Formulating Halal-Based Hospital Indicators

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This study aims to formulate the halal-based hospital indicators using systematic review. Research will be conducted in 2021 by searching with the keyword "Halal Hospital". The data analyzed 30 halal-based hospital research publications indexed by Dimensions. Visualization of the map of the development of halal-based hospital research is obtained through the export process into the .txt file format. The export data is then processed and analyzed using the VOSviewer application program to find a bibliometric map of the development of halal-based hospital research. The results show that the number of publications on halal-based hospital research is from 2014 to 2021. Bibliometric mapping shows that the visualization of the development of halal-based hospital research is divided into 5 clusters, with the most popular keywords being hospital, Islamic medical tourism and health care provider. The most popular writers are Suhaiza Zailani and Hayatullah Lalulddin. The most popular journal is IIUM Medical Journal Malaysia (IMJM) and the most popular document is Rahman et al. (2018b). In addition, this study found indicators that are the main elements of a halal-based hospital based on Maqashid Syariah and recommendations for related parties.

Keywords: Hospital; Halal; Maqashid Syariah; Bibliometric; Halal Medical Tourism
INTRODUCTION

Halal-based hospital is a hospital based on a religious setting. In the provision of health services, halal-based-hospital implies the importance of maintaining Islamic law in all medical care procedures carried out. Thus, unlike ordinary hospital institutions, halal-based-hospital requires several additional requirements. Identification of the important components of halal-based-hospital is important to pay attention to so that the satisfaction of Muslim medical patients can be fulfilled properly (Rahman et al., 2018b).

Islamic law covers all aspects of Muslim life, one of which is by providing guidelines on the treatment of patients. Halal-based hospitals need to have their own Shari'a rules that must be strictly adhered to, especially in terms of surgery and the provision of the right medicine for patients, the relationship between doctors and patients of different sexes and the knowledge of staff and patients to the relevant Shari'ah rules (Rizqon et al., 2020; Samsudin, Yahaya, et al., 2015).

In halal-based-hospital, it is necessary to develop a conceptual framework that is in accordance with the sharia-compliant medical practice quality system along with hospital support services. The framework needs to be translated into a practical index that is in accordance with Islamic law, namely on the basis of the Maqashid Syariah concept. Maqashid Shari'a must be adhered to as a whole, because Islam includes all patterns of life and its goals include life in this world and the hereafter. In this context, hospitals have a role in improving and maintaining life. Halal-based hospitals need to be more careful to ensure steps are taken to ensure human health and life (Amiruddin & Aziz, 2018; Shariff et al., 2016).

The problem that arises in the halal-based-hospital theme is that there is no index that can measure the halal standard of a hospital compared to other hospitals. In addition, the halal indicators have not been structured in detail and standards, so there are many points of view and differences. Therefore, it is necessary to have a halal-based-hospital index with an agreed basis, namely Maqashid Syariah to comply with Shari'a.

This index is then used as a guide in categorizing hospitals in various categories and a measurement guide to determine the level of compliance of hospitals with the halal concept based on Maqashid Syariah so that it can be seen which hospitals need to be used as pilot hospitals and also hospitals that need assistance to continue to be developed, as well as any areas that need improvement.

This hospital index is present as an indicator to measure the awareness movement of a hospital institution in realizing the halal-based-hospital concept based on Maqashid Syariah to create a healthy and religious society based on the spirit and noble values of Maqashid Syariah, namely maintaining religion, soul, mind, and spirit. lineage and property in the practice of life.

LITERATURE REVIEW

Halal-based-hospital can be interpreted as a hospital that is in accordance with Islamic principles, namely providing health services with a holistic approach and considering physical, psychological, mental, spiritual and emotional components based on the Sharia paradigm. For example, hospitals need to provide gender-appropriate health services, meaning that female patients are examined and treated only by female medical personnel, and vice versa in order to keep the genitalia from being seen by other than the mahram (people who are not allowed to marry, such as fathers, sons, brothers and sisters). male) it. If the hospital implements an open ward system, then they must provide curtained covers for beds between patients. This is done to maintain modesty in dress and to protect one's honor according to the Islamic dress code (Rahman et al., 2018b; Zarmani et al., 2018).

