

HALALSPHERE

International Islamic University Malaysia - INHART



A Bibliometric Analysis of Halal Cosmetics and Halal Pharmaceuticals

Eiffah Imanina Muhammad Yusri & Amal Ahmed Mohamed Elgharbawy*

International Institute for Halal Research and Training (INHART), International Islamic University Malaysia (IIUM), Jalan Gombak, 53100 Kuala Lumpur, Malaysia.

*Corresponding author: E-mail address: amalgh@iium.edu.my

Received:8/4/2023
Accepted:17/6/2023
Published:31/7/2023

Keywords:

Halal cosmetics, Halal Pharmaceuticals and Bibliometric analysis

Abstract

This review presents a bibliometric analysis to shed light on the development of halal cosmetics and pharmaceutical domains, addressing their increasing popularity. The study assessed 248 entries retrieved from the Scopus database, discussing the types of papers available, publication years, contributors, and geographical distribution of the published documents in these fields. The analysis revealed frequently used phrases such as halal, halal cosmetics, gelatine, religiosity, attitude, and purchase intention. However, the study acknowledges limitations related to Scopus potentially overlooking certain articles, leading to possible omissions. Nevertheless, this research contributes to the relatively scarce literature on network analysis and bibliometric approaches in halal cosmetics and pharmaceuticals.

1. Introduction

Food and pharmaceutical items (drugs, cosmetics, and personal care products) have been among the first human requirements from the origin of civilisation. According to a 2006 survey by the Environmental Study Group, the average individual utilises up to 25 personal care items daily (Wan Jusoh & Kit Teng, 2013). Examples of such items include bath treatments, oral care products, skin care products, personal hygiene products, fragrances, deodorants, and cosmetics (Hunter, 2012). These kinds of products are currently acknowledged as fundamental not just for females but also for males.

Manufacturers must utilise halal raw ingredients so halal products are safer (Ahmad *et al.*, 2015). Conversely, *Allah* the Almighty orders Muslims to consume only halal products, which are both religiously lawful and beneficial (Mursyidi, 2013). Halal products must include characteristics such as safety, dependability, handling, production appliances, manufacturing aids, packaging, storage, transportation, distribution, retailing, and components (Muhamad Yunus *et al.*, 2014).

'Halal' is an Arabic term that refers to everything permitted under Islamic law. It is commonly used to indicate what Muslims are allowed to partake in, such as eating, drinking, or using. The antonym of halal is haram, which in Arabic translates to anything banned by Islamic law. These commandments govern the lives of Muslims worldwide and must be followed (Mursyidi, 2013).

The global halal cosmetics industry is predicted to expand significantly from USD 16.32 billion in 2015 to USD 53.81 billion in 2025. Likewise, the worldwide halal pharmaceutical market is anticipated to flourish from US 94 billion in 2019 to USD 174.59 billion by 2025, led by the preventive care sector (Communications, 2020). Global halal cosmetics consumption is estimated to reach US\$74.7 billion in 2020. This is due to a rise in desire and interest in halal cosmetics among the Muslim community, which supports the industry. Because halal product consumption is expanding, the younger generations, such as Generation X and Y, are emerging as adaptive and educated customers (Mohamed Elias *et al.*, 2016). Among the cosmetic company exist are Avon, COSWAY and Maybelline; for the mass market, Estee Lauder, Clinique and Shiseido; for prestige brands, and also Body Shop, Sasa and Roche; for franchise chains (Ahmad *et al.*, 2015).

The growing halal awareness and understanding are one of the reasons influencing the rising interest in halal cosmetics and pharmaceuticals (Rahim *et al.*, 2015). Halal cosmetics and pharmaceuticals are well-known for being hygienic, secure, and of exceptional quality. Halal cosmetics and pharmaceuticals vary from other products in that they do not include substances derived from pigs or their derivatives and alcohol (Mohezar *et al.*, 2016). In regard to compliance with the Islamic faith standards, several consumers in many studies claimed that they use halal cosmetics and halal pharmaceutical products because their components are considered safe. As a result,

consumers are no longer afraid to utilise halal cosmetics and pharmaceuticals.

2. Methods

This review emphasises the bibliometric analysis performed to analyse and categorise the publications presented in the halal cosmetics and halal pharmaceuticals areas. The goal of the bibliometric study was to statistically evaluate the halal cosmetics and halal pharmaceutical research sectors to understand how the domains have grown over the last twenty years.

