



Mapping The Landscape of Halal Cosmetics Research Amid The Age of Digitalization : A Biblioshiny Analysis During Global Halal Trends

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Abstract. The halal cosmetics industry has grown rapidly in recent years, driven by increasing consumer awareness of the halalness of the products they use. In the midst of increasingly sophisticated digital technology developments, the application of halal cosmetics throughout the world is becoming increasingly relevant and important to study. This research aims to map the landscape of halal cosmetics published globally and how the digitalization trend has impacted the industry. A bibliometric approach will be used in this research using R. Through this research it is hoped that it can provide a comprehensive understanding of trends and patterns in halal cosmetics research and the influence of digital technology on the industry globally. These findings will provide insight into progress and challenges in the halal cosmetics sector as well as provide opportunities for future growth and development.

Keywords: Halal Cosmetics, Biblioshiny Analysis, Digitalization.

1 Introduction

The halal cosmetics industry has experienced rapid growth in recent decades, as consumer demand increases, increasingly aware of the importance of products that comply with sharia principles. This demand is driven by the growth of the global Muslim population, which is expected to reach 2.2 billion by 2030, as well as the increasing purchasing power and awareness of Muslim consumers towards halal products [1]. In this context, halal cosmetics do not only refer to products that are free from haram ingredients, but are also produced and processed in accordance with Islamic sharia. In the era of digitalization, information about halal cosmetic products has become increasingly accessible to consumers through various digital platforms. This trend is changing the landscape of marketing and distribution of halal products globally, and opening up new opportunities for research in this field. The study of halal cosmetics in the digital era is important to understand market dynamics, consumer preferences, and the challenges faced by manufacturers in ensuring compliance with halal standards.

This study aims to map the landscape of halal cosmetics research in the digital era through bibliometric analysis using the Biblioshiny tool. This analysis will identify research trends, key topics discussed, and collaborative networks between researchers worldwide. Thus, this study is expected to provide a comprehensive picture of the development of halal cosmetics research and its implications for the industry and Muslim consumers. The background of this study focuses on two main aspects: the development of the halal cosmetics industry and the impact of digitalization on research and practice in this field. The broader halal business, which encompasses a range of goods and services that adhere to Islamic law, includes halal cosmetics. By 2025, the worldwide halal industry is projected to be worth USD 9.71 trillion, with the halal cosmetics industry contributing significantly to this expansion [2].

The growth of the halal cosmetics industry is inseparable from the increasing awareness and demand of Muslim consumers for products that are safe, ethical, and in accordance with their religious values. Halal cosmetics are not only free from haram ingredients such as alcohol and pork, but are also produced in a clean and hygienic manner, and do not involve animal cruelty. This reflects the ethical and sustainable values that are increasingly appreciated by global consumers. Muslim customers' growing knowledge of and need for safe, moral, and religiously compliant products is inextricably linked to the expansion of the halal cosmetics market. In addition to being free of haram substances like alcohol and pork, halal cosmetics are also made without the use of animals and in a clean, hygienic manner. This reflects the ideals of sustainability and ethics that customers throughout the world are coming to cherish more and more.

This study uses bibliometric analysis to map the development of research in the field of halal cosmetics in the digital era. This method allows researchers to identify publication patterns, key topics, and collaboration networks between researchers. Biblioshiny, a powerful bibliometric analysis tool, is used to manage and analyze bibliographic data obtained from various sources. This analysis will provide insights into research trends and knowledge in the field of halal cosmetics. Thus, this study aims to make a significant contribution to the existing literature and provide a basis for developing better strategies for halal cosmetic products in the digital era.

2 Literature Review

2.1 Halal Cosmetics

The word “halal” comes from the Arabic *halla*, *yahillu*, and *hillan* which means permitted, allowed, permissible, released, liberated, and lawful by the Islamic law (Shariah) [3]. According to the notion of *halalan-toyyiban*, a product is deemed halal if it includes nutritious elements and does not provide a health risk when utilized [4]. When a product is declared halal, it means that the product uses ingredients and a series that are in accordance with sharia law and fatwas [5]. For Muslims, a product must follow halal guidelines/rules. Halal status is not only related to the issue of food and beverage consumption, but also related to other sectors such as cosmetic and personal care, pharmaceutical drugs, medical devices, and logistics industry [6].

