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Halal Healthcare Services: Patients' Satisfaction and Word of Mouth Lesson from Islamic-Friendly Hospitals

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Abstract: This study aims to investigate the impact of halal healthcare attributes, intrinsic value, and extrinsic value on satisfaction, and explores how patient satisfaction with halal healthcare services influences word of mouth (WOM) to others. The cross-sectional survey was conducted in two cities with four Islamic-friendly hospitals across Malaysia. This study used purposive and non-probability random sampling methods. Partial least square (PLS) technique was used for data analysis of 309 Muslim patients with a response rate of 61.8%. Findings revealed that hospital's halal healthcare attributes ($\beta = 0.225, p < 0.01$), hospital's intrinsic value ($\beta = 0.432, p < 0.01$), and hospital's extrinsic value ($\beta = 0.196, p < 0.01$) have significant influence on patient satisfaction with halal healthcare service, which in turn reflects the WOM to others ($\beta = 0.692, p < 0.01$). The results identified that satisfaction mediates the effect of hospital's halal attributes, as well as hospital's intrinsic and extrinsic values on WOM. These findings will contribute to healthcare service providers and academicians for further study to improve a framework for establishing a standard for halal healthcare service for patient satisfaction and WOM to others in Islamic-friendly hospitals.



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Keywords: halal attributes; healthcare; patient; satisfaction; word of mouth

1. Introduction

Halal healthcare service is an important commercial sector in the service industry. As it is a new mode of healthcare, halal healthcare services have potential to create a niche market and transform healthcare sectors to attract people toward Islamic-friendly hospitals [1]. Due to the diffusion of COVID-19, healthcare sectors have been facing numerous challenges, as the general public began to have multifaceted demand for healthcare services. Human beings need comprehensive and high-quality healthcare treatment. As such, Muslim patients have particular expectation for halal healthcare services. Currently, many developed (USA, UK) and developing countries (India, Malaysia) are offering halal healthcare facilities to attract Muslim patients. Many studies have focused on generic healthcare services and patient's satisfaction. However, there is a lack of study on halal healthcare services and patient word of mouth (WOM). Although a few studies have highlighted on Islamic healthcare services and Islamic-friendly hospitals [2], hospital's intrinsic and extrinsic value, as well as halal healthcare services, is often ignored within the scope of the healthcare services sector. In line with this gap, this study aims to investigate the influencing factors of halal healthcare service towards patient satisfaction and WOM from Muslim patients in Islamic-friendly hospitals in Malaysia.

Halal healthcare intends to expand the reform of Islamic healthcare systems to attract Muslim patients [1]. In line with this, the Malaysian government and commercial hospitals have started implementing a halal-friendly approach when giving patients medical advice, taking into consideration religious concerns and prayers [3]. According to New Straits

Times, Malaysia has 55 major hospitals that participate in a Muslim (Ibadah/worship)-friendly hospital program [1]. A halal-friendly hospital program believes that providing healthcare is more than simply a job; it also fulfills a social duty.

Muslim healthcare professionals are expected to give their patients and community the finest care possible. This service comes with a belief that these medical practitioners are working to please Allah SWT. According to Zawawi and Othman [4], few hospitals initially provided Islamic-friendly services. According to SIRIM, there are 31 Islamic-friendly healthcare institutions that are recognised under MS 1900:2014, with Islamic Institutions such as Jabatan Pusat Zakat reaching the highest percentage of standard [1]. Even though these institutions have yet to be certified as Shariah-compliant, a majority of hospitals would frequently use the slogan “Muslim/Ibadah/Halal Friendly Hospital” to represent Islamic ideals. Accordingly, there is ambiguity around the terms “Islamic-friendly hospital”, “Ibadah-friendly hospital”, and “Halal-friendly hospital” due to the multidisciplinary breadth of the subject topic [5].

Patient satisfaction and WOM are the crucial indicators for measuring the quality of healthcare service quality in these hospitals. Prakash [6] stated that patient satisfaction affects the efficiency and timely delivery of healthcare services. Thus, it is a very reliable indicator to measure the success of hospitals, doctors, and nurses’ services. The development of hospital equipment with the latest facilities, increasing awareness among patients, available information, and patient’s expectations of the hospital’s intrinsic and extrinsic value can reflect WOM towards healthcare services in the hospital. This is especially true because hospital’s service attributes, intrinsic, and extrinsic value might be evaluated by other patients. According to past research from various service sectors, WOM would generally influence consumer decisions [7,8]. However, it has not been well investigated how patients make decisions based on hospitals’ halal service attributes, as well as the hospital’s intrinsic and extrinsic values that influence WOM to others for healthcare services in the hospital.

The purpose of halal healthcare is to provide halal treatment, such as Muslim prayer rooms, halal medicines or remedies, and Muslim-friendly leisure atmosphere. Moreover, Rahman et al. [2] demonstrated that halal healthcare, including medical and physicians’ services, should be *Shariah*-compliant by offering halal nourishment and having facilities that are more specified for Muslims, such as worship rooms, prayer mats, prayer places, arrows pointing in the *Qibla*’s direction, ablution, having *Al-Quran*, and separate washrooms for both males and females, as well as having clean and hygienic premises.

There are several halal attributes of healthcare that have been highlighted by many scholars [1,9,10]. According to Dabphet [11] and Greig et al. [12], Islamic attributes can play a crucial role in decision-making processes that affect satisfaction. Reznek et al. [13] indicated that patient satisfaction in the emergency department was associated with extrinsic and intrinsic value. Previous studies by Hsu [14] and Shahbaz et al. [15] found a relationship between satisfaction and WOM in different research objectives. Hence, this study focuses on the impact of hospitals’ halal healthcare attributes, as well as hospitals’ intrinsic and extrinsic value on patient satisfaction towards WOM for healthcare services in the hospital.