Hospitals also need to be equipped with proper worship facilities, a clean and well-maintained prayer room is an important priority, because ritual worship is very important in the healing process. Health care providers in hospitals are also responsible for ensuring that the daily activities of patients are in accordance with Islamic law. For example, nurses help patients to perform prayers and ablution. It is also recommended to play the reading of the Qur'an through electronic devices. Another aspect of sharia hospitals is the method of funding and financing that must comply with Sharia regulations, including cooperation with sharia financial institutions and donating part of the income to charity, such as zakat, infaq, shadaqah or waqf. To ensure these things are implemented, within the organizational structure a council consisting of ulama and sharia supervisors must jointly act as advisors (Iranmanesh et al., 2018a; Zainudin et al., 2018).

The concept of Maqashid Syariah actually started from the time of Al-Juwani and Imam Al-Ghazali, then compiled systematically by Al-Shatibi. The concept is written in his famous book, al-muwafaqat fi ushul al ahkam (Reconciliation of the Basics of Islamic Law), especially in chapter II, which he calls the book Al-Maqashid (Al-Shatibi, 2012). Discussions about Maqashid Syariah are also included in the book of Al-
Mustasya by Imam Al-Ghazali and the book of Hikmatu Taṣrīʿ wa Falsafatuḥ by Al-Jurjawi (Mısnı, 2018). Maqashid sharia is the goal of establishing sharia objectives. The Maqashid Syariah Index is one aspect of the measurement in which an industry or institution can be said to be sharia-compliant if it is in accordance with the Maqashid Syariah (Rusydiana & Firmansyah, 2018).

**METHODOLOGY**

Methods Bibliometric mapping is a research topic in the field of bibliometrics (Börner et al., 2003; Boyack et al., 2005a). Two distinct aspects of bibliometrics are the construction of bibliometric maps and the graphical representation of the maps. In the bibliometric literature, the greatest concern is with the construction of bibliometric maps. Research related the effect of differences on similarity measures (Ahlgren et al., 2003), and they were tested with different mapping techniques (Boyack et al., 2005a, 2005b; Klavans & Boyack, 2006).

The graphical representation of bibliometric maps has received less attention. Although some researchers have seriously studied issues related to graphical representation (Chen, 2003, 2006), most articles published in the bibliometric literature rely on simple graphical representations provided by computer programs such as SPSS and Pajek. For small maps containing no more than, say, 100 items, a simple graphical representation usually yields satisfactory results.

However, there appears to be a trend towards larger maps (Boyack et al., 2005b; Van Eck et al., 2006), and for such maps a simple graphical representation is inadequate. The graphical representation of large bibliometric maps can be further enhanced by, for example, zoom functions, custom labeling algorithms, and density metaphors. This kind of functionality is not built into the computer programs commonly used by bibliometric researchers. In this paper, we introduce a new computer program for bibliometric mapping. This program pays special attention to the graphical representation of bibliometric maps.

This section discusses the use of VOS, namely to build bibliometric maps. The purpose of VOS is to place items in a low dimension in such a way that the distance between two items accurately reflects the uniformity or interrelationships of the items. For each pair of items i and j, VOS requires a similarity input sij (sij 0). VOS treats the sij equation as a measurement on a ratio scale. The sij equation is usually calculated using the strength of association defined in Equation 1 (Van Eck et al., 2006; Van Eck & Waltman, 2007b, 2007a). VOS determines the location of items on the map by minimizing:

\[ V(x_1, \ldots, x_n) = \sum_{i<j} s_{ij} \|x_i - x_j\|^2 \] (1)

To:

\[ \frac{2}{n(n-1)} \sum_{i<j} \|x_i - x_j\| = 1 \] (2)

Therefore, the idea of VOS is to minimize the sum of the weights of the square of the distance between all pairs of items. The square of the distance between pairs of items is weighted by the equality between the items. To avoid worthless solutions, where all items have the same location, a constraint is imposed so that the average distance between two items must be equal to one.

