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The Evolving Landscape of Halal Tourism: Research Trends, Emerging Themes, and Behavioral Insights

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Abstract

Purpose - This study aims to examine the determinants of Muslim tourists' revisit intention toward halal destinations by integrating bibliometric mapping and quantitative modeling. Specifically, the study investigates how *halal facilities, trust,* and *religious experience* influence revisit intention, while also identifying key research trends and conceptual developments in halal tourism through bibliometric analysis.

Design/methodology/approach - A mixed-method approach was employed. First, a bibliometric analysis using *Biblioshiny* and *VOSviewer* was conducted on 2,500 Scopus-indexed articles (2010–2025) to identify major themes and intellectual structures within halal tourism research. The results informed the quantitative phase, where data were collected from 250 Muslim tourists who had visited halal-certified destinations in Indonesia. Measurement items were adapted from validated scales, and data were analyzed using *Partial Least Squares Structural Equation Modeling (PLS-SEM)* following Hair et al. (2019). Reliability, validity, and endogeneity issues were carefully addressed using advanced model-specification procedures.

Findings - The bibliometric results revealed that *halal facilities, trust, religiosity,* and *revisit intention* represent the central thematic clusters in halal tourism literature, alongside emerging topics such as sustainability, smart technology, and digital trust. Empirical findings show that halal facilities and trust significantly influence revisit intention, with religious experience partially mediating this relationship. Trust emerged as the strongest predictor of loyalty, confirming its mediating role between service quality and behavioral intention.

Originality/value - This research contributes methodologically and theoretically by bridging macro-level bibliometric insights with micro-level behavioral validation. It extends the halal tourism literature by integrating religious and psychological factors within a unified empirical framework and introduces an innovative mixed-method approach combining bibliometric visualization and PLS-SEM analysis. The study also addresses potential *endogeneity* concerns—an issue often overlooked in tourism research—thereby enhancing causal inference and model robustness.

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Implications - The findings provide actionable insights for policymakers, destination managers, and hospitality practitioners in designing trust-based strategies and authentic religious experiences that strengthen Muslim tourists' loyalty and sustain competitiveness in the global halal tourism market.

A. INTRODUCTION

Halal tourism has become one of the fastest-growing sectors within the global travel industry, driven by the rising Muslim population, increasing disposable income, and greater awareness of faith-based consumption (Juliana et al., 2024). The concept extends beyond food and beverage consumption to encompass accommodation, travel experience, and destination management that align with Islamic values. As the global Muslim population is expected to reach 2.2 billion by 2030, the demand for Muslim-friendly destinations continues to expand, representing both an economic opportunity and a cultural imperative for tourism stakeholders. Within this dynamic landscape, Indonesia has emerged as one of the leading halal tourism destinations, ranking among the top in the Global Muslim Travel Index (GMTI 2024), which underscores its strategic potential in the global tourism ecosystem.

In scholarly discourse, halal tourism has been conceptualized as the intersection of religious observance and leisure, offering an experience that satisfies both spiritual and recreational needs. Battour and Ismail (2016) argue that halal tourism is not merely about providing religious facilities but also about fostering environments where Muslim tourists can experience cultural authenticity and emotional comfort. This multidimensional nature makes halal tourism a compelling field for academic inquiry—combining insights from marketing, behavioral science, religious studies, and hospitality management. Despite this interdisciplinary richness, the literature reveals gaps in integrating these perspectives into cohesive theoretical frameworks that can explain the complex behavior of Muslim tourists.

Over the past decade, numerous studies have sought to identify the factors influencing Muslim tourists' destination choice and loyalty. The most frequently cited variables include halal facilities, trust, religiosity, and satisfaction (Eid & El-Gohary, 2015; Ratnasari et al., 2023). These constructs represent the functional, psychological, and spiritual dimensions of the travel experience. While earlier research primarily adopted behavioral models such as the Theory of Planned Behavior (TPB) to explain revisit intention (Hasan et al., 2020), the model alone cannot fully capture the religious,

social, and cultural complexities embedded in halal tourism. Consequently, new research approaches are required to integrate emotional, technological, and religio-cultural dimensions that influence tourists' behavioral intentions in a more holistic manner.

A review of the literature also indicates inconsistencies in empirical findings regarding the determinants of revisit intention. Some studies have confirmed that halal facilities play a dominant role in driving loyalty (Battour & Ismail, 2016; Miftahuddin, et al., 2026), whereas others highlight that trust and religiosity have stronger effects than physical amenities (Eid & El-Gohary, 2015). These conflicting findings suggest that the relationship among variables may be context-dependent, influenced by demographic factors, destination image, or tourists' personal religiosity levels. Moreover, a growing number of studies argue that religiosity may serve as a moderating rather than a direct variable in determining revisit intention, reflecting its complex role in shaping individual perceptions and behavior.

In parallel, scholars have increasingly recognized trust as a critical construct in halal tourism. Morgan and Hunt (1994) propose that trust is the foundation of long-term consumer relationships, built through consistent delivery of promises and transparent communication. Within halal tourism, trust extends beyond traditional service quality—it encapsulates tourists' confidence that the destination genuinely upholds Islamic values rather than engaging in symbolic or superficial branding. However, as several authors have noted, trust is socially constructed and varies across destinations depending on cultural norms and institutional mechanisms (Henderson, 2016). This contextual sensitivity requires further exploration through empirical studies that examine how trust operates in specific cultural settings, particularly in emerging halal destinations such as Indonesia.

Similarly, the role of religious experience remains an area of ongoing debate. While some scholars view religiosity as a primary motivator for travel (Eid & El-Gohary, 2015), others contend that religious values serve more as background conditions that shape ethical consumption patterns rather than explicit decision-making drivers (Hasan et al., 2020). The generational divide also adds complexity—Millennial and Gen Z Muslim travelers often seek experiences that balance faith, recreation, and digital convenience, reflecting the broader evolution of Islamic consumption behavior. This duality underscores the need to reconceptualize

religiosity not merely as a belief system but as a lived and contextualized experience that influences trust, satisfaction, and loyalty in varying degrees.

In response to these conceptual ambiguities, bibliometric approaches have gained prominence as powerful tools for mapping intellectual structures and identifying knowledge gaps. Using tools such as Biblioshiny and VOSviewer, researchers can quantitatively analyze patterns of co-authorship, keyword co-occurrence, and thematic evolution (Juliana et al., 2026; Suhartini et al., 2024). Bibliometric visualization not only reveals the trajectory of halal tourism research but also identifies emerging themes such as digital transformation, sustainability, and smart tourism. These analytical tools offer a macroscopic understanding of the field, providing a solid theoretical foundation for designing empirical studies that explore behavioral constructs like trust, religiosity, and revisit intention.

Moreover, bibliometric evidence suggests that the evolution of halal tourism research has moved toward multidimensional integration. Early studies focused on halal certification and facilities, whereas recent research incorporates technological innovation, digital trust, and sustainability as new areas of inquiry (Sustacha et al., 2023; Khan et al., 2023). This progression mirrors global trends in tourism research that emphasize personalization, ethics, and social responsibility. By synthesizing bibliometric insights with behavioral analysis, researchers can build more comprehensive frameworks that align with the realities of modern Muslim travelers, who are increasingly tech-savvy, globally mobile, and spiritually conscious.

Despite these advancements, the academic discourse remains fragmented, with limited efforts to connect macro-level bibliometric findings with micro-level behavioral analysis. Most bibliometric studies provide descriptive overviews without linking conceptual clusters to specific empirical hypotheses. Conversely, behavioral studies often ignore the broader intellectual landscape, leading to repeated models and underexplored variables. Bridging this divide is crucial for advancing both theoretical depth and practical application in halal tourism research. The present study seeks to address this gap by combining bibliometric mapping and quantitative modeling, thereby linking research trends with behavioral drivers in a unified analytical framework.

The significance of this research lies in its potential to contribute to both theoretical refinement and policy formulation. By integrating insights from bibliometric mapping with survey-based behavioral analysis, this study identifies the

key determinants of revisit intention among Muslim tourists—specifically, halal facilities, trust, and religious experience. The findings are expected to guide destination managers and policymakers in formulating evidence-based strategies for enhancing Muslim-friendly services, improving destination image, and fostering long-term loyalty. Additionally, the study highlights Indonesia's unique position as a case study for halal tourism development, providing implications that extend beyond national boundaries to other emerging Muslim-majority markets.

Finally, this study acknowledges several methodological challenges, particularly concerning endogeneity, which may arise due to the potential reciprocal relationships among variables such as trust, satisfaction, and revisit intention. Endogeneity can lead to biased parameter estimates and inaccurate causal interpretations if not properly addressed. To mitigate this issue, the study adopts advanced analytical techniques—including Partial Least Squares–Structural Equation Modeling (PLS-SEM)—and validates constructs through both bibliometric evidence and empirical testing. This dual approach ensures that the analysis remains robust, comprehensive, and methodologically sound, contributing to a clearer understanding of how halal facilities, religiosity, and trust jointly influence revisit intention in the growing field of halal tourism

B. RESEARCH METHODOLOGY

This study adopts a mixed-method research design that integrates bibliometric mapping and quantitative structural analysis to achieve a comprehensive understanding of Muslim tourists' behavioral intentions within the context of halal tourism. The bibliometric phase serves to explore macro-level trends and intellectual structures, while the quantitative phase empirically tests the proposed relationships among halal facilities, trust, religious experience, and revisit intention. Such a dual approach bridges the gap between descriptive research mapping and behavioral modeling, providing both theoretical and empirical contributions (Marlina et al., 2025; Suhartini, Nugroho, & Prasetyo, 2024). The combination of bibliometric visualization and survey-based modeling has been increasingly recognized as an effective way to synthesize fragmented academic literature with real-world behavioral insights in tourism studies (Donthu, Kumar, Mukherjee, Pandey, & Lim, 2021).