Zarmani et al. [16] indicated that healthcare products should be used according to the *Shariah* principle. For example, halal clinical sutures must ensure the source of suture origin, and this can be divided into two fundamental categories, which are original and man-made sources [16]. Although it has been alleged that sutures can be made from the intestines of *haram* animals, such as pigs, no industry has been able to confirm that the origins of their suture products are halal. Similarly, Alserhan and Alserhan [17] indicated that policies and laws in halal pharmaceuticals prohibit goods and products taken from pigs. For example, most of the ingredients in the widely used drug insulin are derived from pigs. Sutures and gelatin-based products fall under this category as well. It is suggested that Muslim patients’ satisfaction with pharmacies with *Shariah* principle would increase with a guarantee that its products and services are devoid of gelatin and porcine elements.

By following *Shariah*-compatible healthcare, female patients should be handled by female doctors, and male patients should be treated by male doctors. Progressing this concept, Muslim patients will feel better and more relaxed if healthcare professionals declare their access to a female patient's room, permitting time for the female patient to cover herself up. Deng and Dart [18] pointed out that in Islam, women are required to cover their entire bodies except for their hands and faces. In addition, Rogers and Wattis [19] emphasized that patients are influenced by how doctors and other healthcare professionals behave. For instance, before injecting any Muslim patients, the doctor should read "*bismillah*" or "*alhamdulillah*", at which point they will be joyful and feel well.

In encouraging the practices of healthcare personnel to be aligned with *Shariah* principles, a medical authority may apply a condition for healthcare personnel to recite one page of *Al-Quran* each day. Curlin et al. [20] highlighted that in *Shariah*-compatible healthcare, it would become an emerging practice for the medical management level, staff, and patients to perform spiritual or religious management throughout day-to-day operations. These hospitals should be able to provide quality healthcare services to the patients with minimal error regarding their healthcare facility. Employees' perceived quality is the key to patient satisfaction. Understanding patients' satisfaction with halal healthcare service is hence crucial; taking into consideration halal attributes, intrinsic value, extrinsic value, and WOM may significantly enable healthcare service providers for delivering healthcare services.

2. Literature Review

2.1. Underpinning Theory

In healthcare services, numerous studies focused on patients' perceived service quality. This study explored patient satisfaction with halal healthcare services and word of mouth (WOM) using the concept of anticipation–disconfirmation theory [21]. This study identified three factors incorporating hospital's halal healthcare attributes, hospital's intrinsic value, and hospital's extrinsic value to determine patients' satisfaction and WOM towards halal healthcare services in Islamic-friendly hospitals. Similar to service quality, expectation–disconfirmation paradigm has been heavily used to interpret the construct of satisfaction [22]. Consumer happiness is based on a customers' internal determinants and perceived performance. According to this paradigm, a discrepancy between prior expectations and product performance could potentially affect customer dissatisfaction or discontent [21]. Simply put, if customers are satisfied, they might recommend a service to others. In the context of halal healthcare services, Muslim patients' expectations regarding a hospital's halal attributes, as well as the hospital's intrinsic and extrinsic value, may have an impact on how satisfied they are with the care they receive, which in turn, reflects WOM to others.

Johnston [23] postulated that satisfaction-disconfirmation impacts consumers' feelings and behavior regarding the quality of products being offered. Parasuraman [24] formed the "gaps measure" to compare how customers would perceive a service with how they anticipate it will perform, either with pleasure or disappointment. In the halal healthcare aspect, patients desire to have halal principles-based healthcare facilities that may affect their satisfaction in the provision of healthcare facilities by the healthcare service providers. According to Rahman et al. [1] and Islam et al. [9], WOM implies the assessment of healthcare products and services in terms of significance/insignificance and benefit/disadvantage. Previous literature has found links between healthcare services and WOM [1,9,25]. Hence, this study explored how Muslim patients' satisfaction with halal healthcare services, including halal healthcare attributes, intrinsic value, and extrinsic value reflect WOM to others for receiving halal healthcare services in Islamic-friendly hospitals.

2.2. Hospital Halal Attributes

Halal attributes refer to *Shariah*-compliant amenities which are provided as part of halal services and facilities in Islamic-friendly hospitals. Halal healthcare services should comply with Islamic law, as well as practices and the foundation of Islamic law, which

comes from *Al-Qur'an* and *Al-Hadith*. Halal attributes formed from the serviceability of amenities for prayer, such as prayer rooms equipped with prayer rugs and copies of *Al-Quran*; Islamic television programs in hospitals; non-alcoholic minibars; separate male and female spa facilities; housekeeping staff especially for females; halal food; in-room Macca map with indicated *Qibla* directions; prayer times in resident time zone; mosques that are located nearby, and domestic halal cafes or restaurants [26,27]. For Muslim patients, prayer is obligatory. If Muslim patients face problems during their prayer, they may feel uncomfortable. Therefore, hospitals should provide fresh, clean, and well-decorated prayer rooms for Muslim patients. Moreover, halal healthcare service providers are liable for confirming the patient's everyday activities that obey Islamic regulations. A few studies have emphasized customers' perceived service quality, where service providers focused on religion and provided high expectations for the facilities that functioned to support those religious patients' needs [9]. According to Rahman et al. [28], certain Islamic-friendly hospitals implement programs to foster halal healthcare ethics in the hopes that by doing so, hospital workers will be more motivated to do their jobs honorably. This would then result in an improvement in the quality of services. The role of halal healthcare professionals in providing halal attributes in healthcare services is important in promoting community health and minimizing healthcare disparities in Muslim society. Jeaheng et al. [29] identified a significant relationship between halal-friendly attributes and satisfaction in the context of halal-friendly hotels in Thailand. Thus, this study proposes that:

H1. *Hospital halal healthcare attributes have significant impact on Muslim patients' satisfaction with halal healthcare services in Islamic-friendly hospitals.*