Figure 1 illustrates the methodological approaches indicated by this review. The first stage in carrying out this analysis was to define the topic of the analysis by proposing three research questions. How many papers have been published relating to halal cosmetics and halal pharmaceuticals? From 2000 to 2022, which nation generated the most articles on halal cosmetics and halal pharmaceuticals? Which organisation publishes publications on halal cosmetics and halal pharmaceuticals? The second stage was to define keywords and a period for the review. In this review, the keywords identified were "halal," "cosmetics," and "pharmaceuticals," while the time frame was established from 2000 to 2022, with the respective years sought to be the active years of halal cosmetics and halal pharmaceutical articles being produced.

The next stage was to choose a data surface, and the Scopus database was adopted for this assessment. The fourth stage was data retrieval, which involved exporting all data from the Scopus database in CSV format for detailed and deeper analysis.

The fifth phase included data analysis, which resulted in summary tables and bibliometric measurements. The final stage in this analysis was verifying the outcomes by referencing other publications for verification and reviewing the outcomes for precise and more accurate comprehension.

3. Bibliometric analysis and discussions

The Scopus database of 248 documents pertaining to halal cosmetics and halal pharmaceuticals was retrieved in a .csv (comma-separated value) file format to meet the criteria of VOSviewer, the software tool utilised for data analysis, for this review. The authors' names, affiliations, keywords, and nations that contributed to the publications are all extracted from the downloaded SCOPUS database. The same halal cosmetics and pharmaceutical information from the Scopus database is also stored in Excel format to generate graphs and tables to assess database trends over time, such as keyword frequency.

According to the analysis, halal as a comprehensive research topic has tremendous potential because the demand for halal rises with each year. Other halal research aspects, such as halal cosmetics, are narrow because consumers identify halal with food rather than a way of life. This is consistent with a bibliometric review by Haleem *et al.* (2020), which said that academics are more focused on the food element of halal and concluded that halal is solely for Muslims. Malaysia is the most active country in halal cosmetics publications, followed by Indonesia. This statement is consistent with both nations' growing halal cosmetics markets. Malaysia is also one of the leading Malaysian export markets for halal goods, especially compared to its Southeast Asian neighbours. Though the halal domain is being pursued, the development of halal cosmetics is still in its early stages. As a result, there is a significant need to

disseminate the halal idea globally, not just in Muslim nations. This is where academics from all around the world should help with the halal cosmetics industry.

3.1 Document type

Excel is used to determine the document type. According to Table 1, the most common document types for halal cosmetics are articles (73.39%), followed by conference papers (9.27%), reviews (8.87%), book chapters (4.84%), short surveys (1.61%), book (0.81%), erratum, conference review and note (0.40%) each.

Table 1: Document type

Document Type	Frequency	% (N=248)
Article	182	73.39
Conference Paper	23	09.27
Review	22	08.87
Book Chapter	12	04.84
Short Survey	04	01.61
Book	02	00.81
Erratum	01	00.40
Conference		
Review	01	00.40
Note	01	00.40
Total	248	100.00

3.2 Year of publications - evolution of published studies

Table 2 shows the published studies of halal cosmetics and pharmaceuticals yearly. Figures 2 and 3 depict the graph for documents published yearly for halal pharmaceuticals and halal cosmetics, respectively. The paper shows that the first Scopus-indexed paper on halal cosmetics and halal pharmaceuticals was posted in 2006, while the second one took a long time in 2011. Although there was less enthusiasm and engagement in both fields in the early years of publishing, articles continued to be added each year, with 2020 being the most popular year for writers to submit their papers. Because millennial Muslim customers are increasingly religiously dedicated, they attempt to implement halal in all facets of their existence. As a result, new possibilities in the cosmetics and personal care fields are emerging. Research on halal cosmetics may have been conducted in-depth a few years prior, resulting in a surge of publications published in 2020.

3.3 Keywords analysis

Figure 4 and Table 3 were generated after utilising VOSviewer and Excel. The connections in Figure 3 show that the majority of the terms are correlated with one another. The scale of the term indicates the frequency with which words linked to halal cosmetics and halal pharmaceuticals are utilised. For instance, halal has the highest number and corresponds to the occurrence of author keywords in Table 3. The same shade of the words indicates that the topic shares similar terms. The grey shade in Figure 3 demonstrates this statement. "Halal" is frequently associated with other phrases like "halal cosmetics" and "religiosity".