Halal cosmetics can be interpreted as cosmetic products that meet halal status so that they can be consumed by Muslims [7]. Ingredients from pigs, corpses, blood, human body parts, predatory animals, reptiles, or insects are prohibited in halal cosmetics. For cosmetic ingredients made from approved animals to be deemed halal, they must be killed in accordance with Islamic law. To guarantee product hygiene, cleanliness and pure conditions must always be maintained during the preparation, processing, manufacture, storage, and shipping of halal cosmetic items [4]. The main difference between general cosmetics and halal cosmetics is the source of the ingredients. Although cosmetics generally emphasize product safety by looking at substances that can cause harm to consumers, they do not look at the source of substances that are haram and haram according to Islamic law. This is different from halal cosmetics which focus on the source of the ingredients, whether the ingredients are halal or haram to be included in the product [5].

2.2 Digitalization in Halal Industry

Digitalization is the availability and use of digital tools to communicate on the Internet, digital devices, smart devices and other technologies. often with the global trend of halal lifestyle [8]. Halal becomes a part of global development that is very important for humans. So that the development of the halal industry digitally can expand its market share both domestically and globally [9]. Digital instruments are able to help governments and private systems to monitor compliance with quality, environmental and other standards and help investors/entrepreneurs at the national and international levels to increase social and Halal business activities [10].

3 Methodology

This study uses a bibliometric approach to map the landscape of halal cosmetics research in the digital era. The research data is taken from the dimension database, which includes scientific publications related to halal cosmetics. The analysis was carried out using the bibliometrix package in R software, especially the biblioshiny feature, which allows interactive visualization and analysis of bibliometric data. The keywords used include “Halal Cosmetic” and “Halal Cosmetic Industry” to identify relevant articles. The publication period is between 2012-2023. With this method and analysis tool, this study is expected to provide comprehensive insights into the trends and patterns of halal cosmetic research, as well as identify areas that require further attention in future research.

4 Result and Discussion

4.1 Result Analysis

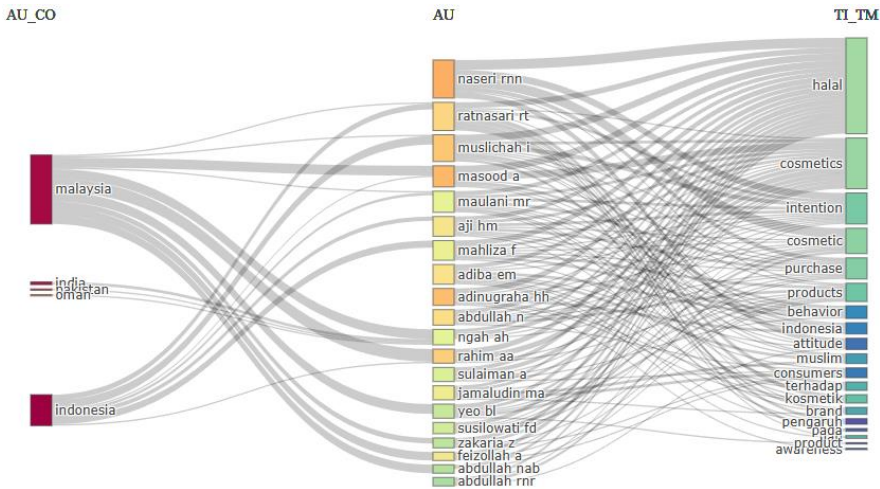


Fig. 1. Three Fields Plot

Three-field plot is a visualization tool used to explore and analyze the relationship between three different entities in bibliometric data. This plot is commonly used in bibliometric research to understand the relationship between elements such as the author's country of origin, authors, and article title or research topic. There are three vertical columns, each representing one of the three elements analyzed. The first column represents the country of origin of the authors who contributed to the study. The second column represents the authors involved in the study. Furthermore, the third column represents the title of the published article or research topic.