2.3. Hospital Intrinsic Value

Intrinsic value refers to a hospital's internal environment, which represents the artistic appearance of the hospital's interior decoration. Examples of this value include a pleasant and comfortable healthcare waiting area; as well as welcoming and warm greetings to patients from doctors and nurses [30]. From the perspective of halal healthcare aspects, it is possible for hospitals to realize Islamic law within their operations, while at the same time having the ability to care for Muslim patients according to *Shariah* principles [31,32]. For instance, halal healthcare centers need to deliver halal food with a pleasant atmosphere, proper sanitation, clean washrooms, *Shariah*-compliant counseling, and proper surgical rooms. Sahoo and Ghosh [33] identified that healthcare atmosphere and aesthetic design impacts the satisfaction of patients. Similarly, Kang [34] found that a hospital's artistic design or intrinsic value can reflect patient satisfaction, and that it represents social as well as interpersonal relationships. According to Ahn and Reeve [30], intrinsic value can reflect satisfaction with particular products and services. Caricati et al. [35] focused on work values and professional commitment to the job satisfaction of nurses in hospitals. The study identified that intrinsic value has a significant impact on job satisfaction in hospital nurses. Dianrui [36] identified a relationship between intrinsic motivation and job satisfaction of nurses in the hospital, whereas Jin and Yong [37] identified a relationship between job satisfaction and intrinsic motivation for hospital nurses. Accordingly, this study investigated the relationship between hospital's intrinsic value and Muslim patients' satisfaction with healthcare services in Islamic-friendly hospitals. This study postulates that:

H2. *Hospital intrinsic value has significant impact on Muslim patients' satisfaction with halal healthcare services in Islamic-friendly hospitals.*

2.4. Hospital Extrinsic Value

The halal product service industry is undoubtedly the most lucrative industry in the world at the moment, where businesses in almost every country are being proactive in improving their strategies to attract customers to take advantage of their products and services. According to Park et al. [38], in order to attract patients' feelings and satisfaction,

management of healthcare providers should further develop the exteriors of hospitals to reflect a good atmosphere, pleasant personnel of staff, nurses, and physicians, and provide fun activities for children. This is called the extrinsic value of the hospitals. Most commonly, extrinsic value comprises the artistic appearance of the hospitals' exterior decoration, as well as recreational activities for kids and friendly healthcare personnel, accompanied with a pleasant environment within the premises [30]. However, Islamic-friendly hospitals are placing too much concern towards getting official halal certification, obtaining social clues, and establishing halal environmental signages. This fascination with halal healthcare is mainly derived from *Shariah* principles, which ultimately affect patients' satisfaction [39,40]. Moreover, Rahman [32] indicated that healthcare centers with an eye-catching exterior shape influence consumers' willingness to use hospital services. Thus, halal healthcare services should invest a large amount in designing a satisfactory exterior hospital environment for patient satisfaction. Caricati et al. [35] investigated work values, professional commitment, and job satisfaction of nurses. The results indicated that there is an insignificant relationship between extrinsic value and job satisfaction of nurses. Tan et al. [41] measured the impact of service quality factors on patient satisfaction in public and private hospitals in Melaka, where the findings indicated a significant relationship between extrinsic value and satisfaction. The current study examined hospital's extrinsic value and patient's satisfaction with halal healthcare services in Islamic-friendly hospitals in Malaysia. Based on these discussions, this study proposes the following hypothesis:

H3. *Hospital extrinsic value has a significant impact on patient's satisfaction with halal healthcare services in Islamic-friendly hospitals.*

2.5. Satisfaction and WOM

Satisfaction within the halal healthcare context refers to the performance of service quality which is guided by *Shariah* principle or Islamic law, such as halal medicines or remedies, separate Muslim prayer rooms for male and female patients, a Muslim-friendly entertainment environment, separate washrooms for both genders, correct behavior of physicians and nurses with patients, and sanitation of the interior and exterior of healthcare premises [2]. Islamic-friendly hospitals may contribute significantly to the continuing success of the halal healthcare sector. Additionally, Islamic-friendly hospitals serve as a tool for attracting more Muslim patients and confirming their satisfaction with healthcare services. There are various studies that have identified patients' perception of services and satisfaction. Linder-Pelz [42] found that diverse service characteristics impacted patient satisfaction. Moreover, Ng and Russell-Bennett [43] described that patient satisfaction has a positive impact on behavioral willingness and WOM. Patients who are emotionally fulfilled are more likely to recommend treatment at hospitals to others. Good customer relations and service quality can increase satisfaction [44]. According to Dennis et al. [45], an attractive retail service atmosphere produced feelings of emotional satisfaction. Gu et al. [46] investigated the relationship between patient satisfaction with mobile Internet-based health services (MIHS) and electronic WOM. This study identified a positive and significant impact of patient satisfaction with MIHS on WOM. Chaniotakis and Lympelopoulou [47] focused on the healthcare service quality effect on satisfaction and word of mouth for maternity services in Greece's healthcare industry, and the result indicated a significant and positive relationship between patient satisfaction and word of mouth. Chaniotakis and Lympelopoulou [47] also postulated that higher patient satisfaction leads to an increase in their intention to use positive WOM. The current study investigates the link between satisfaction and WOM to others for halal healthcare services in Islamic-friendly hospitals. Thus, this study proposes the following hypothesis:

H4. *Patient's satisfaction with halal healthcare services has a significant impact on WOM to others in Islamic-friendly hospitals.*

2.6. Mediating Effect of Satisfaction

In the context of healthcare, patients' evaluation relies on the relationship between patients and physicians [48]. Muslim patients' feelings of comfort and confidence in their physicians are facilitated when doctors treat them with kindness and respect for their religious beliefs [2,3,49]. Customers with higher levels of religiosity perceive better levels of service and satisfaction. However, customers who are less religious have fewer demands for religious support [10,50,51], and desire less to participate in religion-related activities. In line with this concept, patients' satisfaction may mediate the effect of hospital halal attributes, hospital's intrinsic value, and extrinsic value on WOM. Eid and El-Gohary [52] examined the moderating impact between physical appearance and Muslim customer satisfaction. Rahman et al. [1] investigated how Shariah amenities have a significant mediating impact on the link between patients' satisfaction and loyalty to healthcare facilities. The current study proposes that:

H5. Muslim patient satisfaction mediates the effect of (a) hospital halal attributes, (b) hospital intrinsic value, and (c) hospital extrinsic value on WOM to others in Islamic-friendly hospitals.

