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The Modified-Delphi Technique: A Powerful Method for Health Waqf (Islamic Endowment) Modeling

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Abstract: The study aims to Identify the characteristics of the health waqf model; Designing various best models of health waqf; and finding the best model for health waqf in Indonesia. This research using the modified Delphi method. Result shows that there are 32 crucial aspects of healthcare waqf, of which respondents agree on 23 (71.88%) in a way that significantly increases rater agreement (W) or Kendall's concordance. Clinics, general hospitals, mother and child hospitals (RSIA), and specialty hospitals are some examples of the types of healthcare waqf that could be established at different levels based on the needs. The author suggests many healthcare waqf models, such as the 1) Social Healthcare Waqf Model (SHWM), 2) Productive Healthcare Waqf Model (PHWM), and 3) Integrated Social-Productive Healthcare Waqf Model (ISPHWM), based on the established characteristics. The outcomes of the suggested healthcare waqf models are most suited for implementation in Indonesia because the study's respondents are Indonesian professionals and practitioners. Nonetheless, the approach taken and the model framework that came from this research could be utilized to identify the features of healthcare waqf and suggest the best models in other nations.

Keywords: Waqf, Healthcare, Models, Social, Commercial

INTRODUCTION

Health is the center of human well-being. A healthy population is more productive, saves more and lives longer, contributing significantly to wealth and prosperity, as well as economic growth. A healthy society is achieved by good medical facilities and the ability of all members of society to meet their health needs (Baqutayan, 2018). However, during the pandemic, more than 160 million confirmed COVID 19 cases and 3.3 million deaths have been reported to WHO. However, these figures provide only a partial overview, as many countries have been unable to accurately measure and report deaths directly or indirectly due to COVID 19.

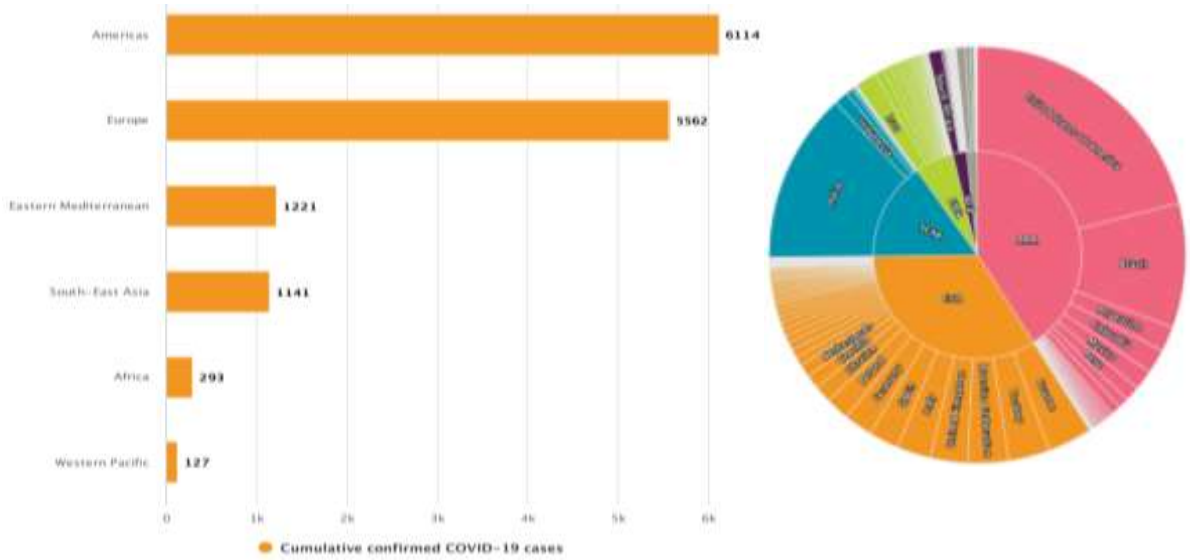

Figure 1. Cumulative Confirmed COVID-19 Cases as of 1 May 2021, by region: a) per 100 000 population; b) by location
Source: World Health Statistics-WHO, 2021

COVID-19 poses major challenges to population health and well-being globally. More than 153 million confirmed COVID-19 cases and 3.2 million related fatalities had been reported to WHO as of 1 May 2021. (see Figure 1). The Americas and Europe have been the most afflicted, accounting for more than three-quarters of all cases reported globally, with case rates per 100 000 population of 5999 and 5455, respectively. In tackling this problem, beyond the government's resources, waqf as an Islamic social fund can be considered as an important source of appropriate aid (Sulistyowati et al. 2021).

Health waqf is property that is waqf by wakif (individual, organization, or legal entity) for the health sector (Fahruroji, 2021). For example, building clinics, hospitals and providing equipment, providing necessary medical equipment when a disease or epidemic spreads, providing medical care and treatment to the sick, and providing financial assistance. In addition to property, health waqf can also be carried out by medical personnel, doctors, nurses, midwives, and others, namely by waqf of their time or work.

Currently, health waqf is widely practiced in Organization of Islamic Cooperation (OIC) member nations such as Indonesia, which has a waqf-based hospital known as 'Dompet Dhuafa.' Waqf hospitals such as 'Sulthan Agung,' the National Zakat Board (BAZNAS), and many others are working to develop the waqf-based health sector. In Malaysia, a massive health waqf is managed by a waqf company called Waqf An-Nur Corporation Berhad (WANCorp), which combines social and business units and owns 24 (twenty-four) clinics, 26 (twenty-six) hospitals throughout Malaysia, and four hospitals abroad for only 5 (five) Malaysian Ringgit, including medicine.