The country that contributes the most to halal cosmetic research is Malaysia, with the authors: Ratnasari Rt, Muslichah I, Masood A, Maulani Mr, Ngah Ah, Rahim Aa, Yeo Bl, Zakaria Z, Feizollah A, and Abdullah Nab. Popular topics or article titles among authors from various countries are “halal”, “cosmetics”, and “intention”. The three-field plot helps understand the dynamics of global collaboration and research trends in a field, providing insight into how authors and countries interact in research.

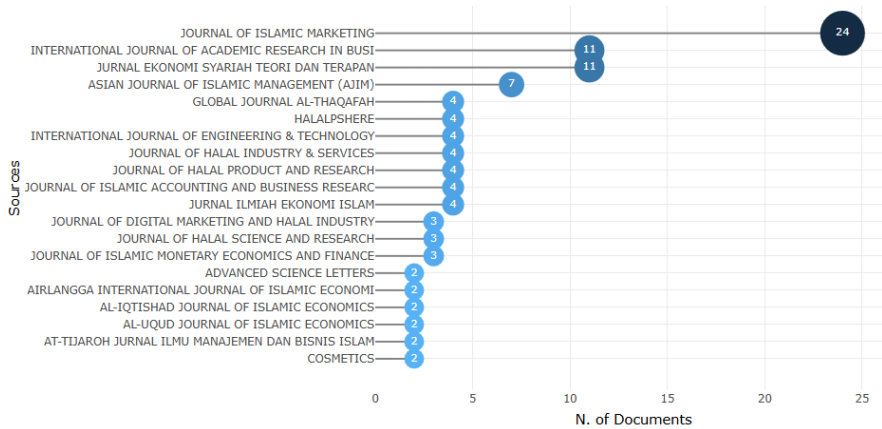


Fig. 2. Most Relevant Sources

Most relevant sources is a feature in biblioshiny that allows researchers to identify journals or sources that contribute the most to related research. This section includes bibliometric analysis that provides insight into the most frequently used or cited literature sources in “Halal Cosmetic” or “Halal Cosmetic Industry” research. The journal that contributed the most was the Journal of Islamic Marketing with a total of 24 publications.

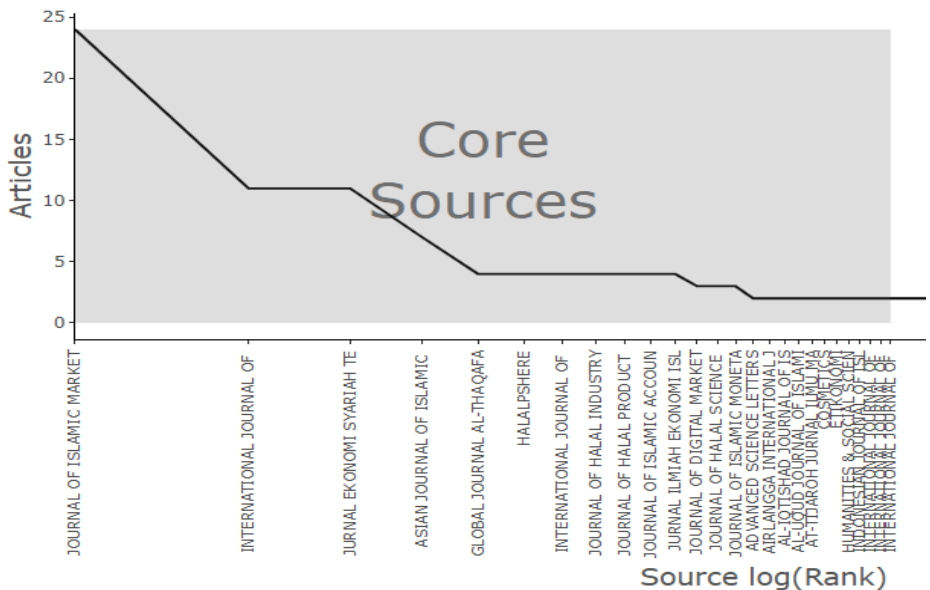


Fig. 3. Bradford's Law

Bradford's Law is one of the bibliometric laws used to identify core journals in a field. This law states that journals in a field can be divided into several zones with

approximately the same number of articles, where each zone contains journals that are increasingly numerous but contribute less to the same number of articles. In this context, Core Sources are journals in the first zone, which are the main or most productive sources in the field.

