

Halal products in Malaysia: a bibliometric analysis

^{1,2}Fadhlina, A. and ^{3,4*}Nor, M.M.

¹Department of Fundamental Dental and Medical Sciences, Kulliyah of Dentistry, International Islamic University Malaysia, 25200 Kuantan, Pahang, Malaysia

²Cluster for Oral Cancer Research Initiative IIUM (COCR II), International Islamic University Malaysia, 25200 Kuantan, Pahang, Malaysia

³Institute of Food Security and Sustainable Agriculture, Universiti Malaysia Kelantan, 17600 Jeli, Kelantan, Malaysia

⁴Faculty of Agro Based Industry, Universiti Malaysia Kelantan, 17600 Jeli, Kelantan, Malaysia

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Abstract

Malaysia is considered a pioneer in the halal industry and still leading in halal market products. In this study, a literature search was conducted using the Scopus database to study the trends of halal products in Malaysia and identify well-established products as well as emerging niches. The data extracted from the Scopus database were analysed and then visualized using VOSviewer to determine top authors, articles, sources and halal products. A total of 252 publications were identified using the “Halal product Malaysia” keyword. Based on the analysis, research on the halal product was observed to be initiated in 2005 with a total of 31 authors and 18 sources published more than 3 documents. The analysis of sources revealed that the Journal of Islamic Marketing was the most prolific source. The results showed that research on halal products in Malaysia was dominated by food which was critical to the halal industry. The research on food products focused on securing the supply chain as well as halal certification. The bibliometric analysis also showed that Halal cosmetics is an emerging product in the halal industry with Islamic marketing as its tool for product commercialization especially in the last five years.

1. Introduction

Halal is a widely known term in Muslim countries. The term Halal originated from the Arabic phrase which means permissible or allowed by Islamic rule (Nafis, 2019). Based on Trade Description Order 2011, Halal is described as any foods or goods that do not contain or are contaminated with any part of prohibited animals, unlawfully slaughtered animals, adulterated/ harmful substances, and does not use any contaminated utensil or equipment in the processing as well as storage, all of which following the Islamic law (Rayner *et al.*, 2017). Malaysia, a leading global halal market, has introduced a complete Halal ecosystem with its certification authority by the Department of Islamic Development Malaysia (JAKIM) and establishment of the Malaysian Halal Industry Development Corporation (HDC) in 2006 to create opportunities and facilitate the development of Halal industry in every sector (MIFC, 2015).

The halal industry is categorized into several sectors such as products (Halal ingredients, food and

beverages, pharmaceuticals and cosmetics), services (logistics, finance, insurance, healthcare and tourism), and infrastructures (hotels, food premises, slaughterhouses) (Azam and Abdullah, 2020). Among these sectors, Halal products contribute the most to the economic growth of Malaysia. This may be explained by the increase in demand for Halal-certified products with growing interest from local and international investors as well as acceptance from non-Muslim consumers (Ruslan *et al.*, 2018). The COVID-19 pandemic has left most of the world's economies in crisis. Inflation and limited funding disrupted almost all industries (Shang *et al.*, 2021). Malaysia has been the market leader in the halal industry (Mohd Fauzi *et al.*, 2020), however, with emerging competitors such as Indonesia, strategic planning is needed to maintain Malaysia's position as a halal hub. Hence, a bibliometric analysis was conducted in order to analyze previous and current trends of halal products quantitatively. The analysis could aid in determining established halal products in Malaysia as well as emerging niches. It is

*Corresponding author.

Email: maryana.mn@umk.edu.my

hoped that this study will provide valuable insights for Malaysian industry players and the government on high-value Halal products as well as new products or investment opportunities.

2. Methodology

The search keyword used was “Halal product Malaysia” using the SCOPUS database. The document type was refined to an article and conference paper. The keyword was searched within the title, abstract and keywords of documents. All papers were retrieved up to 1st March 2022 and selected for analysis. A total of 288 articles (years up to 2021) identified from the databases were subjected to inclusion and exclusion criteria. Articles with corrupted files or no abstract, book chapters, review papers, and irrelevant to search content (Japan and Indonesia) were excluded. From the selected criteria, a total of 252 articles were subjected to bibliometric analysis using VOSviewer 1.6.17 and presented as network and overlay visualization. The analysis was carried out to determine the authorship network, citation of articles, prolific sources and co-occurrence of keywords. There were 31 authors and 18 sources that met the minimum specification of 3 documents per author and source respectively. Meanwhile, for citation analysis of documents, there were 129 documents that met the minimum specification of 3 citations per document. As for keyword analysis, 100 keywords were extracted with a minimum specification of 3 occurrences per keyword for co-occurrence analysis.