Waqf has been shown to assist alleviate societal burdens, and waqf is a unique form of virtue within Islamic doctrine because it is a worship that encompasses both spiritual and material dimensions. In terms of socioeconomics, the instrument of waqf plays a significant role in the provision of services, particularly health care (Kahf, 2008). As a result, waqf might be the primary source of health services, particularly for the poor and needy. Many waqf institutions exist to solve health concerns and improve the lives of the impoverished.

The preceding description is an example of the application of waqf in the health sector that requires further explanation. Identifying, assessing, evaluating, and expanding on its concerns and challenges is part of this process. By capturing the concerns and challenges of special characteristics of health waqf institutions and continuing with the correct approach, the

glory of health waqf, like that of 'Bimaristans' as the brilliance of the Islamic era, can be realized.

There has been little empirical research conducted in the field of healthcare waqf. Recent waqf research has concentrated on the theoretical and conceptual framework (Asmy & Hassanudin, 2015). Furthermore, the above-mentioned paper on waqf models has not yet been systematically and fully focused on consensus on the appropriate model in the health sector, which will be very valuable for other institutions establishing waqf-based health institutions. These gaps will be discussed in this paper.

METHOD

This study employs Delphi method modified or combined with Likert scale, where Delphi will be used to rank answers for each statement/question, while Likert will be used to capture the agreement or disagreement of respondents with the respective statement/question. In addition, to understand the issues of health waqf, preliminary in-depth interviews to respondents' representative are conducted, followed by Delphi process. Delphi method is a decision-making approach develop by Dalkey and Helmer (1960), which has been further elaborated by Hsu and Sanford (2007). Delphi method uses descriptive approach to explore reliable and valid information about complex problems where explicitly assessed by selected experts. The steps to conduct Delphi method can be illustrated in figure 2.

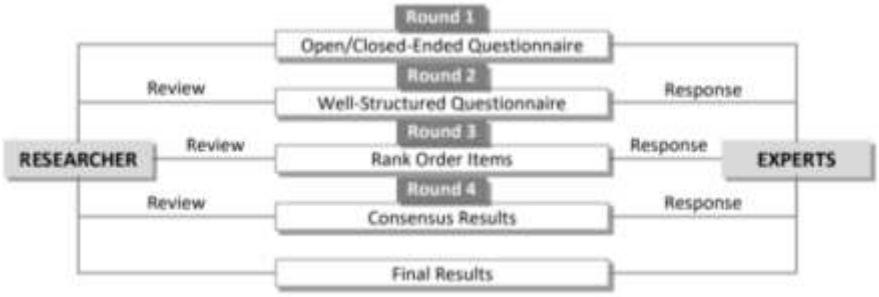

Figure 2. Steps of DELPHI Method
Source: (Hsu & Sanford 2007; Ascarya & Sakti, 2021)

During Round-1, experts are given open-ended (traditional Delphi) or closed-ended (modified Delphi) questionnaires to collect specific information about the topics. Structured questionnaires resulting from Round-1 are given to experts in Round-2, where expert respondents are asked to assess the list of elements described by researchers based on Round-1 responses. Respondents will assign a rank order to the collected components in order to determine the starting priority. As a result, the initial consensus may be recognized, together with the value of the agreement and disagreement. Respondents will be given the chance to alter their previous response and judgment in Round 3 or to justify their decision to stick with the first judgment decision. Round 4 is the final option for respondents to amend their decisions, which will be regarded the final results. The number of Delphi iterations varies according to the amount of consensus sought by researchers and can range from three to five.

More than one survey is necessary in an in-depth discussion of experts to obtain consensus view on each topic mentioned in the questionnaire. The regular focus group discussion (FGD) of 6-12 experts will begin with an open/closed ended questionnaire, followed by a well-structured questionnaire based on the first response. Experts are given the opportunity to alter their initial comments so that they are more in line with the views of other experts. If the expert responses have not been converged, the next round will be required. The convergence of expert responses will be calculated using Kendall's coefficient of concordance, Kendall W, as described in Field (2014), and its p-value will be calculated. When W is not

converging, the following round of Delphi is required until convergence is achieved, which typically takes 3-5 rounds (Hsu and Sanford, 2007).

Table 1. Likert Scale

Agreement	The six of Likert Scale
Very disagree	1
Disagree	2
Neutral tend to Disagree	3
Neutral tend to Agree	4
Agree	5
Very Agree	6

Source: (Joshi et al. 2015); (Ascarya, 2020)

The Likert scale will be combined in the structured questionnaire with the scale 1-6, ranging from very disagree (1), disagree (2), neutral (3 tend to disagree), neutral tent to agree (4), agree (5) and Very agree (6). The results would be grouped into disagree (DE), neutral (NE) and agree (AG), so that agreement/disagreement on each topic could be mapped.

Geometric Mean and Rater Agreement

When the Delphi survey is conducted separately for each respondent to fill out the questionnaire, a geometric mean is required to acquire the mean of 6-12 respondents from one interview group. Furthermore, as indicated by Field, calculating rater agreement using Kendall's Coefficient of Concordance (Kendall W) is required to determine the level of consensus among respondents (2014).

