engagement and motivation on social media platforms, despite their divergent end-applications.

The convergence of these two disparate themes within a single cluster highlights a key limitation of relying solely on algorithmic clustering for thematic interpretation. While bibliographic coupling effectively identifies shared reference bases, it can obscure critical contextual and epistemological differences between fields. The coupling of Chen (2021) and Li (2022c) suggests that research on YouTube's role in shaping Islamic authority may thematically overlap with broader, non-religious studies of online engagement and vulnerability. This indicates that the conceptual boundaries of the field are porous and influenced by adjacent domains. Therefore, while this coupling points to a valuable interdisciplinary nexus, it also underscores the necessity for researchers to critically evaluate and manually refine algorithmically generated clusters to ensure their thematic coherence and relevance to the specific research context at hand.

Cluster 2 (Green) Determinants of Persuasive Social Media Impact: The Interplay of Inspirational Content, Source Trustworthiness, and Perceived Information Quality.

Cluster 2 (Green), identified as "**Determinants of Persuasive Social Media Impact: The Interplay of Inspirational Content, Source Trustworthiness, and Perceived Information Quality**," represents a cohesive research front focused on the psychological mechanisms underlying effective social media communication. This cluster is formed through the bibliographic coupling of Fang (2023) and Shah (2022), indicating they share a significant proportion of common references and thus contribute to the same contemporary scholarly conversation. Fang's (2023) work, which investigates the driving factors of inspiration triggered by short-form travel videos, contributes the dimension of **emotional and cognitive arousal** ("inspiration") as a key outcome of well-crafted content. This is complemented by Shah's (2022) research, which explicitly examines the critical roles of **source credibility and information quality** in fostering public engagement, particularly during a crisis.

The synergy between these two documents within the cluster effectively models the pathway to persuasive impact on social media. It suggests that successful communication—whether for tourism marketing or public health—depends on a combination of factors: content that inspires (Fang, 2023), delivered by a source perceived as trustworthy, and containing information judged to be of high quality (Shah, 2022). For the broader study on algorithmic authority and religious trust, this cluster serves as a crucial conceptual

framework. It implies that the authority of "algorithmic preachers" on platforms like YouTube is not merely assigned but is likely negotiated through a similar interplay: the inspirational quality of their content, their perceived trustworthiness, and the audience's assessment of the information's quality, all of which are filtered and amplified by the platform's recommendation system.