3. Search output

The search output was plotted from 2005 to 2021 to overview the publication trend of halal products in Malaysia. The research was observed to be initiated in 2005 which was in the same year of JAKIM’s halal hub establishment. Based on Figure 1, an overall increasing trend of publication was observed especially in the last five years (2015-2020) of research with the highest publications in 2020 (34 documents). Nonetheless, in 2021, a sudden drop in the publication numbers was

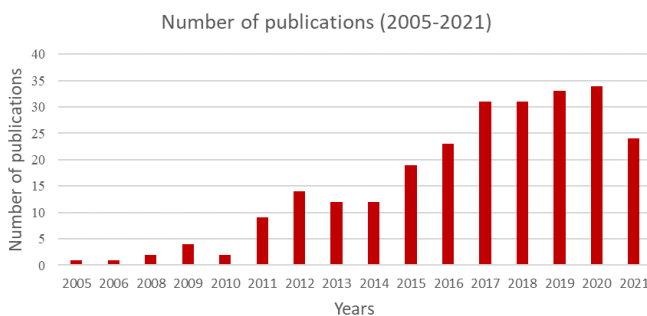


Figure 1. Number of publications in 2005-2021 from Scopus database.

observed with 24 documents. This may be due to the economic crisis caused by the pandemic COVID-19 which affected the halal industry (Laila *et al.*, 2021).

4. Prolific authors, sources and research

A total of 13 clusters were observed from the authorship analysis with two big clusters of authors. The biggest cluster (red) showed the collaboration of five authors within the cluster including the most prolific author, Zailani S. (8 documents). The second large cluster (dark green) showed collaboration with other clusters (purple) involving prolific authors such as Shamsudin M.N., Mohamed Z., Kamarulzaman N.H. and Rezai G (Figure 2a). Nonetheless, no collaboration was shown among other clusters of authors. In terms of time trend, two clusters of authors were seen to publish in recent years (2020-2021) which included prolific authors such as Ariff A.L.Z. and Amizi A.M as illustrated in Figure 2b.

Based on the Scopus database, a list of the top ten prolific sources was presented in Table 1. Most of the sources (5) were indexed in Scopus while few were discontinued (3) from Scopus and indexed by Web of

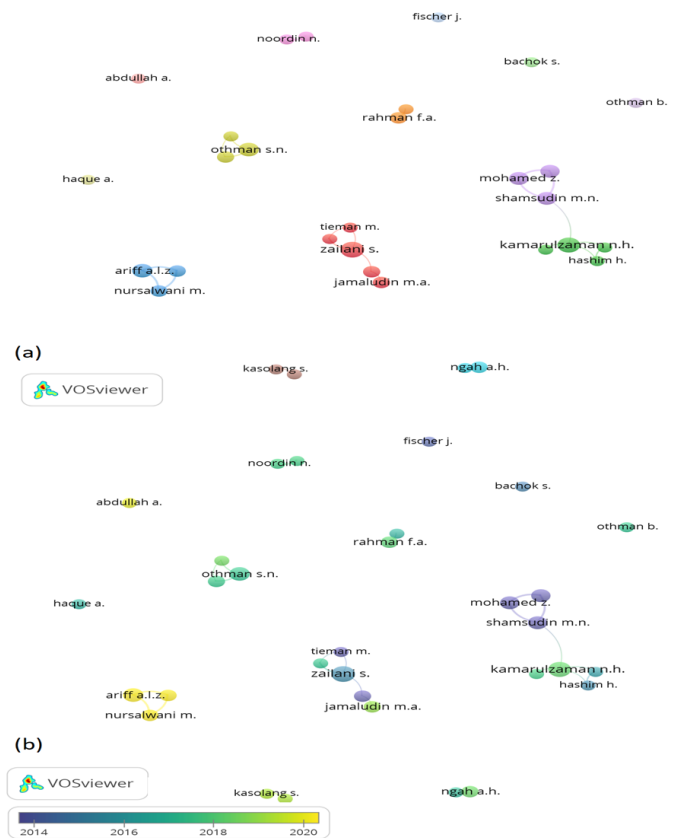


Figure 2. (a) The network visualization of authorship analysis. Each cluster is represented by different colours of nodes while the size of the nodes represents the number of publications of an author. (b) The overlay visualization of authorship analysis. The time trend is represented by different colours of nodes while the size of the nodes represents the number of publication of an author.