In the first phase, bibliometric analysis was conducted using Biblioshiny (R Studio package) and VOSviewer to identify publication trends, influential authors, and

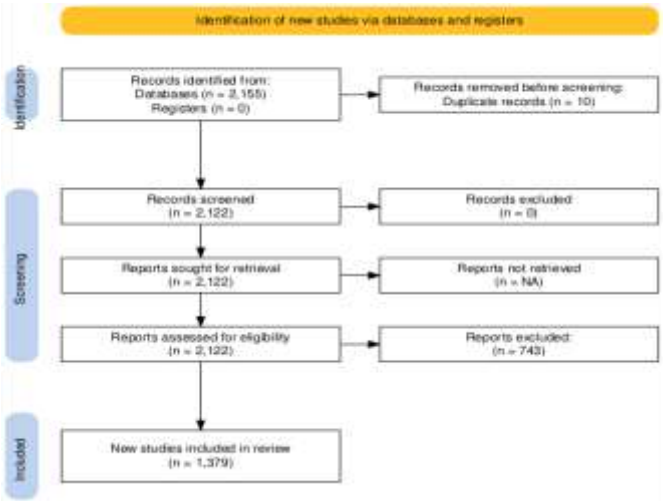
thematic clusters within halal tourism research indexed in Scopus between 2010 and 2025. Following the procedures outlined by Aria and Cuccurullo (2017), data were analyzed using keyword co-occurrence, citation network, and thematic evolution mapping. This analysis identified dominant variables such as halal facilities, trust, and religiosity, which served as the conceptual foundation for the survey model. The bibliometric visualization revealed research hotspots, structural gaps, and emerging themes—particularly the growing relevance of smart tourism and digital trust (Suhartini et al., 2024; Donthu et al., 2021).

The second phase applied a quantitative cross-sectional design using a structured questionnaire distributed to Muslim tourists who have previously visited halal-certified destinations in Indonesia. Measurement items for each construct were adapted from validated scales: halal facilities (Battour & Ismail, 2016), trust (Morgan & Hunt, 1994), religious experience (Eid & El-Gohary, 2015), and revisit intention (Al-Ansi, Han, & Kim, 2019). Respondents were selected through purposive sampling to ensure relevant travel experience and awareness of halal destination attributes. The minimum sample size was determined using the ten-times rule for PLS-SEM (Hair, Hult, Ringle, & Sarstedt, 2021). All items were measured using a five-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (5).

Data analysis employed Partial Least Squares–Structural Equation Modeling (PLS-SEM) using SmartPLS 4.0 to test both measurement and structural models. The PLS-SEM technique was chosen due to its suitability for predictive modeling and non-normal data distributions common in behavioral tourism research (Hair et al., 2021). Reliability and validity were assessed through composite reliability (CR), average variance extracted (AVE), and discriminant validity using the Fornell–Larcker criterion. Bootstrapping with 5,000 resamples was conducted to evaluate path coefficients and significance levels. To address potential endogeneity, consistent PLS procedures and theoretical control variables were incorporated following the recommendations of Hult, Hair, and Proksch (2018). The integration of bibliometric insights and PLS-SEM modeling enables this study to contribute methodologically by linking the intellectual landscape of halal tourism research with empirical behavioral verification.

Tabel 1. Prisma Flow Diagram

Source : Authors' own work



C. RESULTS AND DISCUSSION

Results

Halal tourism has rapidly evolved from a niche subfield into a mainstream research stream linking hospitality, consumer behavior, and religious studies. Early conceptualizations positioned halal facilities—prayer spaces, halal-certified food, gender-sensitive amenities, and Sharia-compliant accommodation—as the foundational layer of Muslim-friendly destinations (Battour & Ismail, 2016; Mohsin, Ramli, & Alkhulayfi, 2016; Marlina et al., 2024). These tangible attributes do more than satisfy ritual obligations: they shape perceived convenience and psychological comfort, thereby strengthening destination image and perceived value (Henderson, 2016; Al-Ansi, Han, & Kim, 2019). Yet the literature increasingly warns that infrastructure alone does not secure loyalty; without emotional resonance and credible signaling of religious integrity, facilities may not convert into repeat visits (Ratnasari, Gunawan, Mawardi, & Kirana, 2021; Jeaheng, Al-Ansi, & Han, 2020).

Across studies, trust consistently appears as a pivotal psychological mechanism linking service cues to longer-term outcomes (Morgan & Hunt, 1994; Al-Ansi et al., 2019). In halal settings, trust encompasses not only reliability and safety but also authentic Sharia compliance rather than tokenistic branding (Henderson, 2016). Transparent certification, consistent service standards, and credible institutional signaling increase trust and, in turn, drive satisfaction and revisit intention (Jeaheng et al., 2020; Ratnasari et al., 2021). Trust also mediates the pathway from destination image and service quality to loyalty, particularly when the destination's Muslim-

friendly promise is difficult for tourists to monitor directly (Boğan & Sarışık, 2019; Al-Ansi et al., 2019).

A related but distinct stream examines religiosity and religious experience as antecedents of perceived value and satisfaction. Eid and El-Gohary (2015) showed that Islamic religiosity intensifies value perception and post-consumption satisfaction by aligning the travel experience with travelers' belief systems. Subsequent work suggests that religiosity may operate as both a direct driver (strengthening destination attachment) and a contextual moderator, amplifying the effect of halal attributes and trust on revisit intentions (Jeaheng et al., 2020; Ratnasari et al., 2021). Notably, generational evidence indicates a more blended motivation among younger Muslims, who value lifestyle, convenience, and digital ease alongside religious fit—nudging destinations toward "integrated" experiences where faith, recreation, and technology co-exist (Hasan, Abdullah, Zainudin, & Lew, 2020; Al-Ansi et al., 2019).

Within the behavioral outcome domain, revisit intention and loyalty are the most frequently modeled dependent variables. Empirical studies typically show that halal facilities, trust, and religiously congruent experiences influence revisit intention directly and indirectly via satisfaction (Eid & El-Gohary, 2015; Ratnasari et al., 2021). Destination image and perceived service quality also matter, but their effects often flow through trust and satisfaction, indicating layered causal chains (Boğan & Sarışık, 2019; Al-Ansi et al., 2019). A growing number of papers integrate these drivers into unified structural models, often using PLS-SEM to handle formative/reflective constructs and sample-size constraints (Hair, Hult, Ringle, & Sarstedt, 2021).

Recent bibliometric mappings complement micro-level models by revealing the macro structure of the field. Using Biblioshiny and VOSviewer, reviews report surging publication volumes post-2015 and dense clusters around "halal tourism," "satisfaction," "trust," and "religiosity," alongside emergent nodes for sustainability and smart/digital tourism (Suhartini, Nugroho, & Prasetyo, 2024; Marlina et al., 2025). Thematic maps typically classify halal authentication and slaughter science as niche clusters (high density, low centrality), while halal tourism forms a motor theme (high density–high centrality) and halal food/certification anchor the basic theme space (high centrality—lower density) (Suhartini et al., 2024). Country collaboration maps consistently position Indonesia and Malaysia as hubs, reflecting policy emphasis, market size, and active scholarly networks.

Two converging trends are noteworthy. First, technology-enabled trust: certification transparency, traceability, and platform-based reviews reduce information asymmetry in halal assurance (Al-Ansi et al., 2019; Jeaheng et al., 2020). Second, sustainability alignment: authors increasingly discuss how halal values intersect with ethical consumption and environmental stewardship, repositioning halal tourism within broader responsible tourism debates (Discover Sustainability Review, 2025; Suhartini et al., 2024). Together, these trends indicate a paradigmatic shift from compliance-centric views to experience- and values-centric models that combine spiritual fit with credible signals and convenient, tech-enabled service delivery.

At the same time, divergences persist. Some studies find facilities as the dominant antecedent of revisit intention (Battour & Ismail, 2016), while others report stronger roles for trust and religiosity (Eid & El-Gohary, 2015; Ratnasari et al., 2021). These discrepancies likely arise from contextual moderators (destination type, institutional quality, minority/majority Muslim context) and sample heterogeneity (age, travel purpose, frequency). Methodologically, endogeneity risks—e.g., reciprocal causality between trust and satisfaction or omitted destination-image cues—remain under-addressed in parts of the literature, underscoring the value of research designs that mix bibliometric scoping with robust empirical modeling (Hair et al., 2021; Hasan et al., 2020).

In summary, the literature converges on a multi-layered explanation of Muslim tourists' revisit intention: tangible halal facilities create baseline fit; psychological trust transforms fit into confidence; and spiritual congruence (religiosity, religious experience) deepens attachment—together channeled through satisfaction and destination image toward loyalty. Bibliometric evidence validates these constructs as the field's intellectual core and points to digital trust and sustainability as the next frontiers. Future work can benefit from tighter causal identification (e.g., instrumental variables, panel/longitudinal designs), comparative studies across Muslim-majority vs. minority contexts, and the integration of tech-mediated cues (AI chat, platform ratings, blockchain-enabled traceability) into behavioral models.