Based on a review of the literature, Figure 1 proposes a conceptual model below.

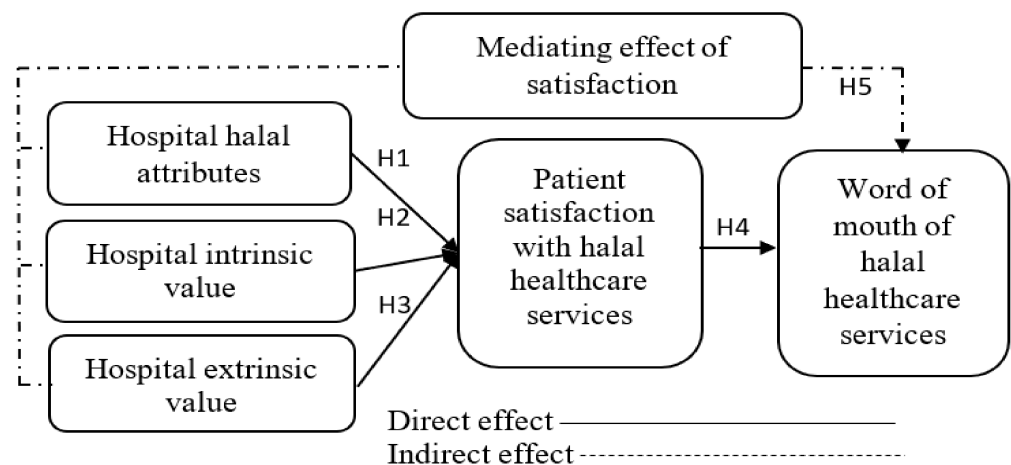


Figure 1. Conceptual model.

3. Methodology

3.1. Sample and Data Collection

Four Islamic-friendly hospitals were considered based on the size of patient population to collect data from Selangor and Kuala Lumpur. Focus was placed on these states because both states are centers where most hospitals in Malaysia are located. A survey was conducted for three months, from May to July 2022. Data were collected using a cross-sectional survey method by recruiting individual patients who visited Islamic hospitals in Malaysia. A combination of purpose and non-probability random sampling methods was used. The sample was drawn from a population of Muslim patients who received healthcare care services from selected Islamic-friendly hospitals for no less than one day. Hospitals were purposively selected, and surveys were distributed randomly to outpatients in these hospitals. Before conducting the survey, ethical approval was obtained from the Ethics Committee of Universiti Malaysia Kelantan (UMKEC) in which ethical review and approval were waived by the Ethics Committee due to the collecting data from the respondents' perceptions. Data were collected anonymously to ensure confidentiality where individual written and verbal informed consent were obtained from respondents. A total of 500 Muslim patients were approached and requested to participate in the survey. It was explained to respondents at the time of the survey, that among the requirements to complete this survey was that the respondents should be aged above 20 years old, and that they should be proficient in English and Bahasa Melayu. These languages are the most

commonly used by patients who visited the selected hospitals to receive healthcare services. The survey was distributed with a consent form, where information about the purpose of this study was explained. Respondents were also assured that data would be used only for academic purposes. Employees from the selected hospitals and medical professionals were excluded from this study to avoid sampling bias. Anonymity and confidentiality were ensured for all respondents.

This study was conducted with a paper-based and face-to-face survey, where incentive was not provided to respondents. Consent was taken beforehand, where instructions were elaborated to potential participants. They were instructed politely to fill out all questionnaire items in the survey. Out of 500 distributed surveys, 330 responses were returned by the respondents. During the data screening process, this study identified that 21 questionnaires were incomplete and missing some information. Thus, 309 valid samples were considered for data analysis with a response rate of 61.8 per cent, which is sufficient because the patients were busy waiting for their numbers to be called by doctors. G*power 3.1 version was used to estimate the adequacy of sample size of 309 which was taken into account in this study. The finding provides a significant level of 0.05 and computed actual power of 0.80, which indicates a satisfactory sample power in this study [53–55].

3.2. Measurement Instrument

The measurement items of this study were adopted from literature review. Based on the concept which was introduced by Rahman et al. [2] and Sobari et al. [10], four items were modified to evaluate halal healthcare attributes. Six items for hospital's intrinsic value and five items for hospital's extrinsic value for halal healthcare services were adopted from Park et al. [38]. To measure patient satisfaction, four items were modified from Falter and Hadwich [56] and Islam et al. [9], while word of mouth (WOM) was evaluated using the four items adopted from Rahman et al. [1] and Hoque et al. [50].

This study developed a structured questionnaire to evaluate the selected factors (e.g., dependent and independent variables) that were used in the conceptual model. The questionnaire's structure was two-fold, as part A requested socio-demographic information, and part B consisted of statements based on respondents' concepts and expectations. Hospital's halal healthcare attributes, hospital's intrinsic value, hospital's extrinsic value, halal healthcare satisfaction, and WOM were considered as factors in respondents' views and expectations about the halal healthcare services in a particular Islamic hospital in Malaysia.