Table 1. List of top 10 authors and sources.

Authors	Publication Count	Sources	Publication Count
Zailani, S.	8 (Mohezar <i>et al.</i> , 2016; Muhamed <i>et al.</i> , 2019; Othman <i>et al.</i> , 2009; Rahman <i>et al.</i> , 2017; Zailani <i>et al.</i> , 2010; Zailani <i>et al.</i> , 2015; Zailani <i>et al.</i> , 2017; Zailani <i>et al.</i> , 2020)	Journal of Islamic Marketing	30
Kamarulzaman, N.H.	6 (Abd Rahman <i>et al.</i> , 2021; Khairuddin <i>et al.</i> , 2020; Mohayidin and Kamarulzaman, 2014; Nawi <i>et al.</i> , 2018; Tarmizi <i>et al.</i> , 2014; Wan Ismail <i>et al.</i> , 2019)	International Journal of Supply Chain Management	19
Ariff, A.L.Z.	6 (Ariff, 2021a; Ariff <i>et al.</i> , 2021a; Ariff <i>et al.</i> , 2021b; Ariff, 2021b; Nursalwani, Suhada, Sannasi <i>et al.</i> , 2021; Nursalwani, Yumiemarnie, Sannasi <i>et al.</i> , 2021)	Malaysian Journal of Consumer and Family Economics	10
Othman, S.N.	6 (Elias <i>et al.</i> , 2016; Elias <i>et al.</i> , 2017; Elias <i>et al.</i> , 2018; Ismail <i>et al.</i> , 2018; Mahidin <i>et al.</i> , 2017; Mustafar <i>et al.</i> , 2018)	Advanced Science Letters	8
Mohamed, Z.	5 (Abdul Latiff <i>et al.</i> , 2016; Mohamed <i>et al.</i> , 2013; Rahman <i>et al.</i> , 2014; Rezai <i>et al.</i> , 2012a; Rezai <i>et al.</i> , 2012b)	International Food Research Journal	8
Rezai, G.	5 (Abdul Latiff <i>et al.</i> , 2016; Mohamed <i>et al.</i> , 2013; Rahman <i>et al.</i> , 2014; Rezai <i>et al.</i> , 2012a; Rezai <i>et al.</i> , 2012b)	AIP Conference Proceedings	6
Shamsudin, M.N.	5 (Nawi <i>et al.</i> , 2018; Mohamed <i>et al.</i> , 2013; Rahman <i>et al.</i> , 2014; Rezai <i>et al.</i> , 2012a; Rezai <i>et al.</i> , 2012b)	British Food Journal	6
Amizi, A.M.	4 (Nursalwani, Suhada, Sannasi <i>et al.</i> , 2021; Nursalwani, Yumiemarnie, Sannasi <i>et al.</i> , 2021; Ariff <i>et al.</i> , 2021a; Ariff <i>et al.</i> , 2021b)	Global Journal Al-Thaqafah	6
Elias, E.M.	4 (Elias <i>et al.</i> , 2016; Elias <i>et al.</i> , 2017; Elias <i>et al.</i> , 2018; Mahidin <i>et al.</i> , 2019)	Pertanika Journal of Social Sciences and Humanities	5
Jamaludin, M.A.	4 (Ruzulan <i>et al.</i> , 2021; Harahap <i>et al.</i> , 2020; Muflih <i>et al.</i> , 2017; Jamaludin <i>et al.</i> , 2017)	Asian Social Science	4

Science (2). The most prolific source was the Journal of Islamic Marketing, a Scopus-indexed journal, with 30 documents, followed by the International Journal of Supply Chain Management, a non-indexed journal (19 documents). Other prolific sources included the Malaysian Journal of Consumer and Family Economics (10 documents), Advanced Science Letters (8 documents), International Food Research Journal (8 documents), AIP Conference Proceedings (6 documents), and British Food Journal (6 documents). The analysis of sources revealed that most of the research was published in low-rank journals which may indicate the insufficiency of research depth or lack of scientific rigor.