Discussion

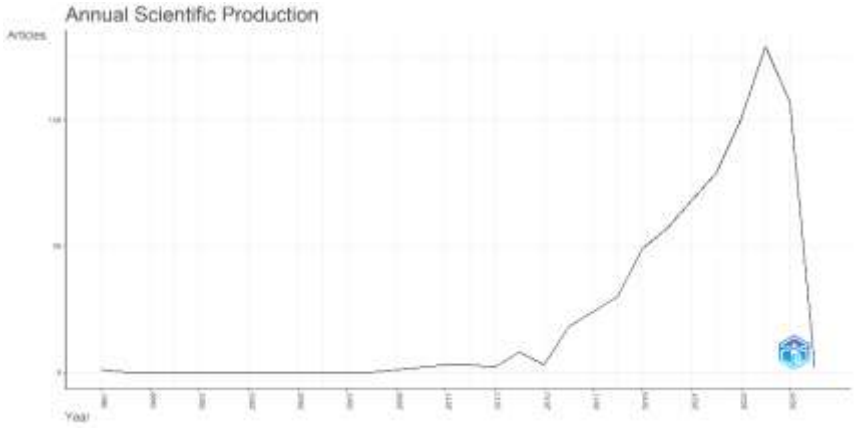


Figure 1. Annual scientific production

Source: Authors' own work

Annual Scientific Production on Halal Research

Based on Scopus metadata analyzed using the Biblioshiny application, the number of scientific publications with the keyword *"halal"* has shown a significant increase over the past two decades. As of 2025, a total of 2,783 research articles related to the themes of *halal industry* and *halal tourism* were recorded in the Scopus database. To ensure the consistency and validity of the bibliometric review, only research articles were included in the analysis.

As illustrated in Figure 1 (Annual Scientific Production), the publication trend on halal-related topics demonstrates a highly dynamic growth pattern. In the early period between 1950 and 2005, the number of published articles remained very limited and relatively stagnant, indicating that halal industry studies had not yet become a major focus in global academic literature. A noticeable increase began during the 2006–2010 period, coinciding with the growing awareness of the economic potential of Islamic finance and the emergence of halal tourism as a research area.

Entering the period of 2015–2023, the number of publications increased exponentially. This trend reflects the rising academic and industrial interest in halal as one of the leading sectors of the global economy, in parallel with the growth of the Muslim travel market and the expansion of the global halal industry. The most significant surge occurred between 2023 and 2024, when the number of publications peaked at more than 400 articles, marking a strong *publication surge* phase in halal research.

However, the data for 2025 show a sharp decline compared to the previous year. This phenomenon can be interpreted as an effect of data incompleteness, as the current year's publications (2025) have not yet been fully indexed in the Scopus database. Therefore, the apparent decrease does not indicate a substantive decline in research output but rather reflects an ongoing data updating cycle.

Overall, the bibliometric analysis reveals that studies related to the *halal industry, halal products,* and *halal tourism* have experienced rapid growth over the past two decades. The period 1950–2005 can be classified as the *slow growth phase*, during which research was limited and primarily conceptual. The subsequent phase, 2006–2020, represents a *significant increase period*, characterized by steady growth in publication volume in line with the development of Islamic economic policies and global halal certification frameworks. Finally, the period 2020–2024 can be described as the *publication surge phase*, marked by a multidisciplinary expansion of halal research encompassing economics, marketing, tourism, finance, and digital halal technologies.

In summary, the trend depicted in Figure 1 demonstrates that global research on halal-related topics continues to show sustained scientific momentum. This underscores the strategic importance of the halal domain as a growing and influential field in advancing global scholarship and the development of the halal industry in the years ahead.

Three-Field Plot Analysis

Figure 2 presents the visualization of the Three-Field Plot, generated through bibliometric analysis using the Biblioshiny application. This visualization adopts a Sankey diagram format, which illustrates the interconnections among three key



elements in the scholarly publications related to *halal tourism* and the *halal industry*: publication sources (CR) on the left, authors (AU) in the middle, and merged keywords (KW_Merged) on the right.

Figure 2. Three fields plot

Source: Authors' own work

On the left-hand side, the analysis indicates that the most frequently cited articles are published in several reputable international journals, including *Tourism Management Perspectives*, *International Journal of Tourism Research*, *Journal of Islamic Marketing*, *Tourism Review*, and the *Asia Pacific Journal of Tourism Research*. Among these, the *Journal of Islamic Marketing* occupies the most dominant position, as reflected by its larger and darker-colored block, signifying higher productivity and publication frequency in halal-related research. The dominance of this journal implies

that most halal research is explored through the lenses of marketing, consumer behavior, and the development of Sharia-compliant destinations rather than purely from the perspective of Islamic jurisprudence.

The middle section of the diagram represents authors, who play a significant role in advancing halal research. The visualization reveals several influential and prolific scholars such as Mohamed Battour, Mohamed N. Ismail, Amr Al-Ansi, Ainin Sulaiman, and Hatem El-Gohary. This is evidenced by the numerous connecting links between their names, the associated journals, and key research terms. For example, *Mohamed Battour* exhibits strong associations with topics such as *halal tourism*, *tourist satisfaction*, *trust*, and *destination image*, reflecting his extensive contribution to Muslim tourist behavior studies and revisit intention research. Meanwhile, *Ainin Sulaiman* and *Amr Al-Ansi* are more closely linked to studies on *halal-friendly services*, *customer value*, and *Islamic hospitality*, emphasizing their focus on service quality and Muslim tourist experiences.

The right-hand side of the diagram displays the keywords most frequently used in the analyzed publications. The dominant keywords include *"halal tourism," "trust," "customer satisfaction," "destination image,"* and *"Theory of Planned Behavior."* The prominence of *"halal tourism"* and *"destination image"* reflects the research focus on tourist perceptions and the influence of destination image on loyalty and revisit intention. Meanwhile, the emergence of *"trust"* and *"customer satisfaction"* reinforces the view that these constructs are key determinants within the behavioral models of Muslim tourists. The frequent appearance of *"Theory of Planned Behavior"* (Ajzen, 1991) further indicates that this framework remains the most widely adopted theoretical foundation for explaining tourist behavior in the context of halal tourism.

The interrelationships among the three elements in the Sankey diagram demonstrate a strong collaborative pattern between journals, authors, and research topics. The flow of data from left to right indicates that most studies published in leading international journals—such as *Tourism Management Perspectives* and *Journal of Islamic Marketing*—are predominantly contributed by authors affiliated with academic institutions in Asia, particularly Malaysia, Indonesia, and the Middle East. The most common research themes addressed by these scholars include *halal tourism experience, customer trust, satisfaction, revisit intention, halal attributes,* and *religiosity*.

Overall, Figure 2 illustrates that research in the halal industry—particularly in the area of *halal tourism*—has evolved into a multidimensional discipline that

integrates perspectives from marketing, consumer behavior, and spirituality. Furthermore, the strong connections between leading scholars such as Battour, Ismail, and El-Gohary highlight the emergence of an intellectual network that plays a vital role in strengthening the global academic discourse on halal tourism. This pattern suggests that future research directions are likely to move toward integrating trust, religiosity, and digital technology as driving forces for the sustainable development of the halal tourism industry.

Word Cloud Analysis

Figure 3 presents the Word Cloud visualization generated through bibliometric analysis using the Biblioshiny application, which illustrates the most frequently occurring keywords in publications related to halal tourism and religious tourism within the Scopus database. The variation in word size and color represents the frequency of keyword appearances in the analyzed set of scientific articles—the larger the word size, the higher its frequency of use among researchers in their publications.

According to the visualization results, the most dominant keywords are "religious tourism" and "halal tourism", both of which appear in the largest text size and occupy the most central positions in the Word Cloud. This indicates that these two themes constitute the primary focus of academic literature discussing religion-based and Sharia-compliant tourism. The concurrent prominence of these keywords also highlights the growing integration between spirituality (religious experience) and Muslim tourist behavior, reflecting a convergence between faith-based motivation and contemporary tourism practices.

In addition, several other keywords—such as "tourism," "pilgrimage," "Islamic tourism," "tourist satisfaction," "sustainability," and "tourism development"—appear in relatively large sizes, suggesting a high level of scholarly interest in issues related to sustainability, tourist experience, and religious values in the development of halal destinations. The appearance of the term "pilgrimage" indicates the academic connection between halal and religious tourism, particularly in studies emphasizing spiritual journeys and faith-based travel motivations. Meanwhile, the prominence of "sustainability" reflects the increasing importance of integrating environmental and social responsibility within halal tourism research, aligning with the global tourism agenda focused on sustainable and ethical development.

On the other hand, several keywords such as “heritage tourism,” “bibliometric analysis,” “Islamic finance,” and “Muslim tourist” appear in smaller font sizes, suggesting that although these topics are relevant to the halal industry context, the intensity of research addressing them remains relatively limited compared to major themes like halal tourism and religious tourism. Consequently, these areas represent potential research gaps and emerging academic opportunities for future scholars—particularly in exploring the interrelationships between halal tourism, cultural heritage preservation, and Islamic economic aspects.

In summary, Figure 3 highlights the evolving direction of halal tourism research, where scholars are increasingly integrating religious, cultural, and sustainability dimensions to construct a more holistic understanding of faith-based tourism behavior and destination development.



Figure 3. Word cloud

Source: Authors' own work

TreeMap Analysis

Figure 4 presents a TreeMap diagram that illustrates the distribution of keywords in research related to halal tourism and the halal industry based on their frequency of occurrence. Each box in the diagram represents one keyword, where the size and percentage of each box indicate how frequently the term appears in the analyzed academic publications. Accordingly, the larger the box size, the higher the frequency of the keyword in the scholarly literature.

Based on the mapping results shown in Figure 4, the keyword with the largest box size is "halal tourism" (24%), representing the most dominant theme across the entire body of research. This indicates that the main focus of academic studies over the past decade has revolved around the development, potential, and challenges of halal tourism, explored from the perspectives of marketing, tourist behavior, and destination policy. The keyword "tourism" (7%) occupies an important position as a general theme that links conventional tourism dimensions with Sharia-compliant aspects, suggesting that halal tourism research has now been integrated into the broader framework of global tourism studies.

