Halal Industry Research Trends: A Bibliometric Study

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ABSTRACT

The halal industry has emerged as a rapidly expanding global sector, extending beyond food into areas such as cosmetics, pharmaceuticals, logistics, and finance. This study aims to map the scholarly landscape of halal industry research through a bibliometric analysis of Scopus-indexed publications from 2000 to 2024. Using VOSviewer software, the study visualizes keyword co-occurrence networks, temporal trends, and density distributions to identify dominant themes, emerging topics, and research gaps. Results reveal that early research was dominated by themes such as halal food, certification, and consumer trust, while recent studies have shifted focus toward blockchain technology, sustainability, and halal supply chain management. The analysis also uncovers a growing interdisciplinary convergence, with contributions from marketing, supply chain, technology, and regulatory studies. Despite significant advancements, underexplored areas such as halal cosmetics, fintech, and green development present opportunities for future inquiry. This study contributes to a deeper understanding of how halal research has evolved and offers insights for scholars, practitioners, and policymakers to align research agendas with industry transformation.

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1. INTRODUCTION

The global halal industry has emerged as one of the most dynamic and rapidly expanding sectors in the world economy. With the Muslim population projected to reach 2.2 billion by 2030, the demand for halal products and services has grown significantly beyond traditional food and beverage segments to include pharmaceuticals, cosmetics, finance, tourism, fashion, and logistics [1]. Halal, which means "permissible" in Arabic, is no longer confined to religious obligations alone; it has become a symbol of quality assurance, hygiene, and ethical consumerism, gaining interest among non-Muslim consumers as well [2]. This expansion reflects both market potential and socio-cultural significance, especially as consumers globally seek transparency and trust in the products they consume [3].

The economic weight of the halal industry is substantial. According to the State of the Global Islamic Economy Report [4], Muslims spent approximately USD 2.0 trillion in 2021 across halal food, pharmaceuticals, cosmetics, modest fashion, media, and Muslim-friendly travel, with spending expected to rise to USD 2.8 trillion by 2025. This upward trajectory has prompted

governments, international corporations, and academic institutions to invest in halal product development, certification standards, marketing strategies, and supply chain innovations. Countries such as Malaysia, Indonesia, United Arab Emirates, and Turkey have positioned themselves as global halal hubs, investing heavily in research and infrastructure to support industry growth [5].

In tandem with industrial and economic growth, scholarly attention toward halal-related studies has also intensified. Researchers across various disciplines, such as Islamic finance, food science, consumer behavior, supply chain management, and tourism, have explored halal practices, certification, and branding strategies. This academic engagement reflects a growing need to understand the multifaceted dimensions of halal beyond its religious origins, including regulatory frameworks, market trends, ethical implications, and consumer preferences [6], [7]. As the concept of halal continues to evolve, academic discourse is crucial in shaping policies, innovations, and business strategies that align with both Shariah principles and global standards.

Despite the increasing scholarly contributions, there remains limited synthesis of the trends, themes, and trajectories within halal-related research. Bibliometric analysis offers a powerful method to quantify and visualize the growth of scholarly literature, identify influential authors, journals, and institutions, and map out knowledge clusters within a specific domain [8]. Prior bibliometric studies have been conducted in related Islamic economic areas, such as Islamic banking, halal tourism, and halal food logistics, but a comprehensive bibliometric review focusing on the entire halal industry remains underexplored. Such a study can reveal research gaps, interdisciplinary linkages, and emerging themes, offering valuable guidance for scholars, policymakers, and industry stakeholders.

Given the global significance of the halal industry and the interdisciplinary nature of its development, it becomes imperative to track and analyze how

academic research on this topic has progressed over time. Mapping the intellectual landscape of halal-related scholarship helps illuminate the scientific influence of specific topics, highlight collaborative networks across institutions and countries, and assess the alignment between academic inquiry and industry trends. With digital databases and bibliometric tools such as Scopus and VOSviewer, researchers are now equipped to provide structured insights into the evolution of halal research, which can contribute to strategic decision-making and policy formulation within the halal ecosystem.

Despite the growing interest and vast literature on halal-related topics, there is still a lack of comprehensive analysis that systematically maps the intellectual structure and development trends within the global halal industry research. Current studies are often fragmented, focusing on specific sectors (e.g., halal tourism, halal food) or regional contexts without providing a holistic overview of scholarly contributions and their interconnections. As a result, scholars and practitioners may find it challenging to identify research frontiers, influential works, and collaboration opportunities. The absence of such a bibliometric synthesis also limits the ability to assess whether academic efforts are aligned with emerging industry needs and global developments. This study aims to conduct a bibliometric analysis of scholarly publications related to the halal industry to identify key research trends, influential authors, prolific institutions, collaborative networks, and thematic clusters.