The journals in the first zone according to Bradford’s Law are in the core sources. These journals are considered the most productive and are often the main references in this field. In other words, the journals above are the journals that publish the largest number of articles in research related to “Halal Cosmetic” and “Halal Cosmetic Industry”. The analysis of core sources by Bradford’s Law reveals that several journals have an important role in disseminating research in this field.

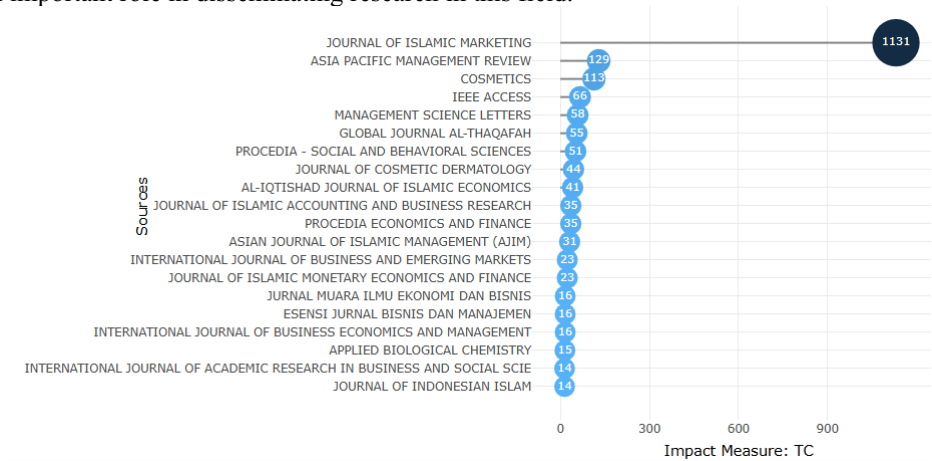


Fig. 4. Sources' Local Impact

Sources’ Local Impact measures the local impact of a journal source or article in a given dataset using a variety of metrics. One commonly used metric is total citations, which is the total number of citations received by articles published in a source. A source with a high total citations indicates that articles published in that source are frequently cited by other studies, indicating significant impact in the field.

This finding shows that the Journal of Islamic Marketing has a significant impact on the research of “Halal Cosmetic” and “Halal Cosmetic Industry”. The high total citation of 1,131 citations indicates that research in this journal is often used as a reference by other research. This shows an important contribution to the development of knowledge in this field.

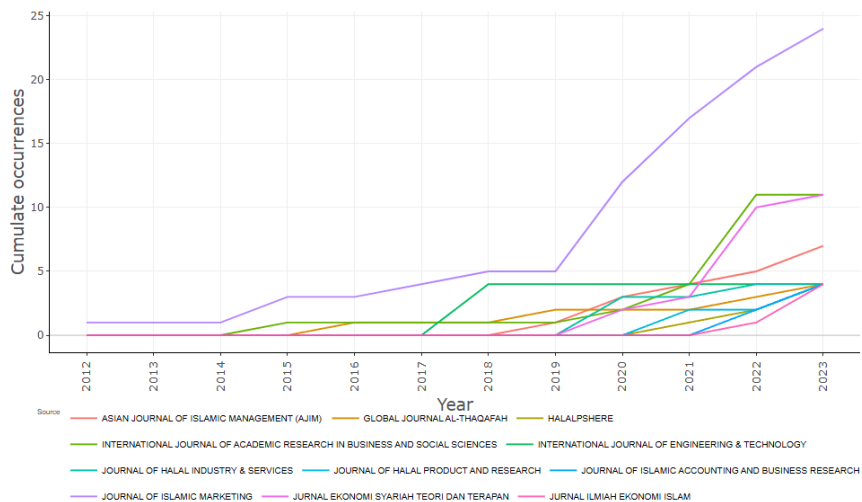


Fig. 5. Sources' Production Over Time

Sources' Production Over Time is an analysis that shows how the number of publications from different sources changes over time. It provides insight into publication trends in a particular field and helps identify the most productive sources in a given period. This section also helps analyze the development of research in a field as indicated by the number of publications from different sources.