The keywords “Indonesia” (5%) and “Malaysia” (3%) highlight the roles of these two countries as research hubs and centers of scholarly contribution in halal tourism and the halal industry at large. Both nations are frequently used as case studies due to their strong national policies promoting Muslim-friendly tourism and halal certification development. Additionally, the keywords “halal” (5%), “Islamic tourism” (3%), and “halal industry” (2%) also appear with high frequency, illustrating the expansion of research themes beyond tourism to encompass industrial, business, and Islamic economic dimensions.

Several other frequently appearing keywords, such as “tourist satisfaction” (2%), “trust” (1%), and “revisit intention” (1%), emphasize that tourist behavior and customer satisfaction are critical components in building loyalty toward halal destinations. Meanwhile, the occurrence of “religiosity” (2%) indicates the significant role of religious commitment in influencing Muslim tourists’ decision-making—both in choosing destinations and in shaping their perceptions of halal service quality.

The keywords “sustainability” (1%) and “tourism development” (2%) demonstrate that the topic of sustainable tourism has begun to gain traction in halal tourism research. This reflects a shift toward the concept of sustainable halal tourism, which integrates Sharia principles with environmentally and socially responsible practices. On the other hand, the appearance of “bibliometric analysis” (1%) signifies the increasing use of quantitative analytical approaches to understand publication patterns and conceptual developments in this field.



Figure 4. Word tree map

Source: Authors' own work

In addition to these primary themes, several more specific keywords—such as "halal food" (2%), "Islam" (2%), "tourist destination" (2%), and "Muslim tourists" (2%)—demonstrate the strong interconnection between halal tourism, halal consumption, and global Muslim tourist behavior. The presence of "halal certification" (1%), "economic growth" (1%), and "service quality" (1%) further underscores the importance of regulatory, economic, and service quality factors in strengthening the competitiveness of the halal industry.

Overall, the keyword mapping illustrated in Figure 4 shows that research on halal tourism and the halal industry is multidisciplinary, encompassing issues related to Islamic economics, consumer behavior, sustainability, and public policy. The trend also reflects a paradigm shift from normative discussions toward empirical and practical approaches, focusing on how trust, satisfaction, and religious values shape Muslim tourists' loyalty and revisit intentions. Consequently, the mapping results indicate that halal tourism has evolved beyond a purely religion-based tourism

concept to become a key pillar of the global halal economy, emphasizing inclusivity and sustainability.

Country Collaboration Map

Figure 5 illustrates the Country Collaboration Map, which visualizes the international research collaboration network on *halal tourism* and the *halal industry* based on publication data indexed in Scopus and analyzed using the Biblioshiny application. The visualization shows the intensity of collaborative relationships among researchers from different countries through connecting lines that represent co-authorship networks. The blue color on the map indicates countries actively contributing to halal-related research, while the thickness of the connecting lines reflects the strength and frequency of scientific collaboration between nations.

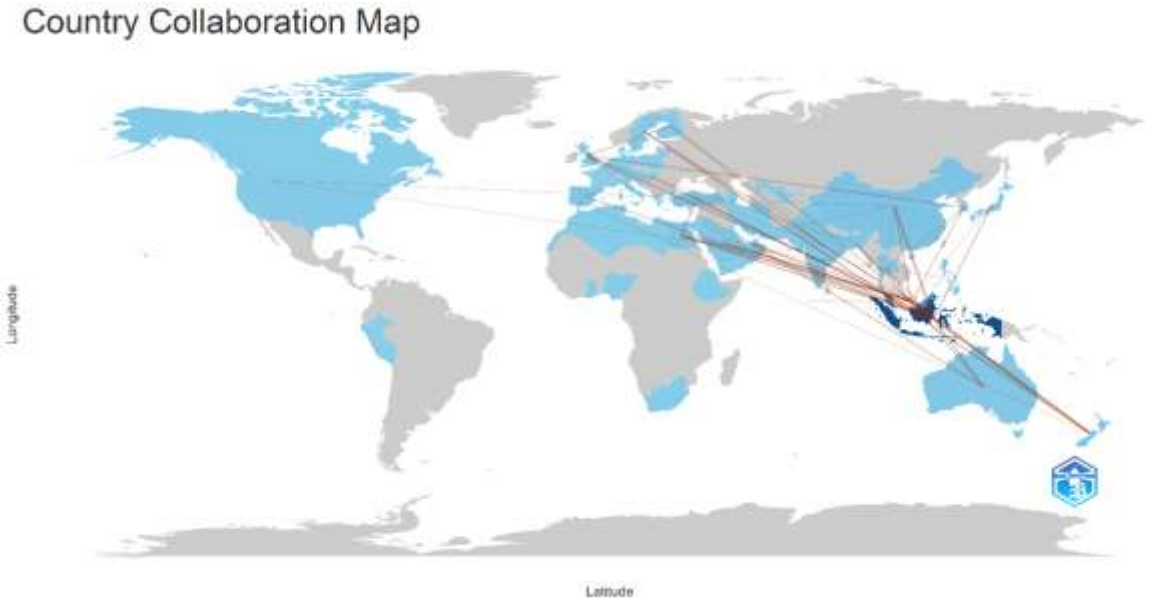


Figure 5. Country Collaboration Map

Source : Author`s own Work

The mapping results reveal that Indonesia appears as the main hub of international collaboration in research related to halal tourism. This is evident from its darkest blue color and the dense network of connecting lines extending to various regions of the world, including Malaysia, Saudi Arabia, Egypt, the United Kingdom, Australia, and several countries across Europe and the Middle East. Indonesia's dominance within this collaboration network aligns with its position as one of the leading contributors to publications in halal tourism and the halal industry. Furthermore, Indonesia's ranking as the world's top halal tourism destination

according to the *Global Muslim Travel Index (GMTI) 2023–2024* reinforces its academic and policy relevance in global halal tourism research.

Malaysia also holds a strategic position as Indonesia's primary partner in academic collaboration. The thick and frequent connection lines between the two countries illustrate a strong scholarly partnership in the areas of Islamic economics, halal marketing, and Sharia-based tourism development. Malaysia has long been recognized as a pioneer in international halal research and policy, making it a central research hub in Southeast Asia.

In addition to Indonesia and Malaysia, several other countries—such as Saudi Arabia, Pakistan, the United Kingdom, and Australia—demonstrate significant collaborative relationships. Collaborations with Middle Eastern countries tend to focus on theological and Sharia-related aspects of the halal concept, whereas partnerships with Western nations like the UK and Australia emphasize the global marketing of halal products, Muslim consumer behavior, and the adaptation of halal concepts within non-Muslim contexts.

Moreover, the involvement of European countries such as the Netherlands, Germany, and France reflects the evolution of halal research into a multidisciplinary field encompassing social, economic, and sustainability perspectives. Collaboration with East Asian countries—including Japan, Thailand, and South Korea—signals a growing academic interest in the potential of the halal market within nations that have relatively small Muslim populations but are experiencing rapid growth in Muslim tourism.

Overall, this collaboration map confirms that research on halal tourism has become global and highly collaborative, cutting across both disciplinary and geographical boundaries. Indonesia plays a dominant role in expanding the scientific network across the Asia-Pacific region, while Malaysia and Middle Eastern countries act as key bridges linking religiously grounded scholarship with modern halal economic studies. The increasing participation of Western countries indicates that the halal phenomenon has evolved beyond a purely religious topic into a global academic discourse, closely linked to emerging trends in economics, tourism, sustainability, and consumer behavior.

In conclusion, Figure 5 highlights that halal tourism research is no longer regionally confined but has formed a dynamic international collaboration network. This cross-country cooperation not only enriches the academic perspective but also

strengthens the collective effort toward developing a global halal tourism ecosystem that is inclusive, sustainable, and widely recognized.

Trending Topics Analysis

Figure 6 illustrates the Trending Topics visualization, which depicts the evolution and dynamics of research themes related to *halal tourism* and the *halal industry* based on the yearly frequency of keyword occurrences. Each horizontal line in the graph represents the time span during which a particular topic appeared in scientific publications, while the size of each circle indicates the intensity or frequency of that keyword during a specific period. Thus, the larger the circle, the greater the level of research attention devoted to that topic.

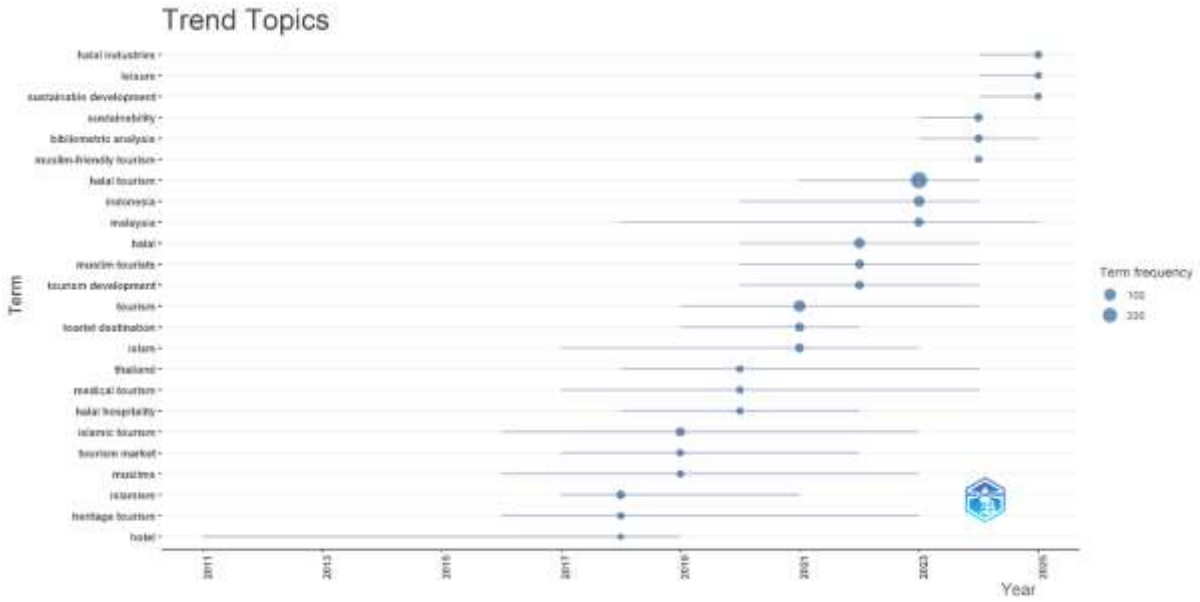


Figure 6. Trend topics

Source: Authors' own work

Based on the mapping results, the earliest and longest-lasting topics include keywords such as "tourism," "Islam," "Islamic tourism," "tourism development," and "tourist destination." These findings indicate that, since the early 2010s, halal tourism research has been grounded in conceptual and theoretical explorations of Islamic value-based tourism and Muslim-friendly destination development. The keyword "Islamic tourism" served as an initial conceptual anchor that later evolved into the broader and more practical research theme of *halal tourism* in subsequent years.