To reduce the limitation of structured questionnaire design and a specific scale, a deductive method was used, which is widely used in previous literature concerning halal, Islamic, and Muslim-friendly related healthcare services. Initially, this study performed a search on attributes in halal-related healthcare services and reviewed the relevant literature. Apart from halal-related attributes, this study was able to extract four items from the well-validated scales and modify them to be more suitable within the context of halal healthcare service. A draft of the developed questionnaires was reviewed by three sociologists and two physicians, and a revised questionnaire was distributed to 30 Muslim patients initially as a pilot test to evaluate its content's validity. The results indicated that the content validity index value for 23 items was 82%. All indicators were measured using the five-point Likert scale from 1 to 5. This is where the number 1 represents strongly disagree and the number 5 indicates strongly agree.

3.3. Common Method Bias

The occurrence of a variance inflation factor (VIF) greater than 3.3 is taken as an indication that a model is contaminated by common method bias (CMB). According to Kock [57,58], if all VIF values from the collinearity test are equal to or less than 3.3, the model is considered free of common method bias. Hence, the VIF results showed lower than 3.3 (table in Section 4.2), which signifies that CMB is not an issue in this study. To assess the normality of data, skewness and kurtosis value was tested, and the results

indicated an acceptable skewness and kurtosis range between -1.5 and 1.5 , and -2.0 and 2.0 , respectively (table in Section 4.2), which ensures the normality of the data [59]

3.4. Data Analysis

Statistical analysis was performed using the IBM SPSS software 24.0 and SmartPLS 4.0. The sample characteristics are obtained using descriptive analysis. Chin [60], a two-step analysis process was applied, in which the first assessed the measurement model to evaluate the validity and reliability analysis, and the second step measured the structural model to establish a hypothesis relationship. The Important-Performance Matrix Analysis (IPMA), a method of analysis that produces recommendations for the management of customer satisfaction, is frequently employed. A two-dimensional grid called the Important-Performance Analysis (IPA) is based on the significance and effectiveness of customer satisfaction. The purpose of this study is to determine the strength of the link that can be derived between exogenous and endogenous variables by using volunteers as research subjects. The importance and performance of the asymmetric relationship are presented using Partial Least Square Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0.

4. Results

4.1. Demographic Information

The key socio-demographic information of the respondents is reported in Table 1. The findings revealed that more than 56.1% of respondents were male, compared to female participants which represented around 44.9%. The age of most of the respondents was 36–40 years old (43.8%), and their marital status was more than 76.1% married. Approximately 67% of the respondents had bachelor's degrees, the majority of the respondents were private employees, and their monthly income level was below RM 2000 (USD 450). In terms of reasons for choosing a hospital, the majority of the respondents reported that it was close to home and residence, 50.5%, and 28.8% said it had a good reputation. The results indicated that the majority of the respondents visited the hospital 3–4 (47.1%) times for illness and medical checkups, at 57.9% and 27.8%, respectively, whereas the majority of respondents reported good healthcare service (44.3%) within the hospital.

Table 1. Respondents' information.

Characteristics	Frequency	%	Characteristics	Frequency	%
Gender			Education level		
Male	195	56.1	SPM/Diploma	23	7.4
Female	114	43.9	Professional certification	10	3.2
Residence status			Bachelor's degree	207	67.0
Malaysian	202	67.3	Masters' degree	56	18.1
Others	107	32.7	Doctorate	13	4.2
Age			Occupation		
20–25 years old	42	15.2	Unemployed/self-employed	226	73.1
26–35 years old	59	28.4	Private employee	61	19.7
36–40 years old	174	43.8	Government employee	22	7.1
41–45 years old	23	8.4	Income level (monthly)		
Above 45	11	4.2	Below RM 2000	141	45.6
Marital status			RM 2001 to 5000	39	12.6
Single	64	20.7	RM 5001 to 10,000	102	33.0
Married	235	76.1	Above RM 10,000	16	5.2
Others	10	3.2	Null/Non Income	11	3.6
Choosing hospital			Visiting yearly		
Close to home/residence	156	50.5	1–2 times	83	18.9
Good reputation	89	28.8	3–4 times	195	47.1
Insurance panel hospital	29	9.4	5–6 times	19	27.1
Others	35	11.3	Above 6 times	12	6.9

Table 1. Cont.

Characteristics	Frequency	%	Characteristics	Frequency	%
Reasons for visiting			Health service perception		
Illness	179	57.9	Poor	6	1.9
Beauty/aesthetics	16	5.2	Fair	46	14.9
Pregnancy-related	10	3.2	Good	137	44.3
Medical checkup/counseling	86	27.8	Very good	99	32.0
Others	18	5.8	Excellent	21	6.8

4.2. Measurement Model Analysis

Measurement model was examined on the instrument of halal healthcare attributes, hospital's intrinsic and extrinsic value, satisfaction with halal healthcare services, and word of mouth to evaluate the reliability and validity of the study. Mean and standard deviation scores are reported in Table 2. The mean score measures the central tendency on average and the standard deviation evaluates the span of observed values. Sheridan and Coakes [59] reported that the higher the standard deviation value, the more spread out the observations. The convergent validity of five variables was examined and considered based on the average variance extracted (AVE) value equal to or above 0.50 [61]. Similarly, to measure the internal consistency, we considered Cronbach's alpha (CA) value greater than 0.70 [61]. According to Dijkstra and Henseler [62], composite reliability (CR) and rho_A value should be above 0.70. The results found an AVE value range from 0.504–0.678, and CR value range from 0.762–0.907, and CA value range from 0.715–0.877 and rho_A value range from 0.791–0.882, respectively. According to Hair et al. [61], the higher factor loading (FL) above 0.50 and 0.60 leads to higher reliability of the study. The results of this study show an FL value above 0.50 (Table 2). Hence, all the criteria have achieved a satisfactory level of convergent validity.

Table 2. Descriptive assessment, reliability, and convergent validity.