The results of the analysis show that the publication production of the journal “Journal of Islamic Marketing” which is marked with the purple line, has increased significantly since 2014. This shows that “Journal of Islamic Marketing” has become more productive from 2014 to 2023. This trend shows that “Journal of Islamic Marketing” has an important role in the development of knowledge in the fields of “Halal Cosmetic” and “Halal Cosmetic Industry”.

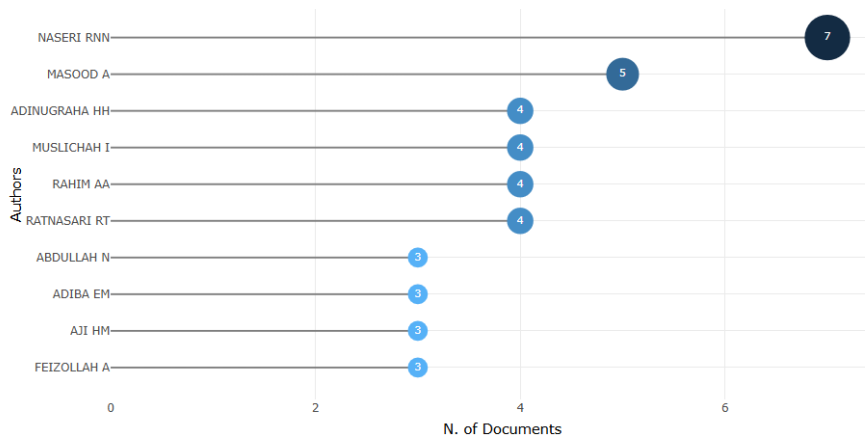


Fig. 6. Most Relevant Authors Frequency

Most Relevant Authors Frequency is an analysis used to identify the most productive authors in a field based on the number of documents they have published. The metric used is the number of documents, which shows how many articles or publications have been written by a particular author. The number of documents measures the number of publications that have been published by a particular author. The author with the highest number of documents is considered the most productive author in the dataset. This provides insight into the individual contribution of the author to the development of a particular field.

The figure above shows the distribution of the number of documents among the top authors. The results of the analysis show that “NASERI RNN” is the most productive author. The data above shows that the author “NASERI RNN” has a significant contribution to this field, with the highest number of publications. This could be due to the highly relevant research focus and extensive collaboration with other researchers. The high productivity of this author shows an important role in the development of knowledge in the fields of “Halal Cosmetic” and “Halal Cosmetic Industry”.

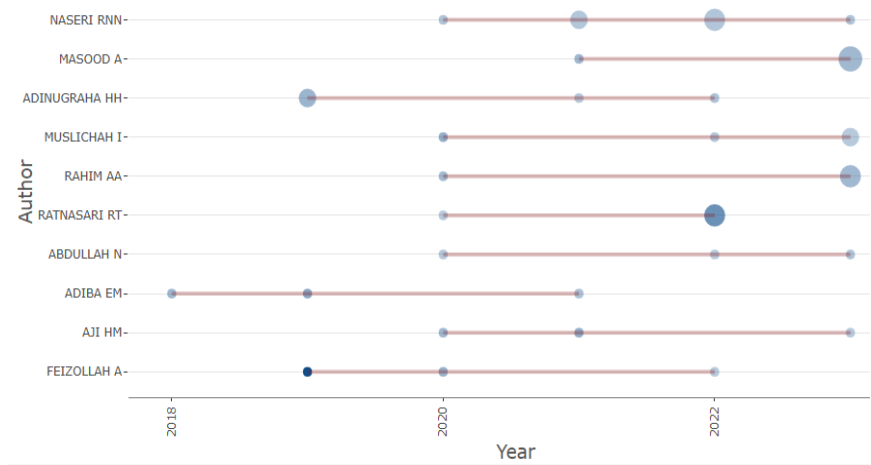


Fig. 7. Authors' Production Over Time

Authors' Production Over Time is an analysis that shows how the number of publications by a particular author changes over time. This analysis provides insight into the trend of individual authors' productivity and their contributions over a certain period in the analyzed field. Based on the data above, “NASERI RNN” has experienced a significant increase in the number of publications since 2020.