The geometric mean is used to calculate statistical 'consensus' of numerous distinct expert viewpoints on a certain problem. Individual expert responses on pair-wise surveys are statistically integrated to generate a group consensus. Geometric mean is a type of mean or average calculation that indicates the center tendency or typical value of a set of numbers, representing a set of expert opinions, by utilizing the product of their values (as opposed to arithmetic mean, which uses their sum), with the formula shown below.

$$(\Pi i{=}1)\ 1{\diagup}n = \sqrt{a1a2 \ldots an}\ n \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (1)$$

Meanwhile, rater agreement is a non-parametric statistic that is used to examine the level of agreement among respondents (R1-Rn) as raters of an issue in a specific cluster, which is known as Kendall's Coefficient of Concordance (W=0). The first step in calculating Kendall's (W) is to rank each response and total it.

$$Ri = \sum ri,\ m\ j{=}1 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (2)$$

The average value of the total rank is:

$$\bar{R} = 1\ n \sum Ri\ n\ i{=}1 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3)$$

The sum of squares of deviation (S), can be calculated as follows.

$$S = \sum (Ri - \bar{R})\ n\ 2\ i{=}1 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (4)$$

So that, the Kendall's W can be calculated as follows.

$$W = 12S\ m2(n3{-}n) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (5)$$

Data

Delphi method requires data from at least one round of focus group discussion (FGD) and/ or in-depth interview (Hsu and Sanford, 2007), To obtain knowledge from various views, two main groups of respondents will be involved including expert (academician and regulator), and waqf health practitioners. Relevant respondents in this study are divided into two groups that represent two related elements. The health waqf practitioners as Group One of the respondents consist of six persons of selected institutions such as health waqf of *'Dompet Dhuafa'*, '*Muhammdiyah'* health waqf Indonesia, and *and* NU health waqf. Those six health waqf institutions were chosen by the size of institutions and age of operation.

Table 2. Respondent Profile

No	Code	Initial	Group	Designation	Institution
Practitioners					
1	P1	AS	HW Practitioner	Head of HW Cou	HW Muhammadiyah
2	P2	BPM	HW Practitioner	GM	HW D. Dhuafa
3	P3	SH	HW Practitioner	GM	Rumah Waqf
4	P4	AI	HW Practitioner	GM	Siynergy Foundation
5	P5	BM	HW Practitioner	Founder	Medikids Waqf
6	P6	HI	HW Practitioner	Co-founder	Salman Waqf Hosp
7	P7	MZ	HW Practitioner	Founder	'Kasih' W Hosp. Mly
8	P8	MB	HW Practitioner	GM	Waqf AnNur Mly
9	P9	BS	HW Practitioner	Vice YBWSA	Sult Agung Waqf Hos
Regulators					
10	R1	ITS	Regulator	Commissioner	BWI
11	R2	FN	Regulator	Head of Ziswaf Department	Kemenag-Bimas Islam
12	R3	DIH	Regulator	Head of Sharia Fund Group	Kemendku-Dept Sharia (ISF)
13	R4	RI	Regulator	Deputy director of DEKS	BI-DEKS
14	R5	ISB	Regulator	Head of research Dept.	BAZNAS-Wa
15	R6	NH	Regulator	Commissioner	BWI
Academics/Researchers					
16	A1	Fa	*Academics*	Faculty member	UI
	A2	HT	*Academics*	Vice Dir. Post. school	UI-UIK
17	A3	BTP	*Academics*	Dir. of Post. school	UMalaysia Terengganu
18	A4	FH	*Academics*	Faculty member	UIN SA
19	A5	AS	*Academics*	Researcher	BI Institute
21	A6	Sy	Researcher	Head of ICAST	Waqf Gontor

** Ziswaf: Zakat (alms), Infaq, Sodaqo; *HW: Health Waqf; * GM: General Manager*

Source: Author's own

Meanwhile, group Two is government officials as regulators. *'Indonesia Waqf Board* (BWI), '*Ministry of Religious Affairs*'-waqf department, and '*Ministry of Finance'* Group Islamic social finance (Sharia fund) were chosen by careful consideration. Also academics, were chosen to obtain fruitful knowledge and rich perspectives related to waqf in providing resources in the healthcare sector.

Conceptual Framework

Fully Social model consist of Infrastructure and operational costs financed by Islamic social finance, including waqf, productive waqf, zakat and infaq. Social-Commercial consist of Infrastructure financed by waqf or productive waqf, while operational cost financed by

Islamic social finance as well as commercial fee. Meanwhile, fully Commercial consist of Infrastructure financed by waqf, productive waqf, own capital or commercial financing (Islamic financial institutions or BOT), while operational costs financed by commercial fee.

Health Waqf Modeling's Consensus

DELPHI

ALTERNATIVE FINANCING MODELS				
1 Simple			**2Innovative**	
1MWK Social	**2MWK Productive**	**3MWK Integration**	**1MWK Productive**	**2MWK Integration**
1 Waqf + Charity	1 Waqf+Fee	1Waqf+ZI+Fee	1Waqf +BOT+ own partner +Fee	1Waqf +BOT+ZI+own partner+Fee
2Waqf+Charity+Donation	2 Waqf+Co-investor+Fee	2Waqf+ZI+Co-investor+Fee	2Waqf+BOT-BS+Fee	2Waqf+BOT+ZI+BS+Fee
3Waqf+Charity+grant	3Waqf+ BS[1]+Fee	3Waqf+ZI+BS[1]+Fee	3Waqf+BOT+LN[2]+Fee	3Waqf+BOT+ZI+LN[2]+Fee
4Waqf, donation+grant	4Waqf+LN+Fee	4Waqf+LN+Fee	4Waqf+BOT+Sukuk+Fee	4Waqf+BOT+ZI+Sukuk+Fee
5Waqf+charity+Qardh	5Waqf+sukuk++Fee	5Waqf+sukuk+Fee	5Waqf+BOT+Investor+Fee	5Waqf+BOT+ZI+Investor+Fee
6Waqf+another combination	6Waqf+ another combination+Fee	6Waqf+another combination+Fee	6Waqf+BOT+Another combination+Fee	6Waqf+BOT+ZI-another combinant++Fee