2. METHODS

This study employs a bibliometric analysis approach to examine the trends, patterns, and intellectual structure of academic research on the halal industry. Bibliometric analysis is a quantitative method that systematically analyzes published literature to uncover relationships, productivity patterns, and influential contributions within a specific research field [8]. By analyzing metadata from scholarly

publications, this method enables researchers to map co-authorship networks, citation structures, keyword co-occurrences, and geographical collaboration, providing a comprehensive overview of the development and direction of the halal industry as a research domain.

The data for this study were retrieved from the Scopus database, one of the most comprehensive and widely used indexing platforms for peer-reviewed academic literature. The search query was carefully designed to include relevant keywords such as "halal industry," "halal food," "halal tourism," "halal finance," and "halal supply chain." Publications were limited to journal articles, reviews, and conference papers written in English from the year 2000 to 2024 to ensure relevance and consistency. Duplicates, non-peer-reviewed content, and irrelevant records were excluded through a manual screening process. The final dataset was exported in RIS and CSV formats for analysis. To visualize and interpret the bibliometric data, the software VOSviewer was used.

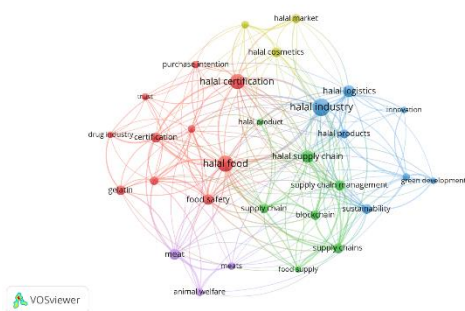## 3. RESULTS AND DISCUSSION

Network Visualization

Figure 1. Network Visualization
Source: Data Analysis

Figure 1 presented above offers a comprehensive mapping of the thematic structure in halal industry research. This map is constructed based on the frequency and co-occurrence of keywords extracted from the analyzed Scopus-indexed publications. Each node represents a keyword, while the size of the node indicates its frequency of appearance in the literature. The colors denote different clusters, groupings of terms that tend to

appear together, while the connecting lines (edges) illustrate the strength of co-occurrence relationships among the terms. The red cluster, located in the upper-left quadrant, focuses primarily on halal food, halal certification, food safety, trust, purchase intention, and drug industry certification. This indicates a strong research interest in consumer behavior, trust issues related to halal labeling, and regulatory dimensions. It also includes gelatin and meat, signifying ongoing debates about ingredient legitimacy and animal-based product authentication. This cluster suggests that much of the discourse is driven by consumer concerns, certification complexity, and the integrity of halal food production and labeling.

The blue cluster, situated to the right of the map, revolves around broader industry and logistical concerns, including keywords such as halal industry, halal logistics, innovation, green development, and sustainability. This reflects an emerging interest in how halal principles are integrated into broader economic and environmental paradigms. Scholars in this domain are increasingly exploring how halal standards intersect with sustainable supply chain practices, logistics efficiency, and industry-wide innovation. The connection to green development also reveals an alignment with global ESG (Environmental, Social, and Governance) trends. Meanwhile, the green cluster is tightly associated with halal supply chain, blockchain, supply chain management, and food supply. This segment underscores the growing scholarly focus on technological integration and efficiency in halal supply chains, including the use of blockchain for traceability and compliance assurance. These terms signify an analytical lens on operational and logistical infrastructures that support halal certification from farm to fork, especially in a globalized market where digital solutions can ensure transparency and traceability.

The purple cluster located at the bottom left includes terms like meat, meats, and animal welfare. This indicates a research stream that zooms in on ethical and animal-based concerns, often intersecting with both

religious guidelines and modern consumer expectations. Issues around animal treatment, slaughtering practices, and welfare standards are becoming increasingly important not just for compliance, but also for marketing and brand differentiation in global halal markets. The yellow cluster in the upper region, with keywords such as halal cosmetics, halal market, and halal product, points to emerging sectors beyond food and finance, including halal cosmetics and personal care. These terms suggest diversification in the halal industry and reflect how halal is no longer confined to traditional categories. This cluster represents the commercial expansion and market segmentation of halal-oriented products, opening up new avenues for research related to branding, cross-cultural marketing, and halal lifestyle integration.
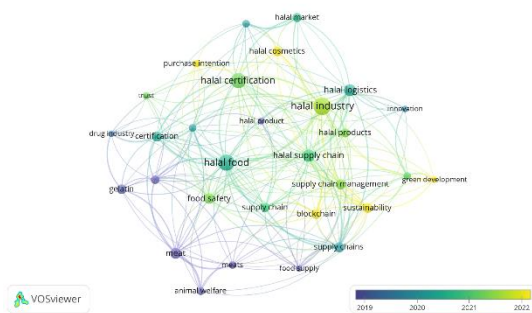
Overlay Visualization