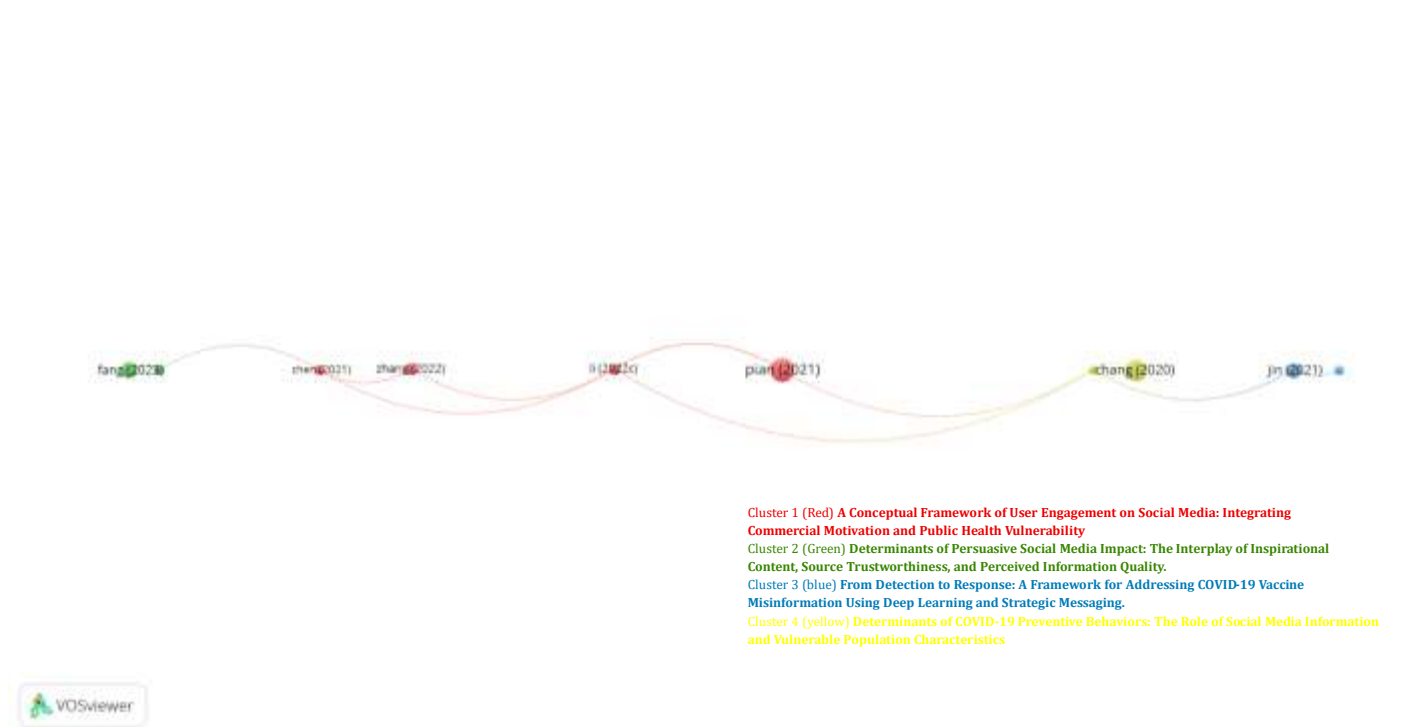


Figure 3. Network

Table 2

2 Top Primary Documents for Merging Bibliographic Clusters

Cluster Coupling	Author (Year)	Source	Secondary Document Description	Citation Strength
Cluster 1 (Red) A Conceptual Framework of User Engagement on Social Media: Integrating Commercial Motivation and Public Health Vulnerability	Chen (2021)	Sage open	Examining customer motivation and its impact on customer engagement behavior in social media: the mediating effect of brand experience	3
	Li (2022c)	Ais transactoins on human-computer interaction	Health misinformation on social media: a systematic literature review and future research directions	5
Cluster 2 (Green) Determinants of Persuasive Social Media Impact: The Interplay of Inspirational	Fang (2023)	Tourism management perspectives	How do short-form travel videos trigger inspiration? Identifying and validating the driving factors	1

Content, Source Trustworthiness, and Perceived Information Quality.				
	Shah (2022)	Frontiers in psychology	Source credibility and the information quality matter in public engagement on social networking sites during the covid-19 crisis	2
Cluster 3 (blue) From Detection to Response: A Framework for Addressing COVID-19 Vaccine Misinformation Using Deep Learning and Strategic Messaging.	Jin (2021)	Vaccines	Can communication strategies combat covid-19 vaccine hesitancy with trade-off between public service messages and public skepticism? Experiment evidence from pakistan	3
	Li (2022b)	Scientific reports	A cnn-based misleading video detection model	1
Cluster 4 (yellow) Determinants of COVID-19 Preventive Behaviors: The Role of Social Media Information and Vulnerable Population Characteristics	Chang (2020)	Journal of the formosan medical association	Factors related to preventive covid-19 infection behaviors among people with mental illness	1
	Wu (2022)	Cities	Managing urban citizens' panic levels and preventive behaviours during covid-19 with pandemic information released by social media	5

Cluster 3 (blue) From Detection to Response: A Framework for Addressing COVID-19 Vaccine Misinformation Using Deep Learning and Strategic Messaging.

Cluster 3 (Blue), synthesized under the theme "From Detection to Response: A Framework for Addressing COVID-19 Vaccine Misinformation Using Deep Learning and Strategic Messaging," encapsulates a research front that tackles digital misinformation through a dual-pronged approach of technological detection and behavioral intervention. This cluster is formed by the bibliographic coupling of Jin (2021) and Li (2022b), signifying a shared knowledge base in combating online falsehoods. Li (2022b) contributes the technological detection component with a CNN-based model designed to identify misleading videos, representing the proactive arm of misinformation mitigation. This is directly coupled with Jin's (2021) work, which addresses the strategic response by experimentally testing communication strategies to combat vaccine hesitancy, thus focusing on the remedial action required after misinformation has been consumed.