Appropriate Alternatives and Models

ALTERNATIF ***Financing Type***			
1Clinic	**2RSU**	**3RSIA**	**4RS Specialist**
1Simple: MWK Sos	1Simple: MWK Sos	1Simple: MWK Sos	1Simple: MWK Sos
2Simple: MWK Prod	2Simple: MWK Prod	2Simple: MWK Prod	2Simple: MWK Prod
3Innovative: MWK Prod	3Innovative: MWK Prod	3Innovative: MWK Prod	3Innovative: MWK Prod
4Simple: MWK Integration	4Simple: MWK Integration	4Simple: MWK Integration	4Simple: MWK Integration
5Innovative: MWK Integration	5Innovative: MWK Integration	5Innovative: MWK Integration	5Innovative: MWK Integration

MODEL ALTERNATIVES*		
1Fully Social	**2Social-Commercial**	**3Fully Commercial**
1Waqf-Zakat/Infaq	1Waqf-Zakat/Infaq & Fee	1Waqf-Fee
2Waqf-Prod.Waqf	2Waqf-Prod.Waqf & Fee	2Prod.Waqf-Fee
3Waqf-ZI/P.Waqf	3.Waqf-ZI/Prod.Waqf & Fee	3Waqf/P.Waqf-Fee
4Prod.Waqf-Zakat/Infaq	4Prod.Waqf-Zakat/Infaq & Fee	4Own.Cap-Fee
5Prod.Waqf-Prod.Waqf	5Prod.Waqf-Prod.Waqf & Fee	5Comm.Financing-Fee
6P.Waqf-ZI/P.Waqf	6P.Waqf-ZI/P.Waqf/Fee	6Own.Cap./Financing-Fee
7Waqf/P.Waqf-ZI/P.Waqf	7Waqf/P.Waqf-ZI/P.Waqf/Fee	7Waqf/P.Waqf/OC/Fin.-Fee

ALTERNATIVE Form of Management			
1Clinic	**2RSU**	**3RSIA**	**Specialist Hospital**
1Nadzir	1Nadzir	1Nadzir	1Nadzir
2*Subsidiary**	2*Subsidiary**	2*Subsidiary**	2*Subsidiary**
3 External 3rd Parties	3 External 3rd Parties	3 External 3rd Parties	3 External 3rd Parties
4Nadzir +Pihak K3	4Nadzir +Pihak K3	4Nadzir +Pihak K3	4Nadzir +Pihak K3

5External 3rd Parties smntr, kmd Nadzir	5External 3rd Parties smntr, kmd Nadzir	5External 3rd Parties smntr, kmd Nadzir	5External 3rd Parties smntr, kmd Nadzir
6 External 3rd Parties smntr, kmd *Subsidiary*	6 External 3rd Parties smntr, kmd *Subsidiary*	6 External 3rd Parties smntr, kmd *Subsidiary*	6 External 3rd Parties smntr, kmd *Subsidiary*

Figure 3. DELPHI Conceptual Framework of Health Waqf Models
Source: Author's own

RESULTS AND DISCUSSION

Results

Delphi Method

The Delphi method is a group process that involves interaction between researchers and a group of experts related to a particular topic through the help of a questionnaire. This method is useful when opinions and judgments from experts and practitioners are needed to solve problems. This will be very useful when experts cannot be present at the same time (Rum & Heliati, 2018). The majority of Delphi method research uses questionnaires with Linkert scales, preference rankings or a combination (Loe, Melnychuk & Plummer, 2016). This research uses opinion retrieval with a Linkert scale of 1 to 9, where 1 means very unimportant and 9 means very important.

Healthcare Waqf

In both Arabic and English literature, the subject of waqf is researched as an Islamic legal concept (Al Ansari, 2013). As previously stated in the hadiths, evidence can be derived from the Prophet's (peace be upon him) saying, "When a human being dies, his labor for God comes to an end save for three: lasting charity, knowledge that benefits others, and a good child who seeks God's favor." (Hadh No. 4005, Sahih Muslim, Book of Wills) (Ramli, et al., 2019). Furthermore, in accordance with the scripture, Abu Talha endowed his fine garden for waqf, which the Prophet favored (peace be upon him). In this respect, waqf institutions operating within the framework of Islamic social finance can be viewed as a social intermediary platform for the effective application of continuous social savings (Shaikh, et al., 2017).

Waqf (plural awqaf) implies "detention," "prevention," or "restraint." Waqf is a dedication of property, either explicitly or implicitly, for any charity and religious reasons to secure benefit for a human being (Mahamood, 2006; Mahamood & Rahman, 2015). As a result, several studies have shown that waqf sources are not just used for social objectives, but are also used to fund commercial initiatives funded by Islamic philanthropy (Ascarya et al, 2107), (Tanjung, 2018). (Khan, 2015).

Health, as a critical factor for measuring a country's development success, is inextricably linked to happiness (Bohari, 2015). Good healthcare services contribute to a healthy society, hence all aspects of them must be given (Atan, et al., 2017). (Kasule, 2008; Oladapo & Rahman, 2016) defined health as an individual's physical, mental, social, and spiritual readiness to participate actively in society. In general, civilization influences health in various ways across the region. Output is determined by the level of health; citizens in excellent health produce more productivity than those in poor health, bringing the country to a greater level of development (Bohari, 2015).