This finding suggests that “NASERI RNN” has experienced an increase in productivity since 2020. This could be due to increased research interest in the topic being studied or wider collaboration with other researchers. The analysis of the publication production of authors over a certain period reveals the trend of individual productivity and their contributions to the development of knowledge in the field.

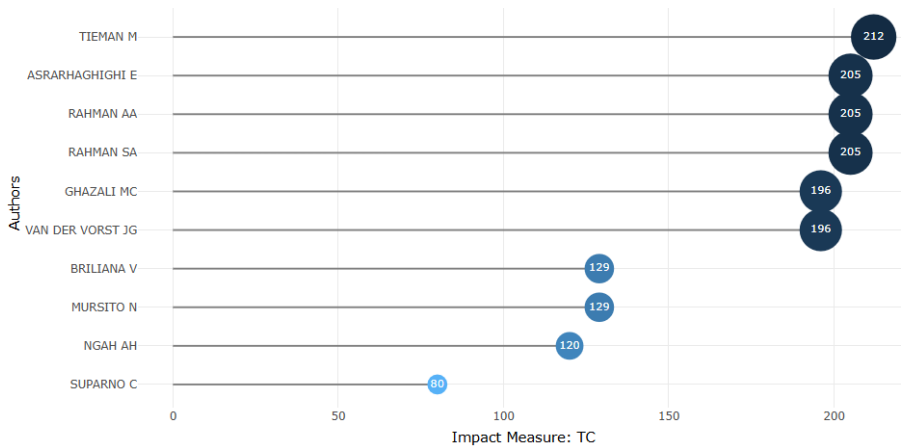


Fig. 8. Authors' Local Impact

Authors' Local Impact illustrates the impact or influence of a specific author by counting the amount of citations that their articles have gotten. A measure of an author's influence in the academic world, total citations counts the instances in which other scholars have mentioned their work. The most cited authors are thought to have a significant influence on the field of study. This research sheds light on each author's impact among the scientific community.

According to the data above, author “TIEMAN M” has the highest total number of citations, indicating a significant influence in the field. With the most citations, he has a significant impact. This can be as a result of his articles' excellent quality and the subjects' applicability. The substantial impact of author "TIEMAN M" suggests his crucial contribution to scientific advancement.

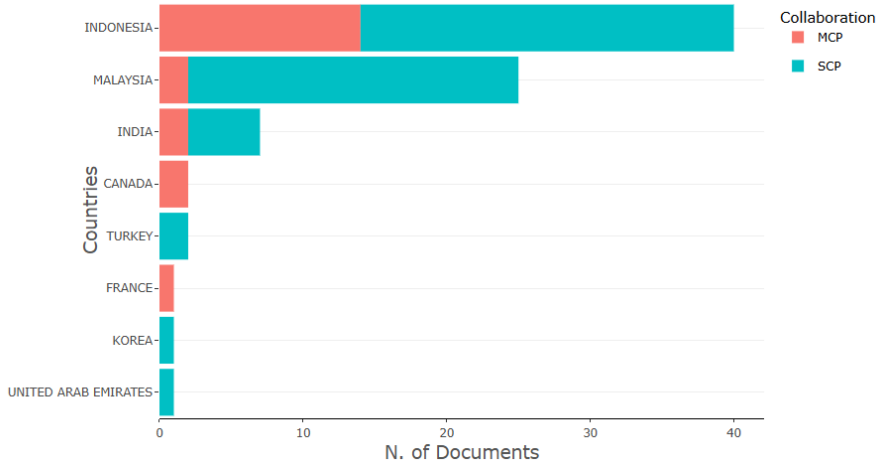


Fig. 9. Country of Corresponding Author

Country of Corresponding Author is an analysis that shows the country of origin of the corresponding author in a publication. This analysis is often associated with two types of collaboration: Multiple Country Publications (MCP) and Single Country Publications (SCP). MCP is a publication involving authors from various countries, while SCP is a publication involving authors from only one country. MCP shows the tendency of international collaboration and can indicate a country's global influence in research. SCP shows the productivity of research conducted domestically and reflects the country's internal research capacity.