Between 2015 and 2020, the focus of research began to shift from conceptual frameworks toward behavioral and managerial dimensions. Keywords such as

"Muslim tourists," "tourism market," "halal hospitality," "destination image," and "revisit intention" began to emerge more frequently. This trend reflects a growing academic interest in analyzing Muslim tourist behavior, customer satisfaction, trust, and destination loyalty. Such developments align with the increasing number of global Muslim travelers and the recognition of Indonesia and Malaysia as leading destinations in the halal tourism sector, as highlighted in the *Global Muslim Travel Index (GMTI, 2024).*

During the 2020–2024 period, new research trends have emerged, represented by keywords such as "sustainability," "sustainable development," "bibliometric analysis," "halal industries," and "leisure." These topics signal a widening scope of halal research toward multidisciplinary approaches, particularly those related to sustainability, green economy, and digital innovation. The rise in the use of "sustainability" and "sustainable development" indicates that halal tourism research has become aligned with the United Nations Sustainable Development Goals (SDGs), especially Goal 8 (Decent Work and Economic Growth) and Goal 12 (Responsible Consumption and Production).

Interestingly, "bibliometric analysis" has emerged as a new trend since 2022, reflecting the growing scholarly interest in mapping scientific knowledge and analyzing publication patterns in the halal industry. Meanwhile, the appearance of "halal industries" suggests that the scope of halal-related studies is no longer confined to the tourism sector but has expanded to encompass halal food, finance, cosmetics, logistics, and other industrial dimensions.

Other recurring topics, such as "halal tourism," "Indonesia," and "Malaysia," remain central themes, emphasizing the leading role of Southeast Asia—particularly these two countries—as research and practice hubs for halal tourism. Additionally, the emergence of "Muslim-friendly tourism" and "medical tourism" indicates diversification toward specialized forms of tourism, including halal medical travel and Muslim-friendly services in non-Muslim-majority countries such as Thailand and Japan.

Overall, the visualization of trending topics in Figure 6 reveals three major phases in the evolution of halal tourism research:

1. Conceptual Phase (2010–2015): Research primarily focused on Islamic tourism theories, religious values, and the development of Muslim-friendly destinations.

2. Behavioral Exploration Phase (2016–2020): Studies began emphasizing tourist behavior, satisfaction, and revisit intention, often grounded in behavioral theories such as the *Theory of Planned Behavior* (Ajzen, 1991).

3. Innovation and Sustainability Phase (2021–2025): Research expanded toward digitalization, sustainability, and bibliometric approaches, illustrating the integration of technology, halal economics, and sustainable development principles.

In summary, Figure 6 demonstrates that research on halal tourism and the halal industry has undergone a significant evolution from normative and conceptual studies to more empirical, strategic, and globally oriented research. This transformation signifies that halal tourism is no longer perceived merely as a religious phenomenon but as a dynamic creative economic and sustainable global sector, evolving through continuous innovation and cross-disciplinary collaboration.

Co-occurrence Network Analysis

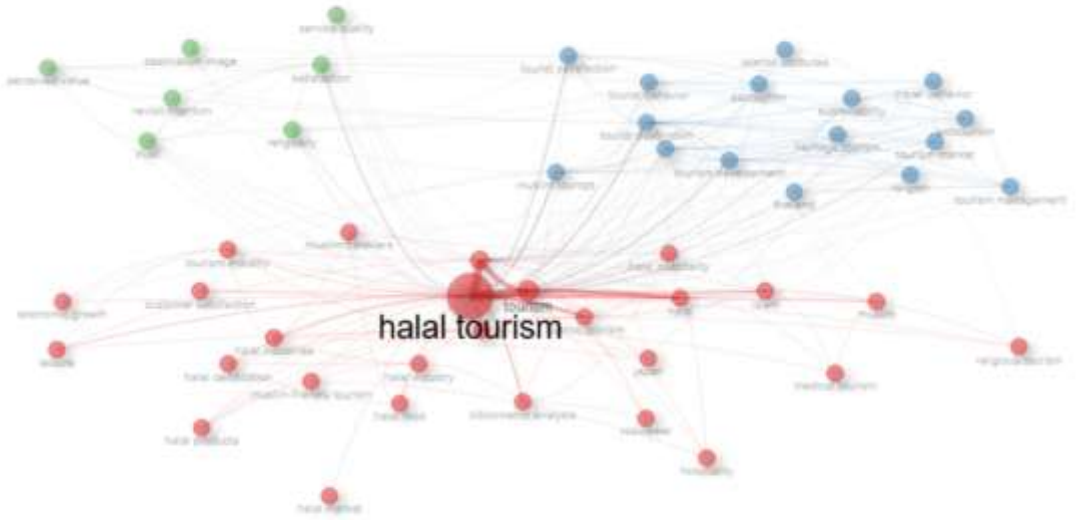


Figure 7. Trend topics

Source: Authors' own work

Figure 7 presents the Co-occurrence Network visualization, which maps the relationships among keywords that frequently appear together in scientific publications focusing on *halal tourism* and the *halal industry*. Each node in the network represents a keyword, while the connecting lines between nodes indicate the degree

of association or co-occurrence between research topics in the analyzed literature. The size of each node reflects the frequency of keyword occurrence, and the different colors represent research clusters that group topics based on thematic similarity and contextual relevance.

Overall, the keyword network in Figure 7 reveals that "halal tourism" serves as the core node of the network, directly connected to supporting topics such as *Islamic tourism, halal industry, religiosity, trust, satisfaction, tourist behavior, halal certification,* and *sustainability.* The central position and large size of the "halal tourism" node indicate its pivotal role as the nucleus of multidisciplinary research, integrating Islamic economics, consumer behavior, and the global development of the halal industry.

From the analysis, three major clusters can be identified based on color differentiation and thematic relationships:

1. Red Cluster (Core Cluster – Halal Tourism and Halal Industry)

This dominant cluster is centered around the keyword "halal tourism" and includes related terms such as *halal industry, halal hospitality, halal certification, customer satisfaction, economic growth, leisure, halal market,* and *Muslim-friendly tourism.* The interconnections among these keywords indicate that research within this cluster emphasizes the economic and managerial dimensions of halal tourism. Themes such as *customer satisfaction* and *economic growth* suggest a growing concern for the economic implications of implementing halal concepts within the tourism and hospitality sectors. The inclusion of *bibliometric analysis* and *halal industry* in this cluster also demonstrates the increasing use of quantitative and analytical approaches to assess the global development of halal tourism research.

2. Blue Cluster (Islamic Tourism and Tourist Behavior)

The blue cluster consists of keywords such as *Islamic tourism, tourist behavior, tourism development, tourism management, religion, sustainability, heritage tourism,* and *tourism market.* This cluster represents research focusing on the conceptual and behavioral aspects of halal tourism. Its scope includes studies on Muslim tourist perceptions, destination management, and sustainability practices within Islamic value-based tourism. The inclusion of *sustainability* and *heritage tourism* reflects a growing paradigm of sustainable halal tourism, emphasizing not only Sharia compliance but also the social, cultural, and environmental dimensions of tourism destinations.

3. Green Cluster (Religiosity, Trust, and Tourist Experience)

The green cluster comprises nodes such as *trust, religiosity, satisfaction, perceived value, service quality, destination image,* and *revisit intention.* This cluster highlights the psychological and behavioral dimensions of halal tourism, particularly the factors influencing revisit intention and tourist loyalty toward halal destinations. The strong linkage between *trust, religiosity,* and *service quality* underscores the importance of spiritual values and consumer confidence in shaping positive Muslim tourist experiences. Accordingly, this cluster reinforces the relevance of behavioral frameworks such as the *Theory of Planned Behavior (Ajzen, 1991)* in explaining halal tourism dynamics.

Taken together, the three clusters demonstrate strong interconnections between managerial-economic, consumer-behavioral, and spiritual-religious dimensions in halal tourism research. This convergence reflects the multidisciplinary nature of halal tourism studies, which continue to evolve alongside shifts in social values, technological advancement, and the needs of global Muslim travelers.

The appearance of keywords such as *bibliometric analysis* and *halal industries* near the core node indicates a paradigmatic shift from descriptive toward analytical and predictive research, utilizing scientific mapping tools to examine the evolution of halal tourism concepts. Meanwhile, the relationship among *halal certification, economic growth,* and *customer satisfaction* highlights that halal certification is not merely normative but also strategic, contributing directly to the economic growth of the tourism sector.

In summary, Figure 7 demonstrates that *halal tourism* functions as the central axis connecting diverse research dimensions—from *religiosity and trust* to *service quality and satisfaction*, and from *halal industry* to *sustainability.* The pattern of keyword interrelationships reflects the evolution of halal tourism research toward a more integrated and comprehensive conceptualization, encompassing not only Sharia compliance but also service excellence, spiritual experience, and economic sustainability within the global halal tourism ecosystem.