Variables	Mean	SD	SK	KU	CA	rho_A	CR	AVE	VIF	FL
Halal healthcare attributes					0.826	0.832	0.884	0.656	1.905	
Item_ha1	3.73	0.978	−0.352	−0.335					1.773	0.822
Item_ha2	3.59	0.958	−0.224	−0.411					2.052	0.836
Item_ha3	3.46	0.975	−0.212	−0.319					1.773	0.779
Item_ha4	3.51	0.899	0.541	−0.657					1.709	0.802
Hospital intrinsic value					0.877	0.882	0.907	0.621	2.575	
Item_iv1	3.57	0.907	−0.317	−0.005					1.804	0.730
Item_iv2	3.61	0.973	−0.236	−0.476					2.725	0.851
Item_iv3	3.74	0.959	−0.408	−0.366					2.704	0.841
Item_iv4	3.77	0.893	−0.225	−0.620					2.357	0.834
Item_iv5	3.84	0.856	−0.307	−0.124					1.629	0.727
Item_iv6	3.55	1.048	−0.278	−0.615					1.640	0.736
Hospital extrinsic value					0.728	0.874	0.762	0.524	2.176	
Item_ev1	3.44	.0922	−0.085	−0.316					1.274	0.650
Item_ev2	3.78	0.888	−0.337	−0.206					1.352	0.771
Item_ev3	3.76	0.944	−0.615	0.235					-	0.548
Item_ev4	3.72	0.887	−0.174	−0.596					-	0.628
Item_ev5	3.58	0.992	−0.170	−0.426					1.071	0.667
Satisfaction					0.841	0.842	0.894	0.678	-	
Item_hhw1	3.77	0.867	−0.213	−0.388					2.242	0.854
Item_hhw2	3.68	0.868	−0.092	−0.292					2.262	0.846
Item_hhw3	3.57	0.955	−0.275	−0.100					1.889	0.820
Item_hhw4	3.89	0.781	−0.193	−0.571					1.638	0.771
Word of mouth					0.715	0.791	0.796	0.504	1.000	
Item_wom1	3.95	0.784	−0.133	−0.892					1.415	0.784
Item_wom2	3.78	0.861	−0.180	−0.266					1.534	0.873
Item_wom3	3.61	0.946	−0.225	−0.245					2.189	0.567
Item_wom4	3.81	0.922	−0.288	−0.688					2.161	0.563

Note: SK (Skewness), KU (Kurtosis), CA (Cronbach alpha), DG rho_A (Dijkstra–Henseler's Rho_A), CR (Composite reliability), AVE (Average variance extracted), VIF (Variance Inflation Factor), FL (Factor loading).

For robustness to evaluate the discriminant validity, this study examined the Heterotrait–monotrait (HTMT) ratio (Table 3). The findings revealed that the square root of AVE exceeds latent variable scores in the corresponding table of row and column, which signifies a satisfactory level of discriminant validity [63]. Hence, HTMT ratio is considered as it is a strong replacement for the Fornell–Larcker criterion [64].

Table 3. Discriminant validity (HTMT ratio).

Characteristics	(1)	(2)	(3)	(4)	(5)
Hospital extrinsic value (1)					
Halal healthcare attributes (2)	0.555				
Satisfaction (3)	0.665	0.730			
Hospital intrinsic value (4)	0.725	0.780	0.822		
Word of mouth (5)	0.704	0.513	0.755	0.654	

In addition, the results of cross-loadings indicated a range between 0.531 and 0.873 (Table 4), except for the two items of ‘waiting area of this hospital is comfortable’ (iv1), and ‘Warm greeting from the physician’ (iv5) under the hospital’s intrinsic value. Despite its lower value, the model achieved a significant level of convergent and discriminant validity. Hair al. [61] stated that high loadings over 0.50 present high reliability, but in some cases, lower factor loading can be considered if other criteria meet the satisfactory level. Thus, these items are valuable to measure hospital’s intrinsic value of halal healthcare services in Islamic-friendly hospitals.

Table 4. Cross loadings.

Indicators	EV	HA	HHS	IV	WOM
The hospital provides fun activities for the children (ev1)	0.650	0.419	0.472	0.474	0.345
Pleasant personnel of the admin staff of hospital (ev2)	0.771	0.495	0.512	0.584	0.443
The specialist has sympathy for the patient (ev3)	0.548	0.066	0.172	0.210	0.345
Nurse sympathetic towards patient (ev4)	0.628	0.210	0.247	0.309	0.406
Full information disclosed (ev5)	0.667	0.217	0.339	0.358	0.451
The hospital provides prayer amenities (mats, direction of Qibla, wudhu) in the prayer room (ha1)	0.436	0.822	0.569	0.626	0.401
The hospital practices the Islamic greeting “salam” to the Muslim patient (ha2)	0.372	0.836	0.470	0.524	0.355
The staff of this hospital practice Bismillah with starting activity and ending with Alhamdulillah (ha3)	0.324	0.779	0.441	0.476	0.326
The hospital maintains the barrier of aurat between Muslim women specialists with Muslim women patients (ha4)	0.475	0.802	0.492	0.540	0.407
The waiting area of this hospital is comfortable (iv1)	0.467	0.412	0.465	0.730	0.458
The clean waiting area of the hospital (iv2)	0.539	0.595	0.628	0.851	0.485
The safe waiting area in this hospital (iv3)	0.506	0.560	0.538	0.841	0.467
The specialist gives appropriate treatment advice (iv4)	0.535	0.600	0.576	0.834	0.513
I receive the warm greeting from the physician in this hospital (iv5)	0.477	0.465	0.546	0.727	0.476
I receive the warm greeting from the nurse in this hospital (iv6)	0.508	0.531	0.579	0.736	0.401
The hospital serves the welfare of society (hww1)	0.469	0.532	0.854	0.584	0.560
During the physician’s service, I have a feeling of happiness towards the physician’s service (hww2)	0.483	0.511	0.846	0.613	0.574

Table 4. Cont.