Table 3 demonstrates that the most frequently used phrases are halal (around 40 occurrences), followed by halal cosmetics,

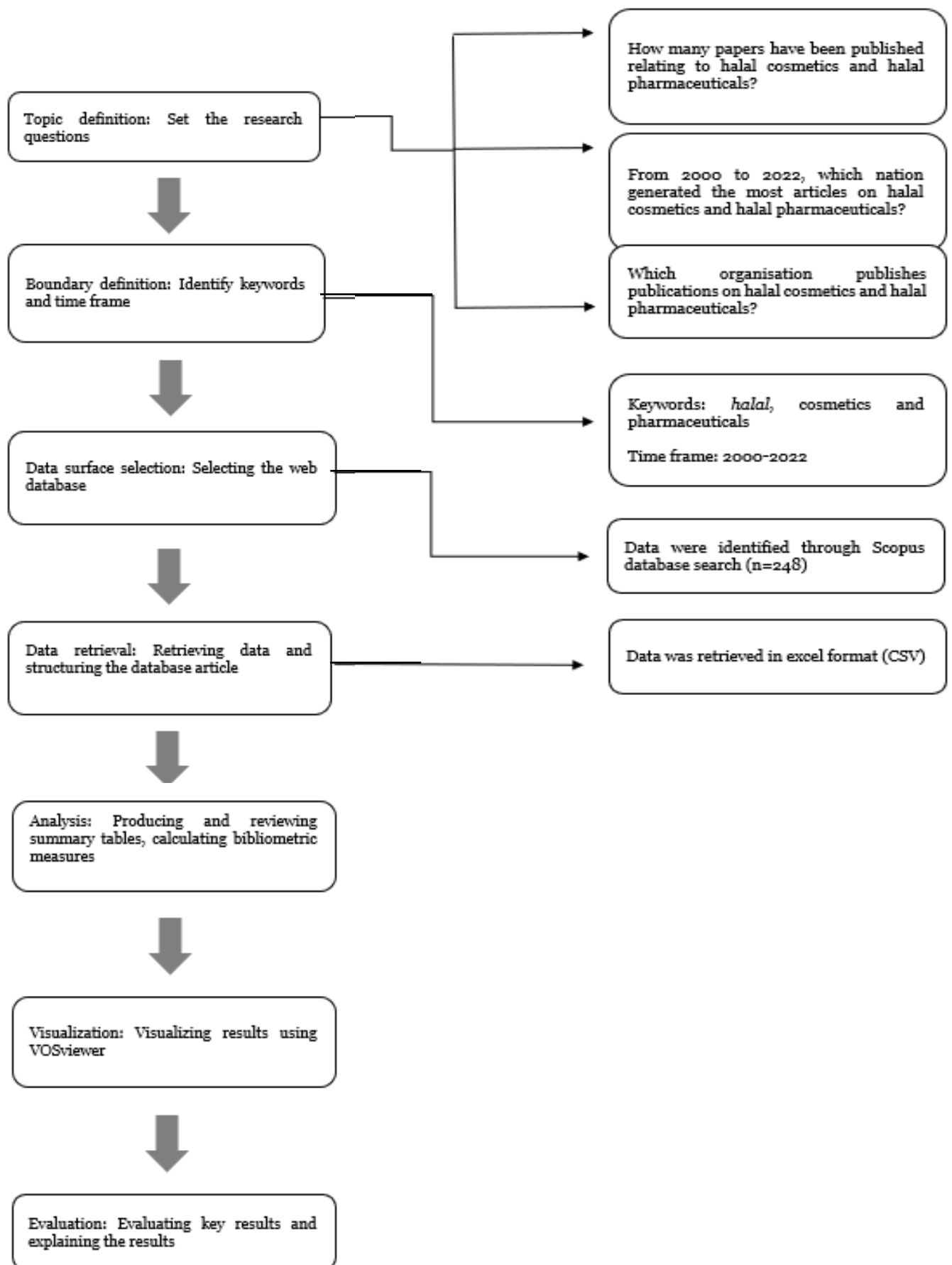


Figure 1: Research methodology adopted in the bibliometric analysis on halal cosmetics over twenty years.

gelatine, religiosity, attitude, and purchase intention. Aside from that, terms like halal medications and cosmetics also rank prominently on the list. Phrases like Islamic marketing, knowledge, and halal certification suggest that some academics are pursuing these areas.

There are also science-related terms, such as chemometrics, indicating that science-based research has been conducted, but to a smaller extent than research on halal cosmetics. In conclusion, academics might maintain their research on existing elements or begin new studies on brand-new topics based on the occurrence of the author's keywords assessed in this study.