Healthcare waqf can be organized in a variety of ways. To begin, healthcare waqf could be structured as a social waqf, in which the healthcare facility is designed to provide free healthcare services to the whole population, particularly the poor and near-poor. Second, healthcare waqf could be organized as a productive waqf to give commercial medical services to the general public. Healthcare waqf could be constituted as an integrated social-productive waqf that provides both free healthcare services for the poor and commercial healthcare services to the general public (Ascarya et al. 2021). A healthcare facility can range in size from a clinic to a hospital or medical centre.

Healthcare Waqf History

The history of Waqf-based healthcare services in Muslim society dates back to the time of Prophet Muhammad s.a.w., before the hospital building existed. The idea of having mobile dispensaries came from the history of the Khandaq battle, where Rasulullah s.a.w ordered Sa'id bin Mu'az, who was injured, to be taken in a separate tent in order to receive better treatment, and Ummi Rufaidah binti Sa'ad was the first Muslim female nurse who was assigned to take care of the patients during the war at that time (Razali, 2015). The concept of a hospital building as a treatment facility for patients emerged only after the arrival of Islam, which introduced three types of medical facilities: mobile dispensaries, hospital buildings, and emergency care centers (Hussain Nagamia, 2003).

Since the first years of Islam, Muslim leaders have been concerned about the health of Muslim patients and treatment options. Thus, in the year Eighty-Eight (88 AH), Alwaleed bin Abdul Malik erected the first house for patients' treatment in Damascus; he supplies doctors, nurses, physicians, and healthcare workers from the waqf money (Al-Maqrizi, Ahmad bin Ali, 1418 H). Furthermore, the first significant hospital in the history of Islamic civilisation was erected by Harun al-Rashid in Baghdad, known as "Marastan," and he designated it as a waqf hospital for Muslims (Ahmed Issa, 1981). It is also mentioned in history texts about the hospitals constructed in Egypt with waqf donations. The most well-known were those established by Al-Fath Ibn Khakan and Minister of Mutawakil Ali Allah Abbasi, as well as the hospital founded by Prince of Egypt Ahmed Ibn Tulun. Indeed, historians and travelers reported of King Qalawun's waqf hospital in Egypt, which was constructed for the treatment of Muslim sick. "It is impossible to explain the beauty of these institutions; it was equipped with many medicines and service facilities for patients," Ibn Battuta said. Mohammed bin Abdullah, Ibn Battuta, 1987.

Indeed, cash waqf was used to fund healthcare development throughout the wonderful age of Islam, including the building of hospitals that provided free treatment to needy patients, as well as the establishment of waqfon medical education. It has been observed that throughout Islamic history and civilization, the waqf institution has played an important role in the provision of social goods such as education and health, public goods, religious services, assisting the poor, orphans, and the needy, creating employment, and supporting the agricultural and industrial sectors at no cost to the government (Mohsin 2008). As a result, it appears that waqf has evolved into a vehicle for providing social welfare services to society. Way before the modern period, scholars and modern thinkers who dealt with the waqf Foundation and its cultural components approved of the role of waqf in supporting healthcare and giving health services to Muslim society. According to Ahmed Abu Zeid (2008), many of the healthcare institutions and hospitals available in Muslim cities were heavily reliant on waqf resources; in fact, distinct awqaf were established to establish hospitals and furnish them with drugs and treatment equipment.

The treatment of mental illnesses in hospitals was as vital as physical care; the waqf hospitals were particularly concerned about the sick souls, because Muslim scholars recognized the significance of patients with mental illnesses and the value of their therapies. One of the most essential services provided to patients suffering from mental illnesses was the presence of a counselor who accompanied them into the gardens and read the Holy Quran for them (Mohammed bin Abdul Aziz bin Abdullah, 1996).

In the past, there was also concern about children's health, and a hospital for children's treatment was erected in Istanbul using Waqf funds (Mannan, 2005). In Spain, hospital services were accessible at various ages for both Muslims and non-Muslims. Furthermore, Ahmed Habib (2007) reported that hospitals and medicines are the most well-known sub-sectors of awqaf; Muslims continued to establish awqaf for healthcare centers and hospitals until the first

half of the twentieth century, when the Children's Hospital of Istanbul was also founded by cash waqf. Furthermore, Hasan Sami (2006) noted that a key beneficiary of Muslim Awqaf has been designated for healthcare and hygiene sector, through the construction of the public bath that became one of the biggest beneficiaries of awqaf; cleanliness being a major aspect of the Islamic belief system.

As can be seen, most hospitals in the Islamic world were funded by waqf profits. Awqaf were very well structured and employed for societal well-being. It was used for health services, patient expenses, as well as the provision of physicians and their training courses, in addition to the construction of hospitals. As a result, Abattouy and Al-Hassani (n.d.) stated that wealthy Muslims, particularly leaders, established various types of awqaf. For example, caliph al-Walid ibn Abd al-Malik in 88H was the first to construct a hospital or bimaristan and appoint doctors and pay their salaries solely to care for the sick and quarantine cases. The proceeds from this awqaf were used to cover the hospital's upkeep and operating costs, and patients were often given a small stipend upon discharge. In the third Islamic century, such hospitals were found all across the Islamic world, and they were a source of joy for the Muslim society because the patients received treatment, care, food, and clothing. These hospitals also served as medical education facilities in addition to treating patients.