Thematic Map Analysis

Figure 8 presents the Thematic Map, which illustrates the interrelationships among research themes based on their levels of density and centrality. This mapping divides research topics into four main quadrants: niche themes, motor themes, emerging or declining themes, and basic themes. The visualization is generated

through an automated algorithmic analysis of publication data from the Scopus database using the Biblioshiny tool, which evaluates the relationships among keywords according to their intensity and influence within the scientific network.

1. Niche Themes

   In the upper-left quadrant, several topics are identified with high density but relatively low centrality, indicating that they are highly specialized but have limited relevance to the broader development of halal industry research. These topics include keywords such as "halal sex tourism," "Middle Eastern tourists," "halal lifestyle," "halal hotel," "halal product," and "SDGs." This cluster reflects areas of research that are conceptually deep but not yet central to the mainstream of halal studies. For example, *halal lifestyle* and *SDGs* represent an emerging shift toward the integration of halal values and sustainability, while *halal sex tourism* remains a sensitive and underexplored topic within the academic literature. Nevertheless, the presence of *consumer* and *halal product* as associated terms suggests potential integration between these themes and consumer behavior research in the future.

2. Motor Themes

   The upper-right quadrant displays themes with both high density and high centrality, signifying their maturity and major influence on the overall direction of global halal research. This quadrant highlights "halal tourism," "Islamic tourism," "Indonesia," and "medical tourism" as the core motor themes driving the scholarly discourse. These topics demonstrate the growing recognition of halal tourism as a strategic sector within the Islamic economy, integrating both spiritual and experiential dimensions. The inclusion of *trust* and *satisfaction* in this quadrant underscores their significance as key determinants of Muslim tourist loyalty. Indonesia appears as a central node due to its high publication productivity and its position as a global leader in halal tourism development (GMTI, 2024). Meanwhile, *medical tourism* represents the diversification of halal research into the Muslim-friendly healthcare sector, reflecting the expansion of the halal concept beyond leisure and hospitality into broader service domains.

3. Emerging or Declining Themes

   In the lower-left quadrant, topics exhibit both low density and low centrality, suggesting that they are either emerging or declining within the academic discourse. Themes such as "halal ecosystem," "halal ecotourism," "local wisdom," "rapid growth," and "Islamophobia" are located in this quadrant. The presence of

halal ecosystem and *halal ecotourism* indicates new efforts to integrate sustainability values and local wisdom into halal tourism systems. However, their relatively low centrality implies that these studies remain in an early developmental phase. Conversely, topics such as *Islamophobia* and *rapid growth* appear to be declining in relevance, as they are more frequently discussed in socio-political contexts rather than in halal economic or tourism frameworks.

4. Basic Themes

The lower-right quadrant encompasses foundational themes characterized by high centrality but low density, serving as the conceptual base for other areas of halal research. These include keywords such as "halal food," "halal industry," "Malaysia," "trust," "religiosity," "satisfaction," and "Islam." The presence of *Malaysia* and *halal food* in this quadrant reaffirms Malaysia's vital role in global halal research, particularly in the areas of certification and market development. Meanwhile, *trust*, *religiosity*, and *satisfaction* remain fundamental constructs explaining Muslim tourist behavior, often conceptualized through behavioral frameworks such as the *Theory of Planned Behavior (Ajzen, 1991).* These enduring themes continue to form a stable foundation due to their consistent contribution to explaining revisit intention and tourist loyalty within halal destination contexts.

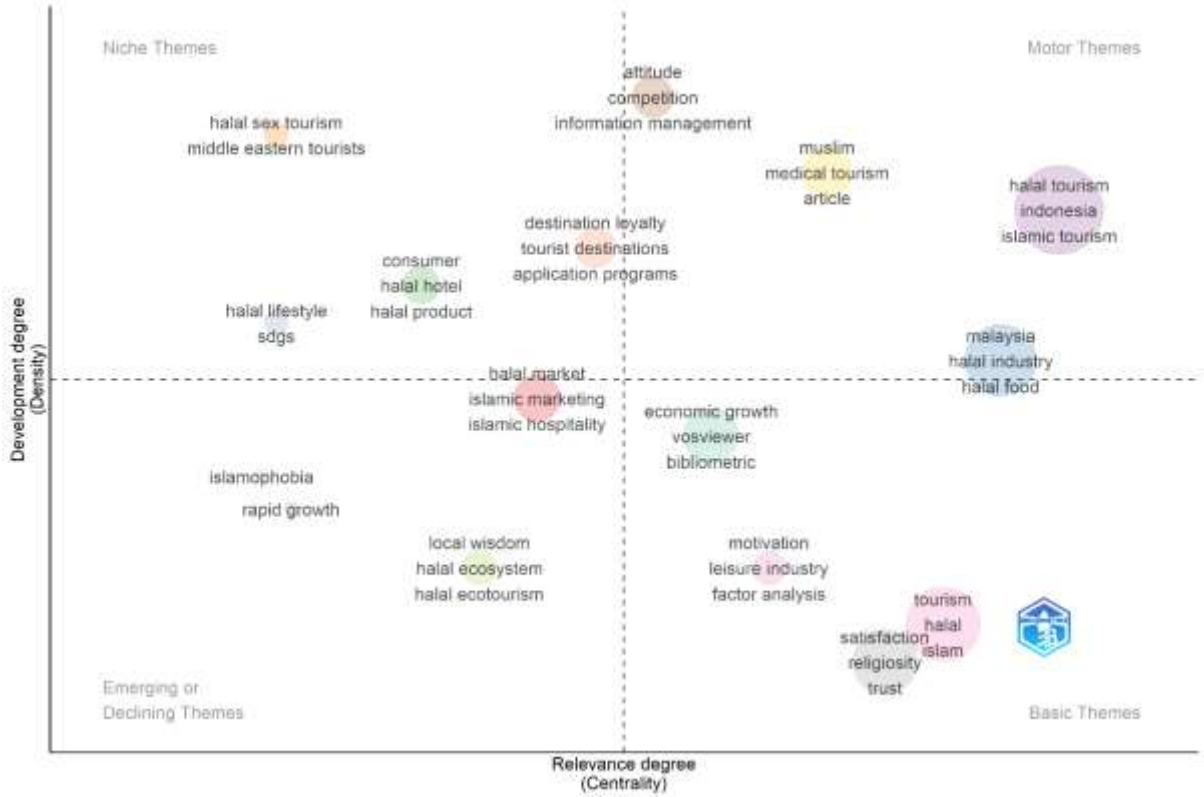


Figure 8. Thematic map

Source: Authors' own work

Overall, Figure 8 demonstrates that "halal tourism" and "Islamic tourism" function as motor themes, driving the advancement of global halal research, while topics such as "halal ecosystem" and "halal lifestyle" are likely to represent future directions for emerging research. Conversely, fundamental themes such as trust, religiosity, and satisfaction continue to retain their significance as conceptual pillars supporting behavioral theory within halal tourism studies. These findings indicate a paradigm shift in halal research—from normative and theological approaches toward a more strategic, multidimensional, and empirical framework, integrating economic, behavioral, and sustainability perspectives in the evolution of global halal scholarship.

Bibliometric Visualization Analysis with VOSviewer

Figure 9 presents the results of the bibliometric visualization analysis conducted using the VOSviewer software, which displays a density visualization map of the most influential authors in the field of *halal tourism* and the *halal industry*. The color and size of the nodes on this map represent the level of influence and the number of scientific publications produced by each author. The larger and brighter the yellow color of a node, the greater the author's publication output and their degree of collaboration with other scholars and topics in the halal research domain.