Table 2: Year of publications

Year	Frequency	% (N=248)	Cumulative Percent
2006	02	00.81	00.81
2011	02	00.81	01.62
2012	12	04.84	06.46
2013	10	04.03	10.49
2014	13	05.24	15.73
2015	13	05.24	20.97
2016	15	06.05	27.02
2017	18	07.26	34.28
2018	30	12.10	46.38
2019	25	10.08	56.46
2020	50	20.16	76.62
2021	33	13.31	89.93
2022	25	10.08	100.00
Total	248	100.00	

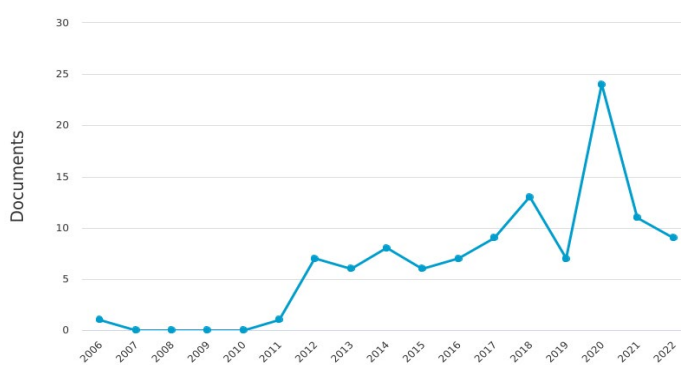


Figure 2: Documents for halal pharmaceuticals by year.

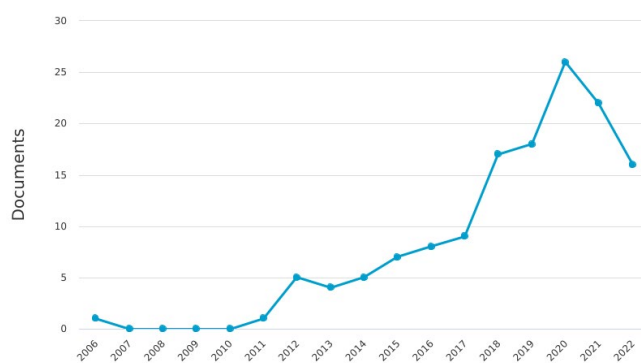


Figure 3: Documents for halal cosmetics by year.

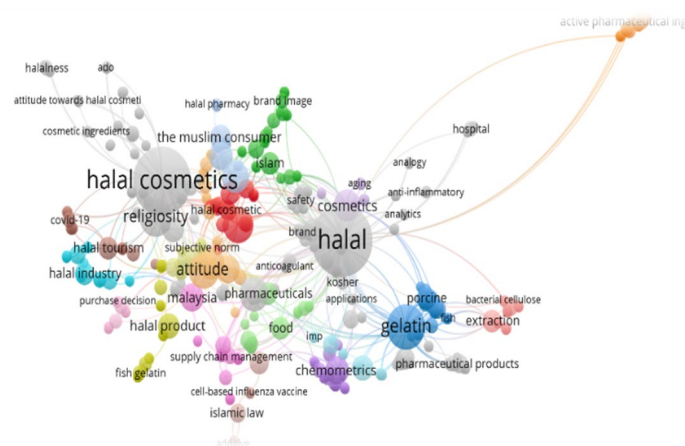


Figure 4: Network visualisation map of the author keywords.

Table 3: Top keywords

Author Keywords	Frequency	Percent
halal	40	19.05
halal cosmetics	36	17.14
gelatine	16	07.62
religiosity	11	05.24
attitude	10	04.76
purchase intention	10	04.76
halal pharmaceuticals	09	04.29
cosmetics	08	03.81
Islamic marketing	08	03.81
knowledge	08	03.81
halal certification	06	02.86
chemometrics	06	02.86
perception	06	02.86
Malaysia	06	02.86
halal market	06	02.86
halal product	05	02.38
halal authentication	05	02.38
halal food	05	02.38
the Muslim consumer	05	02.38
halal industry	04	01.90
Total	210	100.00

3.4 Geographical distribution of publications - most influential countries

Table 4 shows the top ten nations that contributed the most to publications about halal cosmetics and halal pharmaceuticals between 2000 and 2022. Malaysia generated the most articles, publishing over 109 publications, followed by Indonesia and India, which published 55 and 12 papers, respectively. The large difference in halal cosmetics and halal pharmaceuticals publications may be analysed in two ways: top halal cosmetics and halal pharmaceuticals producing nations and halal cosmetics and halal pharmaceuticals awareness in the countries. According to a survey done in Malaysia by Mohezar *et al.* (2016), the majority of Muslim and non-Muslim customers choose halal cosmetics and halal pharmaceutical products owing to their trust in safe operation, purity, and reliability.