The figure above shows the distribution of the number of MCP and SCP documents among the top countries. The results of the analysis show that Indonesia has the highest number of MCP and SCP publications, indicating a significant contribution in international and national collaboration. Indonesia's dominance in MCP publications indicates its global influence in research, while the high number of SCP publications reflects strong domestic research capacity. Other countries such as Malaysia show active participation in international collaboration and domestic research.

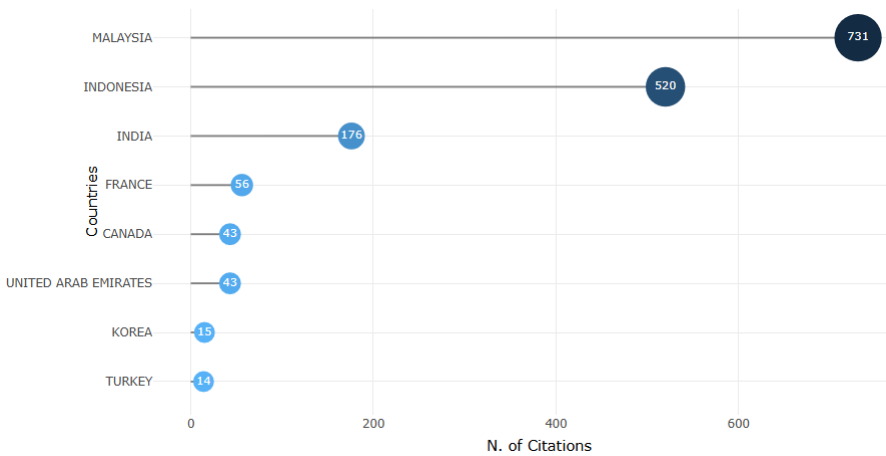


Fig. 10. Most Cited Countries

Most Cited Countries is an analysis that shows the countries whose works are most cited in scientific literature. The number of citations as a metric measures the total number of citations received by publications from those countries, reflecting their influence and contribution in the academic community. The number of citations provides insight into how often publications from a particular country are cited by other researchers. Countries with a high number of citations are considered to have a great influence in the field of study and contribute significantly to the development of science.

The figure above shows the distribution of the number of citations among the top countries. The results of the analysis show that Malaysia has the highest number of citations, indicating significant influence in the fields of “Halal Cosmetic” and “Halal Cosmetic Industry”. The high number of citations reflects rapid growth and increasing

influence in the academic community. The number of citations in Malaysia is 731 citations, followed by Indonesia with 520 citations.



Fig. 11. Word Cloud

Word Cloud is a visual representation of frequently occurring words in a text. Words that appear more frequently are displayed larger in the word cloud. In the context of bibliometrics, word clouds can be used to identify dominant research topics or themes in a publication dataset. Word clouds help in identifying words or phrases that appear frequently in a dataset. This can provide insight into the most dominant research themes or trending topics in the field.

The figure above shows a word cloud of the most frequently occurring keywords in publications related to “Halal Cosmetic” and “Halal Cosmetic Industry”. The results of the word cloud analysis show that the keywords “Halal” and “Cosmetics” are the most frequently occurring. This finding suggests that halal and cosmetic issues have become a major focus of halal cosmetic research in recent years.

Collaboration Network is a visual representation of collaborative relationships between authors in scientific publications. This network shows how authors work together in writing articles and can help identify centers of collaboration, the most productive authors, and collaboration patterns in a particular research field. Collaboration Network helps in understanding collaboration patterns between authors. In this network, the nodes represent authors, and the lines (edges) between the nodes represent collaboration between authors in publications. This network can show: the authors who collaborate the most, the groups of authors who collaborate frequently, and the relationships between groups of authors.