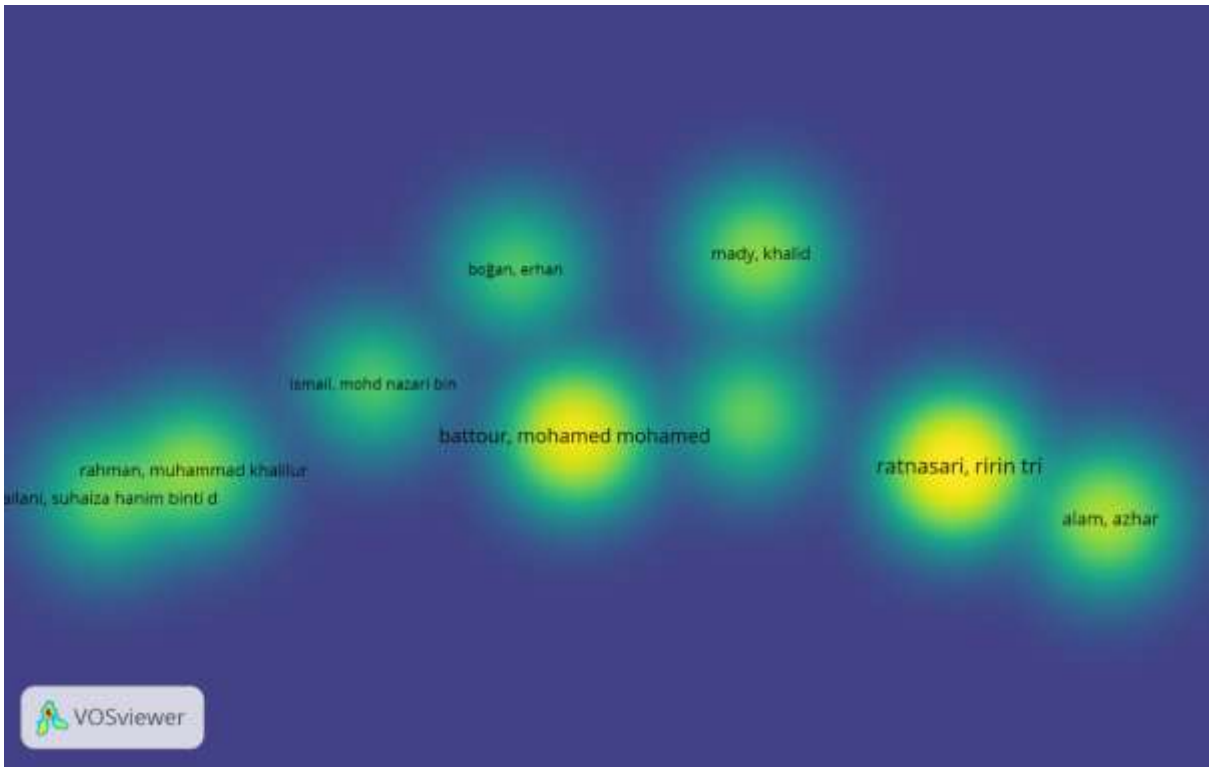


Figure 9. Author density visualization

Source: Authors' own work

Based on the visualization results, Mohamed Battour occupies the central position on the map, represented by the brightest yellow color and the largest node size. This indicates that he is the most productive and influential author in the halal tourism research network. His studies have consistently contributed to the theoretical and practical development of halal tourism, with a focus on the relationships among halal attributes, tourist satisfaction, and revisit intention. Battour's contributions have significantly shaped the conceptual foundation for subsequent research across Asia and the Middle East, particularly studies grounded in the *Theory of Planned Behavior (Ajzen, 1991)*.

In addition to Battour, several other authors also demonstrate high levels of influence in the halal research network, including Mohd Nazari Bin Ismail, Suhaiza Hanim Binti Zailani, Muhammad Khalilur Rahman, Khalid Mady, Ririn Tri Ratnasari, Azhar Alam, and Erhan Boğan. These authors are represented by large yellow-green nodes, indicating strong publication productivity and robust connections to themes within *halal industry* and *halal tourism* research.

More specifically, Ririn Tri Ratnasari emerges as one of the most prominent scholars from Indonesia, with a significant contribution to research on behavioral intention in the context of halal tourism. Her publications have extensively examined the relationships among emotional experience, religiosity, satisfaction, and trust in shaping Muslim tourist behavior. Meanwhile, Azhar Alam exhibits a high level of connectivity with topics such as Islamic tourism development and Muslim-friendly tourism, underscoring his role in advancing policy and destination modeling for halal tourism in Southeast Asia.

Authors such as Mohd Nazari Bin Ismail and Suhaiza Hanim Binti Zailani are heavily involved in research on halal logistics and supply chain management, highlighting the interconnectedness between halal tourism and the halal industry's broader supply chain ecosystem. On the other hand, Khalid Mady and Erhan Boğan focus primarily on topics such as consumer behavior, destination image, and Islamic hospitality, enriching the understanding of tourist perception and loyalty toward halal destinations.

The color distribution across the visualization map shows that bright yellow areas represent regions of high collaboration intensity, while green areas indicate

authors who make significant contributions but tend to work more independently or within specialized subfields. Thus, this map provides a clear visual representation of the collaborative structure and intellectual connectivity among leading scholars in halal tourism and the halal industry at the global level.

Overall, Figure 9 illustrates that halal tourism research is supported by a strong knowledge base and an international collaborative network involving academics from countries such as Malaysia, Indonesia, Turkey, and the Middle East. Scholars like Mohamed Battour and Ririn Tri Ratnasari serve as knowledge leaders bridging conceptual and empirical advancements in this field. This visualization not only identifies the most influential contributors but also helps to map future collaboration opportunities, providing valuable insights into how academic knowledge in *halal tourism* and the *halal industry* continues to evolve globally.

Research Map

Figure 10 presents the results of a bibliometric analysis conducted using VOSviewer, which maps the interrelationships among the main keywords appearing in publications related to the *halal industry*. The size of each node represents the frequency of a keyword's occurrence within the literature, while the connecting lines illustrate the degree of conceptual relationship between research topics. The different colors indicate distinct clusters of related keywords, each forming a thematic domain within the broader field of halal industry research.

Overall, the visualization demonstrates that "halal tourism" is the most dominant and central keyword, serving as the core hub of global research in the halal industry. Other frequently occurring terms—such as "halal food," "halal certification," "halal industry," "religiosity," "trust," and "Indonesia"—form large, interconnected nodes, reflecting the multidimensional nature of halal research. This indicates that scholarly attention to halal-related topics has expanded beyond religious compliance to encompass diverse areas including tourism, supply chain management, certification systems, consumer behavior, and Islamic economics.

The mapping in Figure 10 identifies five major clusters, each representing a distinct research direction and development strategy within the halal industry from both academic and practical perspectives. Collectively, these clusters signify that research on the halal industry has evolved into an interdisciplinary field, integrating economic, behavioral, regulatory, and technological dimensions. The increasing

density and connectivity among these clusters further highlight the growing importance of collaborative and data-driven approaches in advancing the global halal ecosystem.

Research Map and Halal Industry Development Map

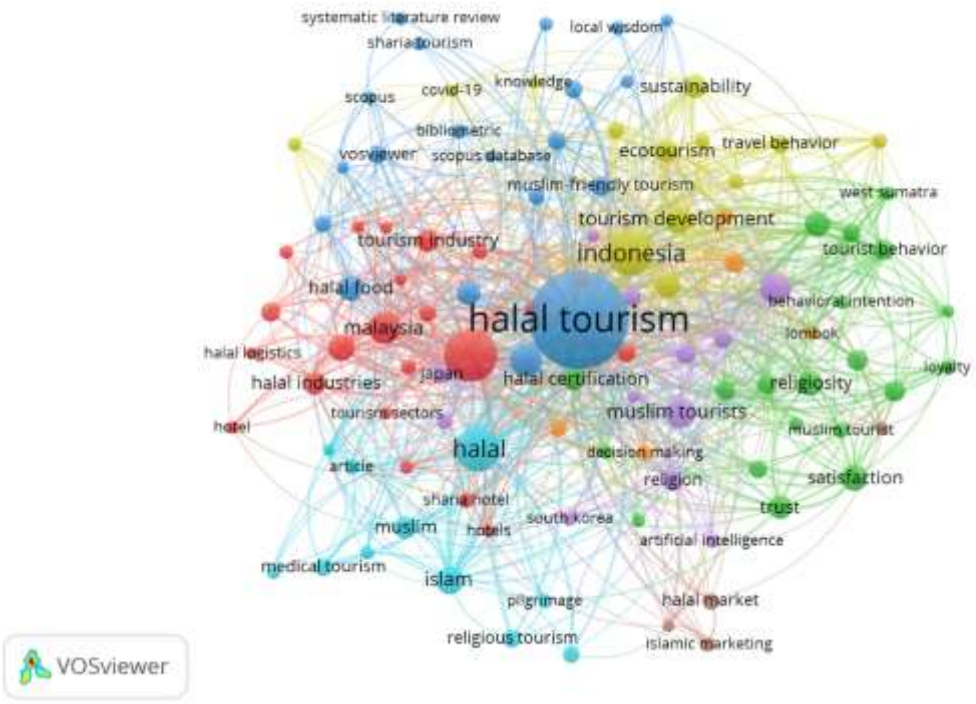


Figure 10. Keyword network visualization

Source: Authors' own work

No.	Cluster	Main Focus	Dominant Sub-topics	Development Strategy
1	Red Cluster	Halal food, tourism & industry	Supply chain, halal branding, religiosity	Technology integration, global promotion, and integrated halal regulations
2	Yellow Cluster	Human & food quality	Consumer perception, halal certification, food analysis	Strengthening human resources, improving product quality, and big data analysis
3	Purple Cluster	Animal welfare & slaughterhouse	Slaughter standard, halal logistics, regulation	Slaughter standardization, halal worker training, and traceability technology

No.	Cluster	Main Focus	Dominant Sub-topics	Development Strategy
4	Green Cluster	Halal authentication & chemometrics	PCR, spectroscopy, AI, blockchain	Innovation in global halal product authentication and security technology
5	Blue Cluster	PCR & meat quality	DNA analysis, biotechnology, halal meat	Biotechnology applications for halal assurance and meat quality improvement

Cluster 1 – Halal Food, Halal Tourism, and Halal Industry (Red Cluster)

The first cluster focuses on the core themes of halal food, halal tourism, and the halal industry. The relationships among the keywords within this cluster indicate that halal supply chain management and halal branding are critical pillars supporting the growth of the global halal industry.

Research by Tieman et al. (2012) emphasized the importance of implementing a traceability system to ensure the authenticity and integrity of halal products throughout the entire production and distribution process—from raw materials to end consumers. Similarly, Zailani et al. (2015) and Khan et al. (2021) highlighted the potential of blockchain technology in enhancing transparency and building consumer trust in halal product verification systems.

Within the context of halal tourism, studies by Battour and Ismail (2016) and Henderson (2016) revealed that Muslim-friendly facilities, halal-certified food, and accessible worship amenities significantly influence Muslim tourists' satisfaction and overall travel experience. These findings underscore that halal tourism is not merely a religiously compliant activity but a value-driven segment that combines spirituality, service quality, and destination management.

Consequently, the development strategy derived from this cluster emphasizes the integration of digital technologies, the strengthening of regulatory frameworks, and the global promotion of halal destinations. By combining technological innovation with policy support and international marketing efforts, the halal industry can enhance its competitiveness and ensure sustainable growth within the global economy.

Cluster 2 – Human and Food Quality (Yellow Cluster)

The second cluster centers on research methodology, consumer perception, and the validation of halal product quality. Keywords such as consumer perception, food quality, and halal certification reflect strong academic and industry interest in the reliability of halal certification systems and their influence on customer trust and loyalty.