Table 4: Top 10 countries contributed to the publications

Country	Frequency	% (N=217)
Malaysia	109	50.23
Indonesia	55	25.35
India	12	05.53
United States	07	03.23
Turkey	06	02.76
Iran	06	02.76
Canada	06	02.76
United Arab Emirates	06	02.76
Australia	05	02.30
China	05	02.30
Total	217	100.00

3.5 Authorship

Table 5 displays the number of authors for each published document and paper; meanwhile, Table 6 illustrates the top four most productive contributors regarding the number of papers they published. The biggest number of writers per document reported was four, with a regularity of 07, accounting for 36.84% of the total. The smallest number of writers per document observed was seven, with a regularity of one, accounting for 5.26% of the total. Rohman A. was the most productive author, with nine documents published, accounting for 39.13% of the total. The other two authors registered five published documents for each of them.

Table 5: Number of author(s) per document

Author Count	Frequency	% (N=19)
2	03	15.79
3	02	10.53
4	07	36.84
5	04	21.05
6	02	10.53
7	01	05.26
Total	19	100.00

Table 6: Top 4 most productive authors

Author's Name	No. of Documents	Percentage (%)
Rohman A.	09	39.13
Erwanto Y.	05	21.74
Othman R.	05	21.74
Ngah A. H.	04	17.39
Total	23	100.00

The network visualisation map of co-authorship created using VOSviewer is shown in Figures 5, 6, and 7. Figure 5 displays the link between authors who published at least two papers or documents and those who recorded zero citations. It can be observed that ten writers fulfilled the qualifications, and they were linked to each other. Figure 6 illustrates the organisations that collaborated with the authors of published publications on at least one document. Figure 7 demonstrates the association between nations and the writers who contributed to halal cosmetics and pharmaceutical publications. It revealed that Malaysia has a favourable relationship with other nations such as Indonesia, India, the United States, and Turkey. This is because Malaysia's halal cosmetic and halal pharmaceutical businesses have been expanding for an extended time, and the majority of halal cosmetics and halal pharmaceutical goods have been marketed to nations such as the Middle East and

ASEAN, allowing collaborative research to be undertaken inside these countries (Mohezar *et al.*, 2016).

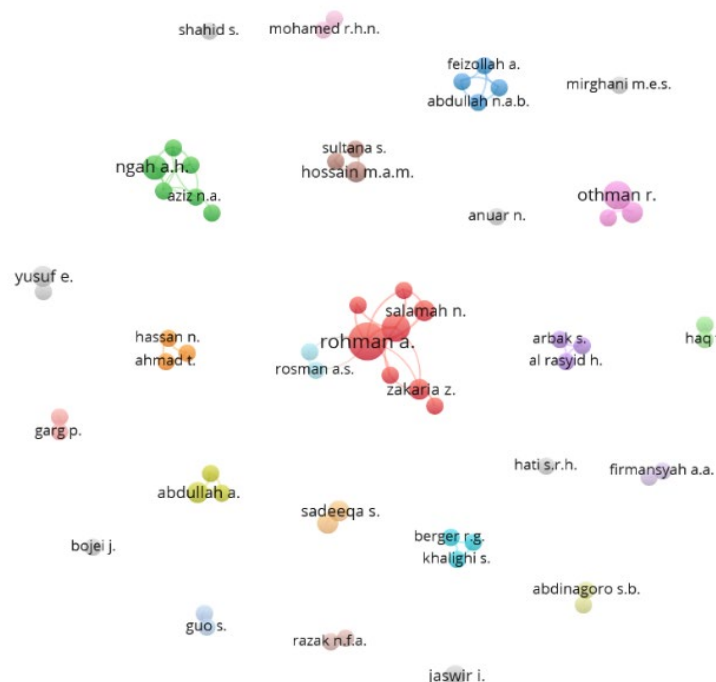


Figure 5: Network visualisation map of the co-authorship.

Unit of analysis: Authors
 Maximum number of authors per document: 25
 Minimum number of documents of an author: 2
 Minimum number of citations of an author: 0

3.6 Most influential organisation

Table 7 highlights the top ten most productive and influential institutions with at least one publication. It can be observed that International Islamic University Malaysia and Universiti Malaya produced the most papers (22), accounting for 15.94% of each of all publications. These universities have their own halal institution, which may slightly influence the journal produced on halal cosmetics and halal pharmaceuticals. Furthermore, we discovered that the most productive organisations appear to be from Malaysia, as there are only a few Indonesian institutions or organisations that have produced publications on halal topics because their research may not be focused on halal cosmetics or halal pharmaceuticals but on other topics such as halal food or logistics.