Influential publications are listed in Table 2 and ranked according to their citation number. The most influential research (326 citations) was conducted by Alam and Sayuti (2011) focusing on identifying factors that were affecting the consumer's behaviour in halal food purchasing by Theory of Planned Behaviour (TPB). The highest citation numbers may indicate that this study has been a reference or basis for other researchers in halal food research. This was followed by another

influential research with 283 citations using Theory of Reasoned Action (TRA) to predict consumer's intention to choose halal products (Lada *et al.*, 2009). Meanwhile, the third influential research (176 citations) was also used the conceptual approach to determine the role of halal components such as certification, awareness and marketing on the purchasing intention. Other studies of conceptual models that received high citation numbers included halal food and cosmetic products, halal supply chain and logistics, halal orientation strategy, and halal awareness, perception and understanding among non-Muslims.

5. Research keyword analysis

Based on the keyword analysis, there were 10 clusters of keywords which were presented by different colours of nodes as illustrated in Figure 3a. The highest number of occurrences was represented by the largest nodes, halal food (19 occurrences), followed by halal certification (15 occurrences) and attitude (11 occurrences). All these three keywords showed high total link strength (19-25) which indicates their importance to the halal products research. The other top ten keywords

Table 2. List of top 10 prolific researchers based on citation number.

Document	Citations
Applying the Theory of Planned Behavior (TPB) in halal food purchasing (Shah Alam <i>et al.</i> , 2011).	326
Predicting intention to choose halal products using theory of reasoned action (Lada <i>et al.</i> , 2009).	283
The Role of Halal Awareness, Halal Certification, and Marketing Components in Determining Halal Purchase Intention Among Non-Muslims in Malaysia: A Structural Equation Modeling Approach (Aziz and Chok, 2013).	176
Principles in halal supply chain management (Tieman <i>et al.</i> , 2012).	122
Risk assessment of halal products and services: Implication for tourism industry (Olya and Al-ansi, 2018).	118
Consumers and halal cosmetic products: Knowledge, religiosity, attitude and intention (Abd Rahman <i>et al.</i> , 2015).	118
Non-muslims' awareness of Halal principles and related food products in Malaysia (Golnaz <i>et al.</i> , 2010).	117
Non-muslim consumers' perception toward purchasing halal food products in malaysia (Haque <i>et al.</i> , 2015).	99
Drivers of halal orientation strategy among Halal food firms (Zailani <i>et al.</i> , 2015).	78
Non-Muslim consumers' understanding of Halal principles in Malaysia (Rezai <i>et al.</i> , 2012b).	78