Indicators	EV	HA	HHS	IV	WOM
During the nurse's service, I have a feeling of happiness (hhw3)	0.507	0.518	0.820	0.587	0.562
I trust the hospital service provider (hhw4)	0.472	0.460	0.771	0.551	0.581
I intend to continue to receive healthcare services from this hospital (wom1)	0.421	0.390	0.571	0.458	0.784
I will recommend this hospital to others (wom2)	0.488	0.438	0.683	0.582	0.873
I will spread positive word of mouth about this hospital's healthcare services (wom3)	0.471	0.202	0.272	0.289	0.567
I will recommend my family to visit this hospital that I am already dealing with (wom4)	0.407	0.137	0.192	0.186	0.563

Note: EV (Extrinsic value), HA (Halal healthcare attributes), HHS (Halal healthcare satisfaction), IV (Intrinsic value), WOM (Word of mouth).

4.3. Structural Model Test

The structural model was examined with 5000 resamples using the bootstrapping method after evaluating the convergent and discriminant validity. The variance was measured to enlighten the dependent variable to estimate the explanatory power of the mode [61]. The results identified 56.0% of variance in halal healthcare satisfaction which is explained by halal healthcare attributes, hospital's intrinsic value, and extrinsic value, whereas word of mouth reported a 47.8% of variance in satisfaction. In addition, f^2 was evaluated to measure the effect size of the variable. Hospital's halal healthcare attributes (0.046), hospital's intrinsic value (0.104), and hospital's extrinsic value (0.114) have a low impact on halal healthcare satisfaction; however, satisfaction with halal healthcare services (0.916) has a high impact on word of mouth.

The results revealed that halal healthcare attributes, hospital's Intrinsic value, and extrinsic value have a highly significant impact on satisfaction ($\beta = 0.255, p < 0.01$), ($\beta = 0.432, p < 0.01$), and ($\beta = 0.196, p < 0.01$), respectively; thus, hypotheses H1, H2, and H3 are accepted. Satisfaction with halal healthcare services has a higher significant impact on word of mouth ($\beta = 0.692, p < 0.01$); therefore, hypothesis H4 is accepted. In addition, the mediating path coefficient results of halal healthcare satisfaction mediates the effect of halal healthcare attributes, hospital's intrinsic value, and extrinsic value on word of mouth ($\beta = 0.155, p < 0.01$), ($\beta = 0.229, p < 0.01$), and ($\beta = 0.136, p < 0.01$) to others for halal healthcare services in Islamic-friendly hospitals; thus, hypotheses Ha, Hb, and H5c are partially mediated and accepted (Table 5).

Table 5. Path coefficient.

Hypothesis Relationship	Beta	SD	t-Value	p-Value	R ²	f ²	Decision
H1: HA → HHS	0.225	0.052	4.281	0.000		0.046	Accept
H2: IV → HHS	0.432	0.028	7.042	0.000		0.104	Accept
H3: EV → HHS	0.196	0.051	3.824	0.000	0.560	0.114	Accept
H4: HHS → WOM	0.692	0.028	24.095	0.000	0.478	0.916	Accept
Mediating effect of satisfaction							
Relationship	Beta	CI-Min	CI-Max	t-Value	p-Value	Decision	
H5a: HA → HHS → WM	0.155	0.052	0.202	4.224	0.000	Accept	
H5b: IV → HHS → WM	0.229	0.134	0.314	6.686	0.000	Accept	
H5c: EV → HHS → WM	0.136	0.065	0.152	3.671	0.000	Accept	

Note: EV (Extrinsic value), HA (Halal healthcare attributes), HHS (Halal healthcare satisfaction), IV (Intrinsic value), WOM (Word of mouth).

4.4. Importance–Performance Matrix Analysis

Importance–performance matrix analysis (IPMA) was used to evaluate the performance of each variable. The existing results of IPMA can be considered in two folds, importance (total effect) and performance, which are crucial to emphasize managerial actions. The IPMA was considered for the robustness of the outcomes of this study [65]. Hence, WOM was the target variable. The findings (Figure 2) indicated that hospital’s intrinsic value has the highest effect on WOM, followed by satisfaction, hospital’s extrinsic value, and hospital’s halal attributes. The results of IPMA indicated that hospital’s intrinsic value presented performance of 67.093 and importance of 0.432, patient satisfaction identified total effect of 66.053 and performance of 0.692, hospital’s extrinsic value showed performance and importance (total effect) of 66.026 and 0.196, and halal attributes indicated performance and performance of 64.459 and 0.225, respectively.

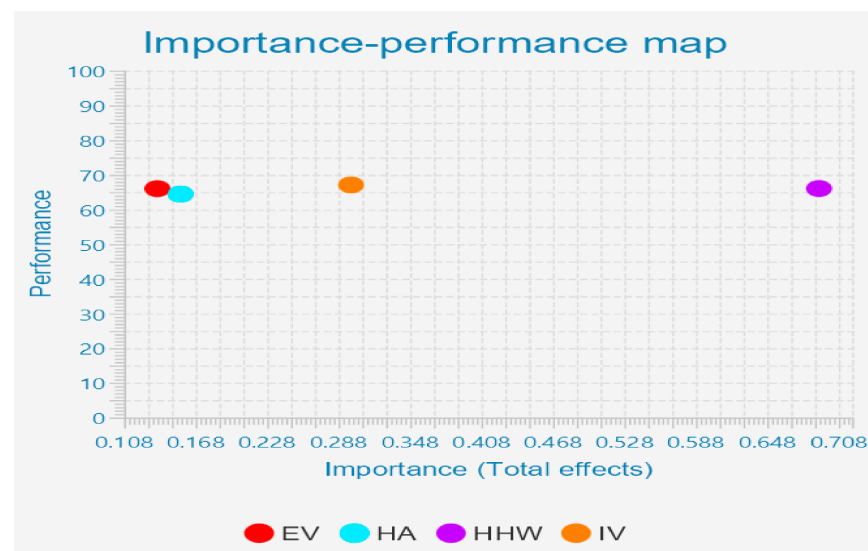


Figure 2. Importance–performance analysis (WOM).