3.7 Citation analysis

Table 8 displays the citation metrics of halal cosmetics and halal pharmaceutical papers. The top ten most impactful articles are shown in Table 9. The articles were arranged from the most cited to the least cited, with a minimum of thirty citations, starting with the most cited. With 234 citations since its publication in 2012, the most referenced article was Arshia Mukhtar and Mohsin Muhammad Butt's Intention to Choose Halal Products: The Role of Religiosity. With 32 citations, Ali Feizollah, Sulaiman Ainin, Nor Badrul Anuar, Nor Aniza Abdullah, and Hazim Hanif's Halal Products on Twitter: Data

Extraction and Sentiment Analysis Using Stack of Deep Learning Algorithms was the least referenced paper.

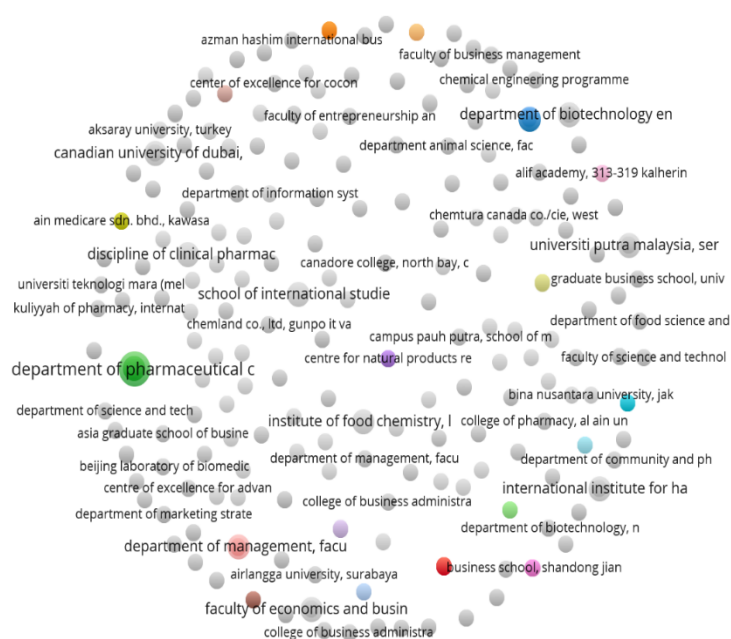


Figure 6: Network visualisation map of the most influential organisations.

Unit of analysis = Organisations
 Maximum number of organisations per document: 25
 Minimum number of documents of an organisation: 1
 Minimum number of citations of an organisation: 0

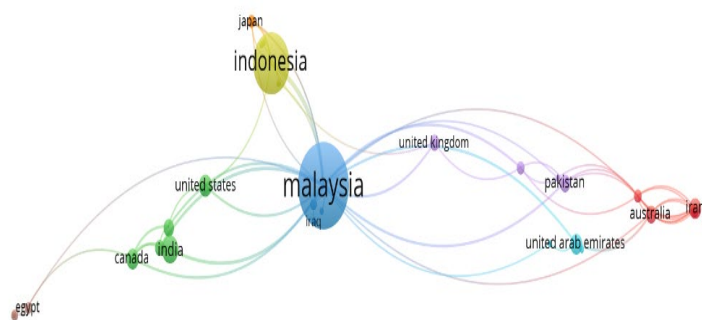


Figure 7: Network visualisation map of active countries in publishing journals in halal cosmetics and halal pharmaceuticals.

Unit of analysis: countries
 Maximum number of countries per document: 25
 Minimum number of documents of a country: 1
 Minimum number of citations of a country: 0

Table 7: Top 10 most influential institutions with at least one publication

Country	Frequency	% (N=138)
International Islamic University Malaysia	22	15.94
Universiti Putra Malaysia	22	15.94
Universiti Kebangsaan Malaysia	16	11.59
Universitas Gadjah Mada	15	10.87
Universiti Teknologi Mara	14	10.14
Universiti Sains Malaysia	14	10.14
Universiti Sains Islam Malaysia	12	08.70
Universitas Airlangga	10	07.25
Universiti Teknologi Malaysia	08	05.80
Universiti Teknologi Malaysia	05	03.62
Total	138	100.00

Table 8: Citations metrics

Metrics	Data
Publication years	2006-2022
Citation years	16 (2006-2022)
Papers	248

VOSviewer was used to generate a network visualisation map of citations pertaining to documents and countries in Figures 8 and 9. The map in Figure 7 can be used to verify the highly referenced publications or articles in Table 9.