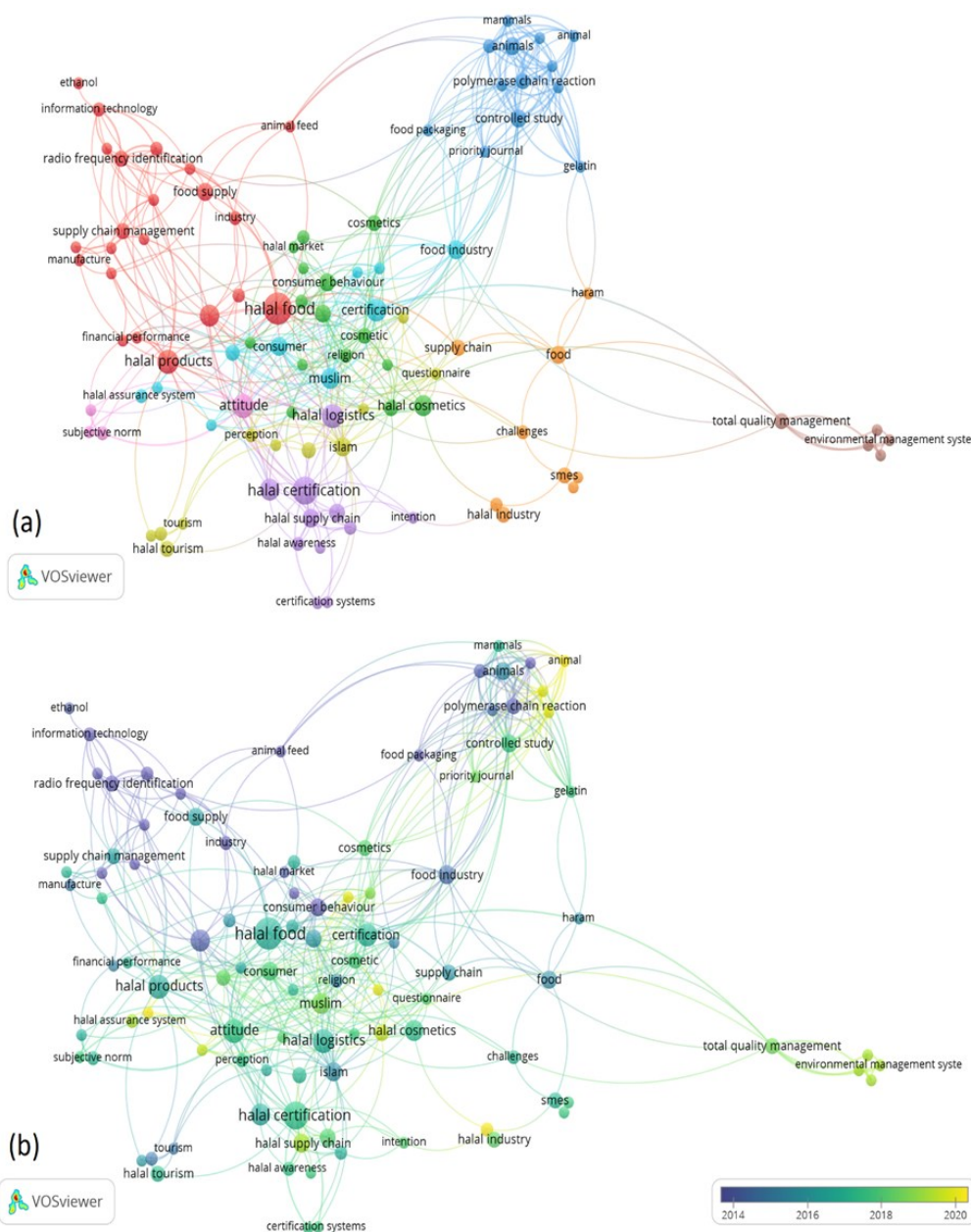


Figure 3(a) Network visualization of keywords analysis. Each cluster is represented by different colours of nodes while the size of the nodes represents the occurrence numbers of a keyword. (b) Overlay visualization of keywords analysis. The time trend is represented by the different colours of nodes while the size of the nodes represents the occurrence numbers of a keyword.

were halal logistics, halal products, certification, purchase intention, halal cosmetics, Muslim, and consumer with occurrences numbers of 7 to 11. In terms of time trend, the research keywords were seen moving from understanding the consumer's purchasing intention to the establishment of halal concepts while the keyword of the food supply chain was used throughout years of research (Figure 3b).

6. Overview of halal products in Malaysia

Based on the search analysis, research on Halal food made up approximately ~67% (170 documents) of the overall studies. This may be due to halal food being one of the critical products in the halal industry. Meanwhile, halal cosmetics (~12% of the overall studies) were observed to be an emerging product with growing numbers of research across the years. The halal cosmetic sector was also reported to have the highest potential value (USD177 billion) in the halal market. Besides, Islamic marketing was prominently used as a marketing strategy for cosmetic products, especially in 2016. In terms of halal products verification, there were several technologies that had been developed such as a smart halal recognizer, portable electronic nose, porcine gelatin detector, protein profiling, Augmented Reality (AR), Near Field Communication (NFC), and Radio Frequency Identification (RFID). These technologies were developed to help consumers identify the verified Halal logo, percentage of ethanol in drinks, food adulteration and halal status of products.

7. Conclusion

Halal product is certainly a valuable sector in the Halal industry. Based on the search in halal product research (2005-2021), there were a total of 252 articles published in this field. The bibliometric analysis also revealed that 31 authors and 18 sources produced more than 3 documents. In terms of the most prolific authors, Zailani S., from the University of Malaya, was the most prolific author while the most influential publication was authored by Wambua P. (2003) and reported on the halal food purchasing (326 citations). The bibliometric analysis revealed that halal research started with behavioural research on Halal purchasing. Over the years, food products became the most studied field with approximately 67% contribution of the total number of articles. This analysis also showed that Halal cosmetics have huge potential within Malaysia's halal industry and appear to be an emerging product which may penetrate the global market.

Conflicts of interest

The authors declare no conflict of interest.

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