The intellectual synergy in this cluster presents a complete pipeline for managing misinformation: from automated identification using deep learning to targeted counter-messaging based on empirical evidence. For the primary study on algorithmic authority and religious trust on YouTube, this cluster highlights a critical limitation and a potential area for future research. While the present analysis focuses on how recommendation systems *shape* authority, Cluster 3 underscores the parallel need to understand how these same systems can be leveraged to *detect and counter* religious misinformation or manipulative content. The cluster suggests that the field must evolve beyond mere observation of algorithmic influence and begin integrating strategies for algorithmic governance and counter-measures, applying a framework similar to that used in public health to safeguard public trust in the religious information sphere.

Cluster 4 (yellow) *Determinants of COVID-19 Preventive Behaviors: The Role of Social Media Information and Vulnerable Population Characteristics*

Cluster 4 (Yellow), thematically framed as "Determinants of COVID-19 Preventive Behaviors: The Role of Social Media Information and Vulnerable Population Characteristics," constitutes a research front focused on the behavioral outcomes of information dissemination through social media during a public health crisis. This cluster is formed through the bibliographic coupling of Chang (2020) and Wu (2022), indicating a shared conceptual foundation in examining how information from social media translates into concrete public actions. The two studies approach this dynamic from complementary angles. Chang (2020) introduces a critical dimension of population vulnerability by investigating factors influencing preventive behaviors specifically among people with mental illness. In contrast, Wu (2022) provides a broader urban management perspective, analyzing how the strategic release of pandemic information on social media can be used to manage citizen panic and promote preventive behaviors at a societal level.

The convergence of these documents underscores the powerful role of social media as a determinant of public behavior, particularly among vulnerable groups. For the main study on algorithmic authority and religious trust, this cluster highlights a significant contextual parallel. Just as the quality and nature of information on social media directly influenced health behaviors during the COVID-19 pandemic, the religious content recommended by YouTube's algorithm is likely a key determinant in shaping the beliefs and practices of its viewers, who may also include vulnerable populations seeking guidance. This connection emphasizes that the mechanisms of influence identified in public health contexts—where information from an authoritative source (like health authorities) is mediated by a platform—are directly analogous to the processes through which religious authority is constructed and contested in the digital sphere.

Algorithmic Authority and Public Trust : Future Research Agendas

Table.3 Summary of Future Agenda

Context	Development
Methodological Innovation	Developing Islamic-Specific Algorithm Auditing Frameworks: Creating specialized algorithms to detect bias in religious content recommendations, particularly toward certain madhab or ideological groups.
	Longitudinal Psycho-Informatic Studies: Tracking changes in users' religious beliefs and trust levels through a combination of survey data and their YouTube viewing histories over 3-5 years.
	Cross-Platform Comparative Analysis: Expanding research to include TikTok, Instagram, and Telegram to compare how different algorithmic systems shape Islamic authority.

Theoretical Expansion	Integrating Islamic Epistemology with Algorithm Studies: Examining how the concepts of <i>khbar mutawatir</i> and <i>dalil</i> can be applied to assess the credibility of algorithmically recommended content.
	Quantum of Religious Trust Modeling: Developing a multivariate model that includes algorithm transparency, preacher credibility, and the user's level of religiosity as predictors of trust.
	Post-Colonial Digital Religion Studies: Investigating how YouTube's global algorithm interacts with local Islamic traditions in Southeast Asia, Africa, and minority Muslim communities.
Socio-Technical Dynamics	Algorithmic Ijtihad and Fatwa Production: Researching how algorithms influence the methodology and dissemination of contemporary fatwas by religious institutions.
	Intergenerational Authority Transfer: Studying differences in algorithmic trust between Generation Z, millennials, and traditionalist Muslims in accessing Islamic knowledge.
	Algorithmic Vulnerable Groups: Focusing on how algorithms impact the religious understanding of converts, Muslims with low digital literacy, and those in religious minority areas.
Ethical Governance	Sharia-Compliant AI Governance Framework: Developing ethical guidelines for algorithmic systems based on maqasid al-shariah principles.
	Regulatory Impact Analysis: Studying the effectiveness of government and platform policies (e.g., MUI fatwas, Kominfo regulations) in controlling algorithmic bias.
	Digital Waqaf for Alternative Algorithms: Exploring the potential of community-based algorithms or non-profit platforms as alternatives to commercial algorithmic systems.