As a result, it has been claimed that the entire health, education, and welfare budget of the Osman Caliphate, which was located in Istanbul, was funded by philanthropic organizations (Cizakca, 1998). There were also Awqaf for specialized medical schools, chemistry research, and payment for food and medicine for hospital patients. Regardless of their background, whether they were natives or foreigners, powerful or weak, in low or high positions, rich or poor, employed or unemployed, physically or psychologically ill, educated or illiterate, the hospitals and health centers provided free healthcare services to all patients. For example, it was estimated that 50 hospitals in Cordoba alone were built and funded by Waqf. By 1913, Egypt's waqf institutions had more than 11 hospitals, treating over a million patients (Husain Nagamia, 1992).

Previous Study

Numerous studies, such as (Thaker, 2018), (Noordin et al., 2018), (Ramli et al., 2018), and (Ramli et al., 2018), generally examine Islamic social finance connected to waqf, zakat (alms), and sadaqa, either alone or collectively (Al Horani, et al., 2013). Indeed, there have been more research on waqf as Islamic social and commercial finance, such as (Thaker, 2018), (Hassan et al., 2018), and (Hassan, et al., 2018). (Ambrose, et al., 2018). However, in many countries, the health sector has emerged as the primary priority of waqf (Adnan et al, 2021). Unfortunately, there hasn't been a lot of research done explicitly on this topic. Furthermore, the authors discovered a small study that highlights the waqf's use as a source of funding Takaful for healthcare. Another study focused on the past, present, and future development of Waqf-based health care facilities, particularly in Malaysia. Similarly, (Baqutayan & Mahdzir, 2018) demonstrate their discovery that waqf provides an efficient alternative source of funding for the growth of healthcare institutions. However, it occurs as a result of a transparency system that drives fund administration.

Ahmed et al. (2015) proposed the concept of healthcare waqf through the proposed strategy for financing the building and operation of waqf hospitals and towers in Uganda. This concept, Uganda Islamic Endowment Corporation (UIEC), as the content of the notion for providing waqf certificates to donors and investors, supports improved quality and more affordable healthcare for the poor and needy. Uganda, as one of the OIC countries, has established waqf as the primary concern that deserves more attention. Aside from public healthcare, the bulk of poor Ugandans cannot afford high-priced private treatment. Furthermore, Al Ansari (2013) conducted a research on Bimaristan as an instance of waqf.

Waqf is the model used to establish hospitals in the Muslim world, which was successful in achieving large numbers of medical care facilities and ensuring the sustainability, quality of services, and accessibility to the public during the 10th century in Bagdad, the 12th century in Damascus, and the 13th century in Cairo.

Htay et al. (2015) study a waqf-supported micro health takaful. It assists people in covering the cost of healthcare services, and micro health takaful has a solution to address this issue. In agriculture, waqf is difficult to use to solve farmers' financial problems. Moh'd et al. (2017) suggested a Waqf-Muzara'ah supply chain model that addresses the problem of high interest rates and collateral in a partnership arrangement. Many different waqfs exist, one of which is the Cash Waqf-Financial Cooperative-Musharakah Mutanaqisah (CWFCMM) model, which many waqf experts believe may provide financially affordable services in Malaysia. Because the profit originates from waqf, this company must use a complex business plan. Non-governmental groups, such as the Malaysian Medical Relief Society (MERCY), have this benefit (Zabri & Mohammed, 2018). Kachkar (2015) proposed a Cash Waqf Refugee Microfinance Fund (CWRMF) to assist refugees by expanding the refugee microbusiness. Talib et al. (2020) discovered that the waqf report must standardize as a result of the regulator from the State of Islamic Religious Councils (SIRCs) that ensures the operational concern on Islamic principles.

Characteristics of Healthcare Waqf Model (HWM)

This section discusses the results of the Delphi-Likert method in determining the various characteristics needed by the Islamic Social and Commercial Finance-based Healthcare Waqf Model (ISCF HWM) that devided into 3 generic models namely 1) Social Healthcare Waqf Model *(*SHWM*)*; 2) Productive Healthcare Waqf Model (PHWM*)*; and 3) Integrated Social-Productive Healthcare Waqf Model *(*ISPHWM*)* through a survey of 7 experts and 7 practitioners (14 respondent in total). The study using a priority ranking and a Likert scale of 1-6 (one to six), where 1 and 2 are statements that mean disagree, 3 and 4 are statements that mean neutral, while 5 and 6 are statements that mean neutral which means agree. This rating is used to calculate the 'rater agreement' or *Kendall's Concordance* (W) from respondents regarding the determination of the characteristics of the HWM.

The ten main results of the Delphi-Likert method that show various aspects of the characteristics of HWM that need to be developed, including the results of respondents' answers from each sub-aspect or characteristic are shown in Table 2 to 8. Islamic social-commercial finance health waqf modeling includes various aspects that can be developed jointly or one or several only. Based on the dominance table with the highest level of agreement between experts and practitioners in choosing the character of the HWM, it is in terms of financing. The HWM in terms of financing means from the support of health waqf resources both in terms of financial and assets.

Columns or boxes marked with gray blocks indicate an agreement level of at least 70% (Green, 1982; Ascarya et al, 2021) which means that the characteristics of the HWM are dominated by high approval and good or suitable for development. This is based on the results of the Delphi method showing the ranking of elements in each question as a whole in the Delphi questionnaire. The Delphi consensus should fall within a certain range (Miller, 2006), such as 70 percent (Green, 1982) or 80 percent (Ulschak, 1983), however Scheibe et al, (1975) suggested more reliable alternatives (Ascarya and Sakti, 2021). Based on the above reference, this health waqf research uses Green (1982) as a reference for the consideration that none of the respondents' level of agreement reached 80 percent.