According to Ismail (2025) and Zafar & Abu-Hussin (2025), trust in halal certification serves as a key determinant in Muslim consumers' purchasing decisions, as certification acts as a tangible assurance of religious compliance and product integrity. Furthermore, Liu et al. (2018) and Badr et al. (2020) emphasized the necessity of employing scientific validation methods, such as polymerase chain reaction (PCR) and chemometric analysis, to ensure the authenticity of halal products and detect potential contamination with non-halal substances.

The strategic implications derived from this cluster emphasize the enhancement of human capital, the continuous improvement of product quality, and the adoption of big data analytics to understand consumer trends in the halal market. Strengthening technical expertise, coupled with the integration of data-driven decision-making, can improve the credibility and efficiency of halal certification processes and reinforce consumer confidence in the global halal ecosystem.

Cluster 3 – Animal Welfare and Slaughterhouse (Purple Cluster)

The third cluster highlights issues surrounding animal welfare and halal slaughterhouse (RPH) standards. Grandin (2018) emphasized the importance of slaughtering methods that uphold animal welfare principles in accordance with Islamic teachings, while Nakyinsige et al. (2013) discussed the technical and regulatory aspects of maintaining halal meat quality during the slaughtering process.

Fuseini et al. (2017) identified the regulatory differences between halal and non-halal standards in Europe as a major challenge for industry standardization and consumer trust. Meanwhile, the application of blockchain technology and traceability systems has been proposed as a solution to ensure the integrity and quality of halal meat throughout the global distribution chain (Hew et al., 2020).

The strategic development approach derived from this cluster focuses on the standardization of halal slaughtering practices, the implementation of international certification systems, and the adoption of tracking technologies to enhance transparency, compliance, and consumer confidence in halal meat products.

Cluster 4 – Halal Authentication and Chemometrics (Green Cluster)

This fourth cluster emphasizes the application of scientific and technological innovations in halal product authentication. Rohman et al. (2021) applied the polymerase chain reaction (PCR) technique to detect non-halal DNA in processed food products. Similarly, Hassan et al. (2018) and Kanwal & Musharraf (2024) demonstrated that spectroscopy and gas chromatography–mass spectrometry (GC-MS) are effective in identifying non-halal components such as gelatin and animal fats in food and cosmetic products.

Expanding this technological dimension, Wu et al. (2025) integrated artificial intelligence (AI) and machine learning (ML) to enhance the accuracy and efficiency of halal verification systems.

Consequently, the core strategy of this cluster lies in the strengthening of science- and technology-based innovation to ensure the transparency, integrity, and credibility of halal products in the global marketplace. The integration of analytical chemistry, digital technology, and AI-driven data modeling represents a key step toward achieving a robust and future-ready halal assurance framework.

Cluster 5 – Polymerase Chain Reaction and Meat Quality (Blue Cluster)

The fifth cluster focuses on meat quality analysis and biotechnological approaches to halal assurance. Ng et al. (2022) utilized PCR techniques to detect traces of porcine DNA in processed food products, ensuring compliance with halal standards. Meanwhile, Amid and Samah (2019) investigated the impact of halal slaughtering methods on protein composition and meat texture, providing empirical evidence of how halal-compliant processes can preserve nutritional and physical quality.

The findings from this cluster underscore the growing importance of modern biotechnology in ensuring both product authenticity and nutritional quality that align with international halal standards. Accordingly, the development strategy focuses on the implementation of PCR, quantitative PCR (qPCR), and biochemical analysis in halal meat research to enhance competitiveness, safety, and global consumer trust.

Synthesis and Strategic Implications

The overall analysis demonstrates that research on the halal industry has evolved from conceptual studies into a multidisciplinary field that integrates technology, sustainability, and consumer behavior. The five major clusters identified—spanning supply chain and marketing, scientific authentication, and biotechnological innovation—illustrate the diverse and interconnected nature of halal research.

From a strategic standpoint, the future development of the halal industry should prioritize three core elements:

1. Digitalization and Technological Integration — advancing halal assurance technologies such as AI, blockchain, and PCR to strengthen transparency and efficiency.
2. Triple Helix Collaboration — fostering synergies among government, industry, and academia to create a dynamic and adaptive halal ecosystem.
3. International Certification and Regulation — harmonizing global halal standards to enhance competitiveness and ensure cross-border recognition.

By implementing these strategies, the halal industry can evolve into a sustainable and globally competitive sector, contributing significantly to inclusive economic growth grounded in Islamic ethical and value-based principles.

D. CONCLUSION

This study aims to investigate the trends, themes, and scientific developments related to halal tourism through a bibliometric analysis approach using Biblioshiny and VOSviewer. The results show that scientific publications on halal tourism began to increase significantly after 2015, with a rapid growth trend peaking in 2024. The Journal of Islamic Marketing appears as the most productive journal publishing studies on halal tourism, while Battour Mohamed and Ririn Tri Ratnasari are identified as the most influential authors contributing to the development of this research field. The most frequently occurring keywords are halal tourism, religiosity, trust, satisfaction, and revisit intention, which indicates that the main focus of scholarly discourse has shifted from conceptual discussions on Islamic tourism to empirical studies that explore behavioral and psychological dimensions of Muslim tourists.

The bibliometric findings also identify five primary research clusters that define the strategic development of halal tourism. The first cluster focuses on halal tourism experience and destination management, emphasizing the importance of halal-friendly facilities, hospitality quality, and branding strategies to enhance destination competitiveness. The second cluster highlights consumer perception, religiosity, trust, and satisfaction, showing that the emotional and spiritual experiences of Muslim tourists significantly influence their loyalty and revisit intention. The third cluster relates to halal certification and regulation, underlining the need for standardized policies and certification mechanisms to ensure service reliability and consumer

confidence. The fourth cluster integrates digital transformation and sustainability as emerging priorities in the post-pandemic era, where technologies such as blockchain, artificial intelligence (AI), and data analytics play a crucial role in enhancing transparency, personalization, and sustainable management in halal tourism. Finally, the fifth cluster emphasizes the role of cross-sector collaboration through the Triple Helix model—linking government, academia, and industry—to strengthen policy alignment, innovation, and market expansion for halal destinations.

Overall, this bibliometric study reveals that halal tourism research has evolved from descriptive studies toward data-driven, interdisciplinary, and innovation-oriented analyses. Emerging topics such as smart tourism, digital trust, sustainability, and religious experience demonstrate a paradigm shift from focusing solely on compliance with Islamic law toward a holistic approach that integrates spiritual well-being, technology, and consumer-centric value creation. Future research directions are expected to explore the interplay between religiosity, digitalization, and behavioral intention within halal destinations, supported by comparative analyses across Muslim-majority and non-Muslim countries.

By mapping the intellectual landscape and identifying dominant and emerging themes, this study contributes to strengthening the theoretical foundation of halal tourism and offers practical insights for policymakers, destination managers, and scholars to design more inclusive, sustainable, and technology-driven strategies for the global halal tourism industry.

Although this study provides a comprehensive bibliometric mapping and thematic analysis of *halal tourism* research, several limitations should be acknowledged. First, the study relies solely on Scopus-indexed publications, which, while ensuring data quality, may exclude relevant works indexed in other reputable databases such as Web of Science, Emerald Insight, and Google Scholar. As a result, some regional or non-English publications—particularly those from Southeast Asia and the Middle East—may not be fully represented. Future research could therefore expand the dataset by incorporating multiple databases to provide a more inclusive and globally representative overview of halal tourism scholarship.

Second, the bibliometric approach adopted in this study focuses primarily on quantitative indicators such as keyword co-occurrence, citation networks, and author productivity. While this method effectively identifies research trends and intellectual structures, it does not capture the *contextual depth* or *qualitative nuances* behind the

concepts of religiosity, trust, and revisit intention in halal tourism. Future research is encouraged to complement bibliometric analysis with systematic literature reviews, content analysis, or meta-analysis approaches to provide richer interpretive insights into the behavioral and spiritual dimensions of Muslim tourists.

Third, the study's temporal coverage (1950–2024), though extensive, may not fully capture the most recent developments in 2025 and beyond, as ongoing publications might not yet be indexed in Scopus at the time of data collection. Future studies should consider conducting longitudinal bibliometric analyses or real-time data tracking to monitor evolving topics such as *smart tourism, digital religiosity,* and *AI-based halal service innovation*. This would help identify emerging paradigms and the direction of technological adaptation in the halal tourism ecosystem.

Fourth, the study's conceptual generalization of halal tourism trends might not fully reflect regional contextual variations. For example, the motivations and religious behaviors of Muslim tourists in Indonesia or Malaysia may differ substantially from those in Western or non-Muslim-majority countries such as Japan or South Korea. Consequently, future research should adopt comparative or cross-cultural approaches to examine how religiosity, cultural context, and digital transformation interact in shaping tourists' trust and revisit intentions.

Finally, while this research identifies key thematic clusters such as *halal hospitality, sustainability,* and *technology-driven trust building*, it does not empirically test the relationships among these constructs. Future studies are encouraged to develop integrated models using Structural Equation Modeling (SEM-PLS) or multi-level analysis to empirically examine how religiosity mediates or moderates the relationship between trust, satisfaction, and revisit intention. Furthermore, expanding the theoretical base beyond the *Theory of Planned Behavior (TPB)*—for instance, by integrating *Expectation Confirmation Theory (ECT)* or *Technology Acceptance Model (TAM)*—could enrich understanding of behavioral dynamics in digital halal tourism.

In summary, future research on halal tourism should pursue a more multidimensional, cross-regional, and technology-inclusive approach, integrating quantitative rigor with qualitative depth. Such studies would not only enhance theoretical understanding of Muslim tourist behavior but also contribute to practical strategies for developing sustainable, digitally adaptive, and globally competitive halal destinations

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