There are two computer programs that have implemented the VOS mapping technique. Both are available for free. A simple open source program is available at www.neesjanvaneeck.nl/ vos/, and a more advanced program called VOSviewer (Van Eck et al., 2010) is available at www.vosviewer.com. Both programs use a variant of the SMACOF algorithm mentioned above to minimize Equation 1 to Equation 2.

This study uses data from paper publications sourced from various journals equipped with a digital-object-identifier (DOI) with research on the theme of halal-based hospital. Data collection through paper searches within the last 8 years, to be exact from 2014 to 2021. From the search results, 30 publication articles were obtained. Data in the form of development trends in the field of halal-based hospital publications were analyzed using VOSViewer software.

The computer program that was introduced was called VOSviewer. VOSviewer is a program developed for building and viewing bibliometric maps. This program is freely available to the bibliometric research community. VOSviewer, for example, can be used to create author or journal maps based on co-citation data or to build keyword maps based on co-occurrence data. The program offers a viewer that allows bibliometric maps to be examined in detail.

VOSviewer can display maps in a variety of ways, each emphasizing a different aspect of the map. It has functions for zooming, scrolling and searching, which
facilitates detailed examination of the map. The display capability by VOSviewer is especially useful for maps containing at least a large number of items (e.g., at least 100 items). Most computer programs used for bibliometric mapping do not display such maps in a satisfactory manner.

To build the map, VOSviewer uses the VOS mapping technique (Van Eck et al., 2006; Van Eck & Waltman, 2007b), where VOS stands for similarity visualization. VOSviewer can display maps constructed using appropriate mapping techniques. Therefore, the program can be used not only to display maps constructed using the VOS mapping technique but also to display maps constructed using techniques such as multidimensional scaling. VOSviewer runs on a large number of hardware and operating system platforms and can be started directly from the internet.


RESULT AND DISCUSSION

Bibliometrics is based on the calculation and statistical analysis of scientific output in the form of articles, publications, citations, patents, and other more complex indicators. It is an important tool in evaluating research, laboratory and scientist activities, as well as scientific specialization and country performance. The report, after setting the background for bibliometric development, presents the database from which the bibliometric was created, as well as the main indicators used.

In this section, a visual mapping chart of 30 journal publications with the theme of halal-based hospital will be presented. The results of the keyword mapping analysis become the basis for mapping together important or unique terms contained in certain articles. Mapping is a process that enables one to recognize elements of knowledge and their configuration, dynamics, interdependencies and interactions. Related to bibliometrics, science mapping is a method of visualizing a field of science. This visualization is done by creating a landscape map that can display topics from science. The results of the network visualization of the bibliographic coupling map of the publication of the halal-based hospital theme can be seen in Figure 1 below.

In this mapping, several keywords that often appear in halal-based hospital theme papers and their relation to other keywords are shown, a total of 265 keywords and in 5 clusters, namely the red, green, blue, yellow and purple clusters.

The results of software processing will display keywords in colored circles according to their type, or
also known as network visualization. Related keywords are marked with the same color and there is a line between each other. The keywords that appear in the cluster indicate that they are widely used together in various studies. The size of the circle also indicates the quantity of keywords used by the researchers. The bigger the circle, the more the keyword is written.

Based on the picture above, the results show that many clusters are generated if the literature is grouped by author's name in a study with the theme of halal-based hospital. However, the most popular keywords are hospital, Islamic medical tourism, health care provider, Allah Subhanahu and Malaysia.

![Author's Bibliometrics](image)

**Figure 2: Author's Bibliometrics**

Based on these results, a density map is displayed which is the result of an analysis using all published articles on the theme of halal-based hospital, both related and unrelated. There are several clusters when sorted by author. The most significant authors writing publications related to halal-based hospitals are Suhaiza Zailani and Hayatullah Laluldin.