***Rater agreement* of HWM characteristic**

The results of Kendall's coefficient of concordance (W) or rater agreement showing the agreement level of respondents on the characteristics of waqf-based IFI can be seen in Table 9 below. The results of *Kendall's coefficient of concordance* (Kendals' W) or *rater agreement* (RA) and Parametric value (*P-value*) as indicators of toughness indicate that each respondent group agrees on the main characteristics of the HWM on the aspects of 'Model form', 'Development time', 'Types of HW in general', 'Types of financing', 'Types of HWM services', 'The benefit to the community', 'Sustainability' and 'Health waqf ecosystem'.

Table 3. The Main Characteristics of HWM

No	Characteristics	*Rater Agreement/Kendall's Coefficient of Concordance* (W)					
		Expert	P-value	Practitioner	P-value	All	P-value
1	The form of healthcare waqf	0.714	0.000***	0.669	0.001***	0.664	0.000***
2	The timing to be developed	1.000	0.000***	0.678	0.000***	0.805	0.000***
3	The type of healthcare waqf	0.278	0.100*	0.502	0.007***	0.332	0.001***
4	The type of healthcare institution	0.455	0.001***	0.672	0.000***	0.466	0.000***
5	The type of financing	0.470	0.003***	0.602	0.000***	0.612	0.000***
6	The type of HWM services	0.197	0.219	0.379	0.014**	0.122	0.116
7	The type of HWM management	0.204	0.199	0.091	0.689	0.099	0.215
8	The benefit for the *ummah*	0.812	0.000***	0.349	0.045**	0.549	0.000***
9	Sustainability aspect	0.755	0.000***	0.353	0.042**	0.525	0.000***
10	Based on the HW ecosystem	0.653	0.001***	0.408	0.022**	0.505	0.000***

****significant at the 0.01 level; **significant at the 0.05 level; *significant at the 0.10 level*

Table 3 shows that there are 8 of all the main characteristics that reach agreement for all respondents or 80%. On the characteristics of the general form of HW management, only the group of practitioner respondents reached a *rater agreement* with a *p-value* of 0.014** or an agreement level at a significant level of 5%. Meanwhile, for the characteristics of the form of management in general, there is no agreement to develop either the expert neither practitioners, as shown in the table 9 that the *p-value* of experts is 0.199, the *p-value* of practitioners is 0.689 and *p-value* for all respondents is 0.215.

Table 4. The Sub-Characteristics of HWM

No	Sub-Characteristics	*Rater Agreement/Kendall's Coefficient of Concordance* (W)					
		Expert	P-value	Practitioner	P-value	All	P-value
1	**The form of HWM**	0.714	0.000***	0.669	0.001***	0.664	0.000***
2	**The timing to be developed**	1.000	0.000***	0.678	0.000***	0.805	0.000***
2a	Social HWM	1.000	0.000***	0.788	0.000***	0.873	0.000***
2b	Productive HWM	0.944	0.000***	0.531	0.040**	0.587	0.000***
2c	Integrated HWM	0.907	0.000***	0.502	0.002***	0.679	0.000***
3	**Type of HWM**	0.278	0.100*	0.502	0.007***	0.332	0.001***
3a	Clinics	0.420	0.019**	0.539	0.005***	0.453	0.000***
3b	RSU	0.506	0.007***	0.644	0.004***	0.544	0.000***
3c	RSIA	0.469	0.011**	0.539	0.012**	0.494	0.000***

3d	Specialist hospitals	0.469	0.011***	0.644	0.004***	0.524	0.000***
3e	Other LK	0.396	0.026**	0.576	0.021**	0.451	0.000***
4	**The type of financing**	0.455	0.001***	0.672	0.000***	0.466	0.000***
4a	Social HWM	0.342	0.035**	0.524	0.003***	0.390	0.000***
4b	Productive HWM	0.392	0.011**	0.302	0.048**	0.320	0.000***
4c	Integrated HWM	0.413	0.008***	0.472	0.003***	0.336	0.000***
5	**Type of HW institution**	0.470	0.003***	0.602	0.000***	0.612	0.000***
5a	Type of Social HWM	0.294	0.054*	0.602	0.000***	0.495	0.000***
5b	Type of Productive HWM	0.512	0.001***	0.512	0.001***	0.587	0.000***
5c	Type of Integrated HWM	0.427	0.006***	0.518	0.001***	0.515	0.000***
6	**Type of HWM management**	0.197	0.219	0.379	0.014**	0.122	0.116
6a	Social HWM	0.171	0.054*	0.329	0.032**	0.111	0.000***
6b	Productive HWM	0.198	0.215	0.512	0.189	0.172	0.025**
6c	Integrated HWM	0.195	0.224	0.122	0.530	0.090	0.275
7	**HWM institution management**	0.204	0.199	0.091	0.689	0.099	0.215
7a	Clinics	0.200	0.211	0.329	0.552	0.108	0.172
7b	RSU	0.120	0.541	0.206	0.615	0.113	0.149
7c	RSIA	0.111	0.589	0.113	0.578	0.094	0.246
7d	Spesialist hospitals	0.109	0.567	0.087	0.721	0.083	0.326
7e	Other LK	0.069	0.824	0.124	0.518	0.086	0.301
8	The benefit for the *ummah*	0.812	0.000***	0.349	0.045**	0.549	0.000***
9	Sustainability aspect	0.755	0.000***	0.353	0.042**	0.525	0.000***
10	Based on the HW ecosystem	0.653	0.001***	0.408	0.022**	0.505	0.000***