5. Discussion and Conclusions

This study explored halal healthcare satisfaction among Muslim patients and their word of mouth (WOM) with others about healthcare services from a halal perspective in Islamic hospitals in Malaysia. The findings indicated that halal attributes have a significant influence on satisfaction with halal healthcare services (H1). This finding is similar to Zailani et al. [25], who found hospitals’ halal practices are crucial for Muslim patients in Islamic-friendly hospitals. According to this view, Eid and ElGohary [52] reported that Islamic attributes can reflect satisfaction. For practicing religious activity, halal attributes are important for particular Muslim patients who follow Islamic principles. Rahman and Zailani [2] identified that one indicator of the permitted activities related to halal food and medicine made from halal ingredients is patients’ perceived value.

Hospital’s intrinsic and extrinsic values have a significant influence on satisfaction (H2 and H3). These findings are similar to Park et al. [38], and Islam et al. [51], who explored the healthcare quality services in hospitals and identified that religious values have a significant influence on patient satisfaction. Twenge et al. [66] highlighted the work value of people and explained the importance of intrinsic and extrinsic value for the management of the emerging workforce.

Patient satisfaction with halal healthcare services has a significant influence on WOM (H4). This finding is related to Wardi et al. [67], who examined satisfaction and WOM and identified the antecedents of satisfaction that have a significant impact on WOM for others. Han et al. [68] discussed the importance of halal-friendly destination attributes in the Muslim travelers’ context, and the result found that halal attributes can promote WOM

behaviors. The findings of the current study indicated that patient satisfaction with halal healthcare services has a significant and positive impact on WOM for others toward halal healthcare services. If patients are satisfied with the hospital's halal healthcare services, they will recommend others to Islamic-friendly hospitals for halal healthcare services. Ciasullo et al. [69] recommended that freedom of choice should be carefully balanced to improve healthcare services.

The results also revealed that satisfaction mediates the effect of hospital's halal healthcare attributes and hospital's intrinsic and extrinsic value on word of mouth (H5). These findings are relevant to Wardi et al. [67], Akbolat et al. [70], and Konuk [71], who examined the impact of customer satisfaction on word of mouth in the different contexts of the study. Islam et al. [9] focused on satisfaction with perceived healthcare services. Chen et al. [72] indicated that the mediating role of satisfaction can play a vital role in green word of mouth. Hence, the results indicated that hospital's halal healthcare attributes, and hospital's intrinsic and extrinsic value, can reflect satisfaction with halal healthcare services, which in turn, promotes WOM toward Islamic-friendly hospitals.

5.1. Theoretical and Practical Implications

This study has contributed to the theoretical development of the halal healthcare services context. The findings indicate that hospital's halal healthcare attributes, hospital's intrinsic value, and hospital's extrinsic value are the crucial determinants for patient satisfaction with halal healthcare service, which in turn can promote word of mouth to others. This study enlightens the understanding of the relationship between satisfaction with halal healthcare services and word of mouth (WOM), which was neglected previously in the context of healthcare services in hospitals.

This study practically provides an opportunity for the healthcare service manager and healthcare service providers to promote halal healthcare services including hospital halal attributes, hospital's intrinsic value, and extrinsic value to increase patient satisfaction with halal healthcare services and word of mouth to others in Islamic-friendly hospitals. To increase the patient's expectations regarding halal healthcare services and word of mouth, this study proposes that healthcare providers or hospitals create a program for halal healthcare services. Healthcare service providers should ensure halal ingredients in medicine, provide halal healthcare attributes meeting patients' expectations, and promote word of mouth with others.

Halal healthcare attributes, hospital's intrinsic value, and hospital's extrinsic values are the main attributes expected by patients; thus, experimental management and marketing policy and strategy are suggested to be implemented by halal healthcare service providers. Halal healthcare service providers may consider applying *fiqh muamalah* laws in dealing, while building a moderate Islamic image by considering the convenience of patients from a different ethnic background.

Healthcare providers can incorporate an educational effort in their lucrative halal healthcare business policy on the significance of halal healthcare services. This effort may aim to increase people's awareness in general of halal healthcare services in Islamic-friendly hospitals, and can identify the characteristics of their patients to further receive halal healthcare service attributes to improve their satisfaction and word of mouth; this could be a unique selling proposition for healthcare providers. The findings of this study can contribute to the academic sector, as it is the first attempt to assess the impact of halal healthcare attributes, hospital's intrinsic value, and extrinsic value on patient satisfaction with halal healthcare services, which in turn, influences word of mouth to others.

5.2. Limitations and Direction for Future Study

This study has some limitations as we provide empirical insight into the halal healthcare attributes, hospital's intrinsic value, and extrinsic value for patients' satisfaction with halal healthcare and word of mouth. This study contributed to expanding the knowledge of halal healthcare well-being and its impact on word of mouth, which is limited in pre-

vious studies. This study is mainly focused on Malaysia and Islamic-friendly hospitals; therefore, it may not be generalized to other countries. The researchers of this study investigated limited antecedents of halal healthcare service for patient satisfaction and word of mouth. Therefore, future research might be conducted in different countries and hospitals, and should be extended by using other factors such as ethical responsibility, hospital ibadah-friendly infrastructure, Islamic medical ethics, Shari'ah compliance prescription, and Islamic work culture.

This study makes known to others the halal healthcare attributes, hospital's intrinsic value, and extrinsic value of halal healthcare services towards patients' satisfaction and word of mouth. The findings contribute to the level of knowledge and understanding of patients' satisfaction with halal healthcare services and their word of mouth to others for further receiving halal healthcare services in Islamic-friendly hospitals. The findings could be useful for the healthcare sector and healthcare service delivery systems operating in different countries.

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