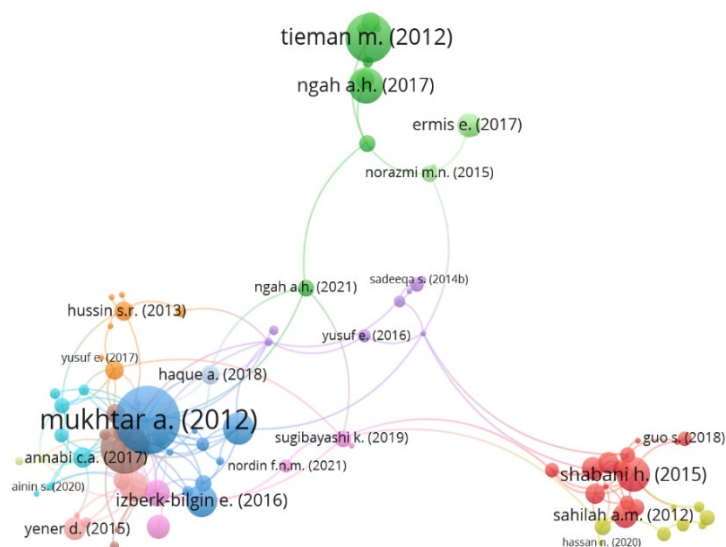


Figure 8: Network visualisation map of the citation.

Unit of analysis: Documents
 Minimum number of citations of a document = 1

Table 9: Highly cited articles - most influential papers

No.	Authors	Title	Year	Cites	Cites per Year
1	Arshia Mukhtar, and Mohsin Muhammad Butt	Intention to Choose Halal Products: The Role of Religiosity	2012	234	39
2	Azmawani Abd Rahman, Ebrahim Asrarhaghighi and Suhaimi Ab Rahman	Consumers and Halal Cosmetic Products: Knowledge, Religiosity, Attitude and Intention	2015	131	18.72
3	Marco Tieman, Jack Van der Vorst and Maznah Che Ghazali	Principles in Halal Supply Chain Management	2012	127	21.17
4	Abdul Hafaz Ngah, Yuserrie Zainuddin, and T.Ramayah	Applying the TOE Framework in the Halal Warehouse Adoption Study	2017	67	11.17
5	Hessam Shabani, Mehrangiz Mehdizadeh, Mohammad Mousavi, and Ehsan Ansari Dezfouli	Halal Authenticity of Gelatine using Species-specific PCR	2015	63	10.50
6	Elif Izberk-Bilgin and Cheryl Nakata	A New Look at Faith-Based Marketing: The Global Halal Market	2016	55	09.17
7	Prerna Garg, and Richa Joshi	Purchase Intention of "Halal" Brands in India: The Mediating Effect of Attitude	2018	54	13.50
8	Vita Briliana and Nurwanti Mursito	Exploring Antecedents and Consequences of Indonesian Muslim Youths' Attitude towards Halal Cosmetic Products: A Case Study in Jakarta	2017	48	09.60
9	Isabelle Aoun and Laurent Tournois	Building Holistic Brands: An Exploratory Study of Halal Cosmetics	2015	37	06.17
10	Ali Feizollah, Sulaiman Ainin, Nor Badrul Anuar, Nor Aniza Abdullah, and Hazim Hanif	Halal Products on Twitter: Data Extraction and Sentiment Analysis Using Stack of Deep Learning Algorithms	2019	32	08.00