****significant at the 0.01 level; **significant at the 0.05 level; *significant at the 0.10 level*

The Table 4. is the result of the *Robustness Test* on the sub-characteristics of the HWM. It can be seen that as many as 32 criteria, there are 23 (71.88%) of respondents achieving significance with varying levels of experts, practitioners and all both of the characteristics in the form of HWM; development time; the type of HW is generally seen from the aspect of the health service unit (Clinics, RSU, RSIA, Specialist Hospitals and other types); the type of financing for the three generic HWMs (Social HWM, Productive HWM, and Integrated HWM); types of health services for the three generic HWMs, benefit for ummah/society; sustainability and the HW ecosystem.

Meanwhile, in terms of the form of HWM management in general, the level of agreement was only achieved in the group of practitioner respondents with a significance level of 5% level. An interesting thing happened in the form of productive HWM management that needed to be developed, in the expert respondent group and the practitioner respondent group, the significance level did not reach the required criteria (less than or equal to 10%), but in the combined respondent column, the significance level was reached in the number by 5%. The

rest are based on seven characteristic aspects, namely integrated HWM management; the generic HWM; the type of HWM management for clinics, RSU, RSIA, Specialist Hospitals, and other types reaches 30.43% of the 32 aspects. Means, it did not reach the level of significance.

Proposed Healthcare Waqf Models (HWM)

Healthcare Waqf Models could be implemented at various levels, including national and local level. Healthcare Waqf Models in practice can take its form as a clinic, RSU, RSIA, Sepcialist hospital and other healthcare institutions. Each form of healthcare waqf model can operate commercially and/or socially so that some model variations of Healthcare Waqf will be proposed. Moreover, healthcare waqf model (HWM) devided into 3 generic models namely *Social Healtcare Waqf Models*; *roductive Healtcare Waqf Models*; and *Integrated Social-Productive Healtcare Waqf models*. Here, we will propose a fully Social scheme (SHWM), a fully Productive commercial scheme (PHWM); as well as Integrated Social-Productive scheme (ISPHWM), supported by Ascarya and Tanjung (2021) and Ascarya et al. (2020).

The Social HWM is a model that completely social waqf establishment that provides free health services to the *mustahiq* or *mauquf alaih* and vulnerable cohort who cannot afford health insurance. This social healthcare waqf might potentially provide free or low-cost services to the general public. The establishment of social waqf may be initiated by the *waqif* who donates waqf assets (land, cash, etc.) to the *nazir* to be managed for specific social activities, such as healthcare services, or it may be initiated by the nazir who plans to build a social healthcare waqf facility by collecting waqf from prospective waqif. Tabung Wakaf Indonesia (TWI) is an institution charged with increasing societal welfare by mobilizing and maintaining waqf properties in an efficient and trustworthy manner. Dompet Dhuafa created it on July 14, 2005, as a promise to develop Waqf resources to benefit social programs and foster economic empowerment, which have traditionally been funded by zakat and donations.

Meanwhile, the Productive HWM is a wholly commercial waqf establishment that offers paid health treatment to the general public. Despite the fact that this healthcare facility operates commercially, because it was built and financed with waqf and cash waqf, it may be able to provide health services at a lower cost than market/standard costs, because there is no shareholder in this commercial waqf facility who seeks profits or returns (See Figure 4.2).

Finally, Integrated Social-Productive HWM is a combination of Social HWM and Productive HWM that combines cost center waqf and profit center waqf to assure the sustainability of social health services supplied by social healthcare waqf to the needy and the poor. As a result, commercial motive and social motivation are merged, and profit orientation is blended with non-profit orientation. The concept of Integrated Social-Productive HWM, , arose from the need to establish social healthcare waqf to provide free of charge quality health services to the poor and near poor people, which have now become increasingly commercially oriented, particularly in Muslim-majority developing countries. To meet the operating costs of providing health services, a sustainable source of funding must be found, which might be fulfilled through the returns of productive waqf (See Figure 4.3).

Implication

Nazirs, other waqf-based healthcare institutions, third parties and other relevants stakeholders could take the valuable advantages if the three HWM are applied to appropriate level including clinics, RSU, RSIA, Specialist hospitals and others, according to the needs in Indonesia. However, the method used and the model framework that resulted in this study could be applied to determine the characteristics of healthcare waqf and propose the most appropriate models in other countries.

CONCLUSION

Waqf-based healthcare is healthcare where the majority of sources are waqf funds and waqf assets while the rest sources are comprised of other Islamic social funds integrated with Islamic commercial funds. The healthcare waqf development is managed for social, productive, and integrated purposes. There are 32 important characteristics of Healthcare Waqf Models (HWM), which respondents agree on 23 (71.88%) characteristics with significant *Kendall's concordance* or *rater agreement (W)*. Only 9 characteristics where the respondents do not agree (i.e. W is insignificant), including type, HWM's institution management on clinics, RSU, RSI, Specialist hospitals, and other kinds of healthcare waqf models.

Based on the 23 characteristics of HWM, we propose three generic models of Islamic Social and Commercial Finance-based (ISCF-based HWM), including: 1) *Social Healtcare Waqf Models* (SHWM); 2) *Productive Healtcare Waqf Models* (PHWM); and 3) *Integrated Social-Productive Healtcare Waqf models* (ISPHWM). All of these three models can be applied at national level, community level and also micro level.

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