Figure 2. Overlay Visualization
Source: Data Analysis

Figure 2 shows the temporal evolution of research topics within the halal industry from 2019 to 2022. The color gradient, from purple (older topics) to yellow (newer topics), indicates the average publication year of keywords based on their co-occurrence in academic literature. Keywords like meat, gelatin, and animal welfare appear in darker purple, suggesting that these themes were more prominent in earlier halal research, likely reflecting foundational concerns around halal food legitimacy and slaughter practices. As research progressed into 2020 and 2021, we see a transition into green and teal-colored keywords such as halal certification, halal food, food safety, halal cosmetics, and purchase intention. These indicate more established and consistently studied themes

across the mid-phase of halal literature development. Scholars during this period focused on regulatory structures, consumer trust, and expanding halal principles beyond food (into areas like pharmaceuticals and personal care) while still anchoring discussions around safety and certification integrity.

Recent trends in 2022 are highlighted in yellow, marking the emergence of forward-looking themes such as green development, innovation, sustainability, blockchain, and supply chain management. These keywords reflect the increasing intersection of the halal industry with technological innovation and environmental concerns, aligning with broader global discourses on ESG (Environmental, Social, and Governance). The presence of blockchain suggests that researchers are now investigating traceability and digital solutions for halal compliance, signaling a shift from traditional religious discussions to strategic and operational innovations within the halal ecosystem.
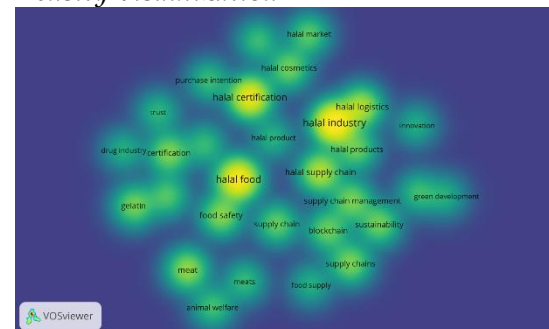
Density Visualization

Figure 3. Density Visualization
Source: Data Analysis

Figure 3 illustrates the frequency and intensity of keyword usage within halal industry research. Areas with brighter yellow hues indicate higher density, representing terms that appear more frequently and are central to scholarly discussions. Notably, "halal food," "halal industry," and "halal certification" are the most prominent topics, suggesting that these three concepts form the core thematic pillars of halal-related research. Their high density implies that much of the academic work revolves around understanding certification processes, food

standards, and the structure of the industry itself. Surrounding these dense nodes are moderately active themes such as halal logistics, halal supply chain, food safety, blockchain, and sustainability, which are shown in green. These keywords suggest growing attention toward operational, technological, and environmental dimensions of the halal ecosystem. On the periphery, topics like meat, gelatin, animal welfare, halal cosmetics, and green development appear with lower density (shown in cooler green to blue shades), indicating that while they are emerging or niche topics, they have not yet achieved the same level of scholarly saturation.

DISCUSSION

The findings of this bibliometric study provide a comprehensive overview of the evolution, focus, and diversification of academic research on the halal industry. Through keyword co-occurrence, temporal, and density visualizations using VOSviewer, the analysis uncovers critical themes, emerging trends, and knowledge gaps that shape the intellectual landscape of halal research. Several insights emerge from this analysis, each highlighting how scholarly attention has shifted over time, from foundational food-based discussions to more complex issues such as logistics, certification, supply chain integrity, and sustainability.

One of the most prominent findings from the co-occurrence network is the centrality of "halal food", "halal certification", and "halal industry" in the keyword map. These nodes not only appear in the largest font sizes (indicating frequency) but are also highly connected to other themes, signaling their foundational role in the field. This suggests that early and sustained scholarly work has concentrated on defining and operationalizing halal food standards, the mechanisms of halal certification, and the industrial dimensions that support the growing global halal economy. As supported by prior studies [9], [10], this focus reflects the primary concerns of Muslim consumers and regulators in ensuring religious compliance,

food safety, and trust in the products and services labeled as halal.