The figure above shows the collaboration of authors in scientific publications. The results of the collaboration network analysis show that authors Feizollah A, Masood A, and Naseri Rnn are the centers of collaboration in the field of halal cosmetics research. They often collaborate with other authors with a high number of publications. These authors have important roles in the research collaboration network, which shows their expertise in this. This collaboration pattern reflects the dynamics of research in this field and the importance of collaboration between authors for scientific progress.

4.2 Discussion

The growing number of Muslims worldwide and rising consumer awareness of halal products have led to a notable expansion in the halal cosmetics market. This industry benefits greatly from digitalization since it improves consumer involvement, supply chain management, marketing tactics, and product innovation. The impact of digitalization on the halal cosmetics business is examined in this investigation from a number of angles. The study reveals a notable surge in the quantity of publications and citations pertaining to digital marketing and halal cosmetics. This rise in articles demonstrates the expanding scholarly interest and commercial potential of halal cosmetics in the digital age. Here are some observations about the contribution of digitalization to the growth of the halal cosmetics sector, based on the analysis's findings.

Digitalization in Marketing and Consumer Engagement

The digital era is marked by the development of digital platforms that play a significant role in marketing halal products, especially cosmetics. Social media platforms, e-commerce websites, and digital advertising are able to reach wider consumers, especially Muslim consumers who are actively looking for halal beauty products. E-commerce helps connect consumers around the world so that halal products can be better known and owned comprehensively without geographical barriers.

Digital marketing also encourages the promotion of halal cosmetic products through influencers who are able to help increase trust and awareness of halal products in the community [11]. Utilizing digital tools such as Search Engine Optimization (SEO), social media marketing, and influencer collaboration, can improve brand quality in the cosmetics market. Digital platforms allow manufacturers to share product information transparently. Transparency of digital platforms regarding product information can increase trust and choice [12].

Digitalization of Halal Cosmetic Supply Chain Management

Aspects of business, particularly supply chain management (SCM), are changing as a result of digitalization. Digitalization in the halal cosmetics sector, including cloud computing, blockchain, data analytics, and the Internet of Things (IoT), offers chances to enhance supply chain sustainability, efficiency, and transparency. IoT can support real-time halal product tracking, guaranteeing supply chain adherence to halal requirements [13]. Blockchain can also be used to create a transparent and traceable system so that every step in the production to distribution process can be verified [14]. Digitalization also helps in risk management by providing better visibility across the supply chain. Technologies such as advanced risk analytics and tracking systems can identify potential disruptions early and enable rapid mitigation actions [15].

Digitalization in Halal Cosmetic Product Innovation

Digitalization opens up opportunities for halal cosmetic manufacturers to develop more innovative products that meet consumer needs. Through information technology and digital platforms, manufacturers can conduct more in-depth market research to understand Muslim consumer preferences. For example, the use of data analytics allows companies to identify consumer behavior trends and patterns, which can be used to design products that are more relevant and attractive to the halal market. Technologies such as CAD (Computer-Aided Design) and CAM (Computer-Aided Manufacturing) can be used to design and manufacture cosmetic products more efficiently, contributing to faster development times and reduced production costs [16]. AR (Augmented Reality) applications allow consumers to virtually try products before purchasing, increasing consumer satisfaction and trust in halal products [17]. Digitalization also drives innovation in the development of environmentally friendly products. The use of big data analytics and IoT can help companies design more sustainable products and reduce the environmental impact of the production process [18].

5 Conclusion

This study was conducted to explore the development of halal cosmetic industry research and how digitalization plays a role in the industry, from 2012 to 2023. The keywords used in this study are "Halal Cosmetic" and "Halal Cosmetic Industry". From the results of the research trend analysis, it is known that the countries that often study this theme are Malaysia and then Indonesia. Journal of Islamic Marketing as the journal that publishes the most articles on halal cosmetics and Naseri RNN is the author who publishes the most research related to this field. Some of the roles of digitalization in the halal cosmetic industry include helping marketing and increasing consumer trust, helping supply chain management and helping innovation in the development of halal cosmetic products so that they can survive in global competition.

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