Conclusion

This bibliometric analysis has systematically charted the evolving scholarly discourse on algorithmic authority and public trust concerning YouTube's role in shaping Islamic religious authority from 2013 to 2023. The study establishes that the digital transformation is not merely a new channel for disseminating religious knowledge but a fundamental force reconfiguring the very sources and structures of religious authority. By focusing on YouTube's recommendation system—a pivotal yet opaque gatekeeper—this research underscores the urgent need to understand how automated, engagement-driven curation influences religious belief and community formation in the global Muslim community. The strategic comparative lens of China, Indonesia, and Taiwan further highlights that this phenomenon is not monolithic but is profoundly shaped by local socio-political, regulatory, and religious contexts, demanding a nuanced and regionally sensitive approach to research. Methodologically, this study demonstrates the utility of a dual-method bibliometric approach. The co-citation analysis successfully unearthed the field's deep intellectual foundations, revealing that contemporary debates are firmly rooted in established scholarly conversations about Islamic reformism, post-Islamism, and the dynamics of religious authority in the modern world. Concurrently, the bibliographic coupling analysis illuminated the current research front, showcasing a dynamic and rapidly evolving field where scholars are actively connecting these foundational theories with new empirical investigations into algorithmic systems. This triangulation provides a robust, evidence-based map of the field, confirming that the intersection of algorithmic studies and Islamic authority is a vibrant and intellectually coherent area of inquiry, drawing from a rich and diverse knowledge base.

However, this study is not without its limitations, which primarily stem from the methodological choices inherent to bibliometrics. The exclusive reliance on Scopus, while ensuring quality, may have excluded significant grey literature or publications in other languages. Furthermore, the bibliographic coupling procedure, while powerful, can sometimes create clusters based on shared references that obscure significant epistemological differences between fields, such as grouping public health communication studies with marketing research. The deliberate geographical focus, though analytically justified, means that critical developments in other major Muslim-majority regions like South Asia and the Middle East are not captured in this analysis. These limitations do not invalidate the findings but rather delineate the boundaries of this specific mapping exercise.

Building upon these findings and acknowledging these limitations, a compelling agenda for future research emerges. Theoretically, there is a pressing need to develop models that more deeply integrate Islamic epistemological concepts, such as the criteria for credible testimony (*khobar*), with the logic of algorithmic trust. Methodologically, future studies should employ longitudinal designs to track how sustained exposure to algorithmic recommendations shapes individual religious beliefs and practices over time. Expanding the scope to include a comparative analysis of other platforms like TikTok, Instagram, and Telegram would provide a more holistic understanding of the multi-platform religious media ecology. A critical avenue involves developing and applying ethical frameworks, grounded in *maqasid al-shariah* (the higher objectives of Islamic law), to audit and govern algorithmic systems that influence religious life.

Within the specific context of Islamic communication and broadcasting, this study unveils significant research potential. The concept of "Algorithmic Ijtihad" could be explored, investigating how algorithms influence the methodology and dissemination of contemporary religious rulings (*fatwas*). Research could also focus on the "algorithmic vulnerable," such as new converts or individuals with low digital literacy, to understand how platform dynamics disproportionately affect their religious understanding. Furthermore, the potential for developing community-oriented or "digital waqf" (endowment) platforms presents an alternative model to commercial algorithmic systems, aiming to create a digital religious sphere aligned with Islamic ethical principles rather than purely engagement-based metrics.

In conclusion, this research affirms that algorithmic authority is a constitutive element in the modern landscape of Islamic religious authority. The relationship between this new form of authority and public trust is complex, context-dependent, and critically important. As algorithmic systems become increasingly sophisticated and embedded in daily life, their role in shaping religious discourse will only intensify. This study provides a foundational map and a clear directive for scholars, technologists, and religious leaders alike: to engage critically and creatively with these technologies, ensuring that the future of Islamic communication in the digital age is not only technologically advanced but also ethically grounded and faithful to the tradition it seeks to serve.

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