Processed software results can be shaped like bibliometrics in general, namely in the form of colored circles with links between items if there is a connection or collaboration between the two items. However, in this author's bibliometric drawing, the results used are in the form of density visualization. That is, each item of the author's name is depicted in a yellow halo without showing any link between items. The greater the glow, the higher the density and the greater the quantity of paper produced by the author.

Among the papers written by Suhaiza Zailani entitled 'Understanding Muslim Medical Tourists’ Perception Towards Islamic Friendly Hospital'. This paper aims to determine the factors that influence the intention of Muslim tourists to revisit a halal-based hospital. The results show that health care provider behavior, Shariah compliance practices, health and safety/security ethics have a positive impact on attitudes and satisfaction. In addition, attitudes and satisfaction have a significant effect on the intention to return to a halal-based hospital (Rahman & Zailani, 2016).

Hayatullah Laluldin's papers include the title 'The Concept of Establishing a Sharia Supervisory Committee in Malaysian Hospitals'. According to this study, halal-based hospital management must meet sharia requirements in terms of drug selection, the relationship between patients and doctors of different sexes, and knowledge of sharia law regarding treatment by staff and patients in hospitals (Samsudin, Yahaya, et al., 2015).

Furthermore, the visualization of the mapping of publication journals is depicted in the bibliometric figure 3. Based on the figure, there are several clusters of institutions that appear to be listed in glowing circles,
showing the journal's productivity in contributing to publishing papers on the theme of halal-based hospital.

![Figure 3: Journal Bibliometrics](image)

The largest journal in terms of number of publications and number of links with other journals, namely IIUM Medical Journal Malaysia (IMJM). Previously known as the International Medical Journal Malaysia (IMJM), this journal is the official journal of the Kulliyyah (Faculty) of Medicine, International Islamic University Malaysia. This journal serves as an educational forum and intellectual discourse for health professionals in clinical medicine but covers a wide range of issues related to medical ethics, professionalism as well as medical developments and research in basic medical sciences. It also serves the unique purpose of highlighting issues and research related to the Muslim world. Contributions to IMJM reflect an international and multidisciplinary readership and cover current thinking across a wide range of specialties, ethnicities and societies.

Furthermore, Figure 4 shows the most popular bibliometric visualization of documents based on the citation quantity.
Based on the density visualization bibliometric document above, the article entitled 'Tourists' satisfaction and loyalty intention at Shariah compliant private hospitals in Malaysia' became the most popular article with 15 citations on Dimensions on July 25, 2021. This study examines the determinants of medical tourist satisfaction. Muslims and their impact on medical care loyalty intentions in Islamic private hospitals in Malaysia. The results showed that sharia facilities and the quality of medical services and Islamic doctors had a significant positive relationship with the satisfaction of Muslim medical tourists. However, the quality of nurses' medical services did not have a significant relationship with tourist satisfaction. In addition, the satisfaction of Muslim medical tourists affects loyalty intentions. The results of the study provide information that the medical services needed by Muslim medical tourists are hospitals that comply with Sharia (Rahman et al., 2018b).