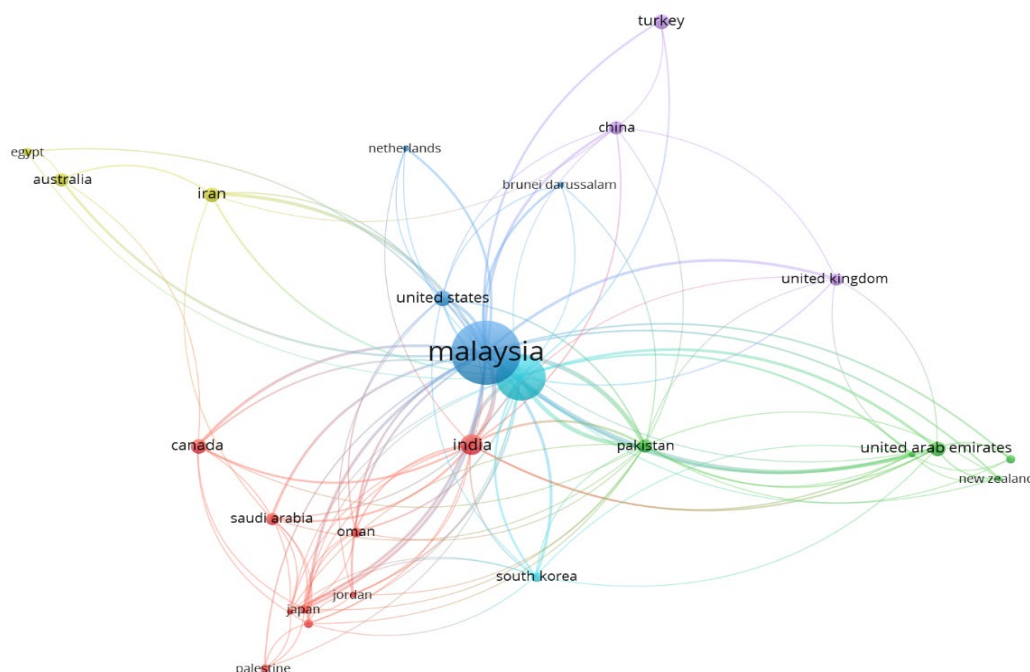


Figure 9: Network visualisation map of countries published the most.

Unit of analysis: countries
Maximum number of countries per document: 25
Minimum number of documents of a country: 1
Minimum number of citations of country: 1

4. Conclusion

This bibliometric analysis demonstrated a rising interest among academics and authors in the halal matter, particularly in the cosmetics and pharmaceutical industries, where publishing in these fields is expanding yearly and transcends many nations. This highlighted how awareness and understanding of halal goods' benefits are spreading worldwide. This analysis provides readers access to the most recent papers on halal cosmetics and halal pharmaceuticals and the writers who contributed to the articles. Although halal issue publications are rising, only 248 articles have been released to date, indicating that many subjects are linked to halal cosmetics and halal pharmaceuticals that have not yet been covered. Nonetheless, this analysis has some limitations because the systematic review and bibliometric analysis were conducted solely on the Scopus database.

Furthermore, the phrases chosen may be inaccurate and imprecise. Aside from that, the analysis demonstrates that the first publication on the issue of halal cosmetics and halal pharmaceuticals was in 2006, implying that this analysis has a restricted time range. Thus, future studies should be undertaken with a greater emphasis on the halal problem to provide outstanding references for readers. Finally, this analysis may assist researchers in identifying the halal cosmetics and halal pharmaceutical fields' gap and expanding their research in these sectors.

Acknowledgement

The authors would like to acknowledge the International Institute for Halal Research and Training (INHART), IIUM, for sustaining this research.

References

- Ahmad, A., Abd Rahman, A., & Ab Rahman, S. (2015). Assessing Knowledge and Religiosity on Consumer Behavior towards Halal Food and Cosmetic Products. *International Journal of Social Science and Humanity*. Vol. 5, No 1: 10-14.
- Communications, M. M. A. S. T. (2020). Halal Pharmaceuticals Market 2020 forecasts Muslim consumer market. *Bio Spectrum Asia* Edition. Retrieved from <https://www.biospectrumasia.com/news/25/15307/halal-pharmaceuticals-market-2020-forecasts-muslim-consumer-market.html>
- Haleem, A., Khan, M. I., Jami, A. R., & Khan, S. (2020). Research Status in Halal: A Review and Bibliometric Analysis. *Modern Supply Chain Research & Application*. Vol. 2: 23- 41.
- Hunter, M. (2012). The emerging Halal cosmetic and personal care market. *Personal Care*, UK, 37- 41.
- Mohamed Elias, E., Othman, S. N., & Mohd Saifudin, A. (2016). Halal awareness and knowledge among Muslim's student entrepreneurship program: A preliminary study. *UUM Repository*. Vol. 2: 1- 8
- Mohezar, S., Zailani, S., & Zainuddin, Z. (2016). Halal Cosmetics Adoption among Young Muslim Consumers in Malaysia: Religiosity Concern. *Global Journal Al-Thaqafah*. Vol.6, No 1: 47-59.
- Muhamad Yunus, N. S. N., Wan Rashid, W. E., Mohd Ariffin, N., & Mohd Rashid, N. (2014). Muslim's Purchase Intention Towards Non-Muslim's Halal Packaged Food Manufacturer. *Procedia - Social and Behavioral Sciences*, 145-154.
- Mursyidi, A. (2013). The Role of Chemical Analysis in the Halal Authentication of Food and Pharmaceutical Products. *Journal of Food and Pharmaceutical Sciences*. Vol.1: 1- 4.
- Rahim, N. @ F., Shafii, Z., & Shahwan, S. (2015). Awareness and Perception of Muslim Consumers on Halal Cosmetics and Personal Care Products. *International Journal of Business, Economics and Management*. Vol.2, No 1: 1-14.
- Wan Jusoh, W. J., & Kit Teng, P. (2013). Investigating Students Awareness and Usage Intention towards Halal Labelled Cosmetics and Personal Care Products in Malaysia. *Academia.edu*, 1-10.