The interconnectedness between halal food and certification with themes such as trust, purchase intention, drug industry certification, and food safety highlight an enduring research cluster focused on consumer behavior and regulatory confidence. Consumers, particularly in Muslim-majority regions, rely heavily on certification authorities to validate product integrity. The presence of keywords like "trust" and "purchase intention" suggests that scholars have explored how certification schemes influence consumer decision-making [11], [12]. Moreover, the inclusion of terms like drug industry certification and gelatin reflects continued scrutiny of pharmaceutical and ingredient-level compliance, especially for sensitive products like vaccines and cosmetics, which often raise debates regarding permissibility and transparency.

In recent years, however, the keyword overlay visualization (based on publication year) reveals a paradigm shift in halal research. While early research centered around traditional themes such as meat, animal welfare, and gelatin (marked in darker blue and purple), more recent studies (yellow areas) have begun to explore contemporary and future-oriented topics such as blockchain, sustainability, innovation, and green development. This temporal progression indicates that scholars are increasingly recognizing the need for the halal industry to respond to global economic and environmental challenges. In particular, the growing link between halal supply chains and sustainability signals a convergence of religious, ethical, and ecological considerations in consumer goods production and distribution [5], [6].

Of particular note is the rise of blockchain as a keyword associated with halal supply chain management. This reflects the technological turn in halal research, where digital tools are being investigated as mechanisms to improve traceability, accountability, and transparency across supply chains. Blockchain, with its immutable

ledger system, is positioned as a solution to fraud, mislabeling, and the lack of trust in certification claims, issues that have historically plagued the halal sector [3]. This signals the emergence of a techno-halal ecosystem, where technology is not only complementary but necessary to meet the growing complexity and globalization of halal commerce.

The density visualization further reinforces the concentration of academic output on key domains such as halal food, certification, and industry structure, shown through their bright yellow coloring. At the same time, peripheral topics like halal cosmetics, animal welfare, and halal market appear less saturated (green-blue zones), suggesting research opportunities. For instance, while halal cosmetics and personal care products are increasingly popular in global markets, their academic investigation remains relatively limited. This represents a fertile ground for future research, especially in consumer perception, product development, regulatory harmonization, and cross-border trade within this niche market.

The presence of halal logistics and halal supply chain as key nodes in the network indicates growing academic interest in operational dimensions of the halal industry. Efficient logistics are critical for maintaining halal integrity, particularly when supply chains span across countries with varying standards and practices. Research in this domain typically examines how logistical systems (from warehousing to transportation) can maintain segregation between halal and non-halal products, implement proper documentation, and ensure end-to-end compliance [7]. The emergence of green development alongside logistics and innovation also reflects alignment with the United Nations' Sustainable Development Goals (SDGs), where ethical and sustainable production is becoming a universal expectation, including in religious markets.

Another notable insight from the network visualization is the emergence of interdisciplinary convergence in halal research. While the field was initially dominated by Islamic jurisprudence and food science, it now incorporates perspectives from marketing, supply chain management, information systems, consumer behavior, public health, and sustainability studies. This multi-disciplinary expansion is a positive sign of the maturing halal knowledge ecosystem, but it also necessitates stronger integration frameworks to ensure conceptual coherence and policy relevance. Future bibliometric reviews could benefit from exploring how research from various disciplines contributes distinctively to the broader halal industry discourse.

Despite these advances, several research gaps remain. First, the halal cosmetics, fashion, and fintech sectors are still underrepresented in academic literature compared to food and logistics. Second, the impact of global digital platforms, such as e-commerce, social media influencers, and halal marketplaces, on shaping consumer perception and brand trust is another area lacking empirical depth. Third, there is a need for more comparative and longitudinal studies that examine how halal policies and practices evolve across different countries and respond to global shocks such as pandemics or supply chain disruptions.

4. CONCLUSION

This bibliometric study provides a comprehensive overview of the intellectual landscape of halal industry research, revealing the evolution of key themes, the emergence of interdisciplinary linkages, and the growing relevance of contemporary topics such as blockchain, sustainability, and halal supply chain management. The findings demonstrate that while foundational topics like halal food, certification, and consumer trust remain central, recent scholarly attention has expanded toward technological and environmental dimensions of halal practices. Visualization through VOSviewer highlights both the saturation of established areas and the potential of underexplored domains such as halal cosmetics and green development. As the halal industry continues to globalize and intersect with broader socio-economic and

technological trends, academic inquiry must likewise evolve to offer strategic insights, policy guidance, and innovative frameworks. Future research should emphasize cross-sectoral collaboration, digital integration, and global standardization to ensure that halal studies remain responsive to the demands of a rapidly transforming world.

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