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<tr>
<th>Criteria</th>
<th>Indicators</th>
<th>Sources</th>
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<tr>
<td>Protection of the Religion</td>
<td>Shariah Supervisory Board</td>
<td>(Abdurrokhman &amp; Sulistiadi, 2019; Iranmanesh et al., 2018b; Ismail et al., 2018; Mahamod et al., 2015; Padela, 2018; Rahman &amp; Zailani, 2016; Samsudin, Kashim, et al., 2015; Shariff et al., 2016; Yasmeenela, 2020)</td>
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<td>Islamic Vision</td>
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<td>Religious Division</td>
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<td>Prayer Facilities</td>
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<td></td>
<td>Aurah Protection</td>
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<tr>
<td>Protection of the Soul</td>
<td>Code of Ethics</td>
<td>(Firdaus &amp; Ryandono, 2018; Iranmanesh et al., 2018b; Ismail et al., 2018; Kamassi et al., 2021; Mahamod et al., 2015; Norazlina et al., 2017; Padela, 2018; Shariff et al., 2016; Shariff &amp; Rahman, 2016; Zarmani et al., 2018)</td>
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<td>Fiqh of Treatment</td>
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<td>Funeral Services</td>
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<td>Protection of the Intellect</td>
<td>Shariah Training</td>
<td>(Ahmed et al., 2015; Baquayan &amp; Mahdzipir, 2018; Iranmanesh et al., 2018b; Radzi et al., 2016; Rahman et al., 2018a; Razak &amp; Abdulahi, 2016; Shariff &amp; Rahman, 2016; Zainudin et al., 2018; Zarmani et al., 2018)</td>
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<td>Islamic Education</td>
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<td>Spiritual Assessment</td>
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<td>Halal Pharmacy</td>
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<td>Spiritual Guidance</td>
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</table>
**Protection of the Lineage**

| Accountability Document | (Abdurrokhman & Sulistiadi, 2019; Ahmed et al., 2015; Amiruddin & Aziz, 2018; Hamzah et al., 2019; Ismail et al., 2018; Norazlina et al., 2017; Rahman et al., 2018b, 2018a; Yahaya, 2018; Zawawi & Othman, 2017) |
| Islamic Governance | |
| Mother & Baby services | |
| Reproduction Services | |
| Waste Management | |

**Protection of the Wealth**

| Sharia Contract | (Abdurrokhman & Sulistiadi, 2019; Baqutayan & Mahdzir, 2018; Hamzah et al., 2019; Ismail et al., 2018; Shariff et al., 2016; Yahaya, 2018; Yasmeenela, 2020) |
| Islamic Accounting | |
| ZISWAF Payment | |
| Islamic Marketing | |
| IFI/IB Partnership | |

The findings of this study are indicators that show sharia compliance based on Maqashid Sharia in the field of halal-based hospital, namely the five objectives of sharia: guarding religion, guarding the soul, guarding reason, protecting offspring and protecting property. Each of these objectives is divided into several indicators, and each indicator is a practical point that must be met by a halal-based hospital and is equipped with reference sources that support these indicators.

**CONCLUSION**

The focus of this research is to try to find out the extent of the development of the trend of halal-based hospital in published scientific research. The results show that there is a tendency for fluctuations in the number of publication articles on halal-based hospital themes, especially in 2014 to 2021. Research on halal-based hospitals is also widely written by Suhaiza Zailani and Hayatullah Lalulddin. The most popular journal is IIUM Medical Journal Malaysia (IMJM). The most cited document is entitled 'Tourists' satisfaction and loyalty intention at Shariah compliant private hospitals in Malaysia'. Network visualization shows that the development map of halal-based hospital research is divided into 5 clusters and the most popular keywords are hospital, Islamic medical tourism, health care provider, Allah Subhanahu and Malaysia.

The findings of this study are the indicators of halal-based hospital are divided into 5 goals and a total of 25 indicators are based on the Maqashid Syariah concept. The recommendation for further researchers is to develop this indicator into an index that can be used as a reference for measuring halal-based hospitals with proper weighting so that it can be used as a measuring tool for the level of sharia compliance of all halal-based hospital institutions. Academics can also develop this research in terms of methodology or determining indicator variables that can be adapted to future hospital developments.

Recommendations for practitioners/hospital managers are to adjust the hospitals they manage with this hospital-based index indicator and then pay attention to indicators that still need to implement innovation based on the proposed index in order to increase the level of sharia compliance.

As for the parties from the Indonesian Scholar Council (Majelis Ulama Indonesia/MUI), especially the National Sharia Council (Dewan Syariah Nasional), this index is very possible to be developed in measuring the level of sharia compliance of halal-based hospitals in Indonesia. improving the quality of halal-based hospital sharia standards through regulations that support the development of halal-based hospitals in Indonesia.

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