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ABSTRACT

This study aims to analyze the integrated financial inclusion strategy for optimizing potential waqf funds in Indonesia. The research employs a qualitative approach, utilizing the Business Model Canvas as an analytical framework. Data collection techniques include observation, interviews, and a literature review. The findings indicate that waqf property often remains underutilized, resulting in stagnant assets. However, the collection, management, and distribution of waqf funds can significantly benefit the mauquf alayh (beneficiaries), provide greater merit to the wakif (donors), and increase the resources available to Nazir (managers). The study concludes that the Waqf Blockchain Program can enhance the efficiency of waqf property utilization, facilitate inter-institutional integration to avoid redundancy in waqf system development, and establish a supervisory role in the planning, organization, implementation, and evaluation of Nazir waqf activities. Furthermore, this program contributes to achieving the socio-economic goals of national development across short-, medium-, and long-term periods.

Keywords: Blockchain Waqf Program, BMC, Financial Inclusion, Islamic Economics, Waqf Funds

INTRODUCTION

We are starting from the social-economic problems faced by various countries in the world, including in Indonesia, which cannot be ignored, especially related to the problem of poverty, which is always associated with growth problems with uneven income distribution, so that sometimes a country produces relatively high growth rates but is unable to provide many benefits for the population (Todaro and Smith, 2011; Kuncoro, 2003). One indicator in assessing the good or bad of development in Indonesia through poverty (in nominal terms and percentages), depth index (P1), and severity index (P2).

Table 1. Number and Percentage of Poor Population in Indonesia, Depth Index, Severity Index and Gini Ratio, 2015-2019

Year	Poor (million)	Population	Percentage (%)	Depth (P1)	Index	Severity Index (P2)	Gini Ratio
March 2015	28,59		11,22	1,97		0,53	0,408
September 2015	28,51		11,13	1,84		0,51	0,402
March 2016	28,01		10,86	1,94		0,53	0,397
September 2016	27,76		10,7	1,74		0,44	0,394
March 2017	27,77		10,64	1,83		0,48	0,393
September 2017	26,58		10,12	1,79		0,46	0,391
March 2018	25,95		9,82	1,71		0,44	0,389
September 2018	25,67		9,66	1,63		0,41	0,384
March 2019	25,14		9,41	1,55		0,37	0,382
September 2019	24,78		9,22	1,55		0,37	0,379

Source: Central Bureau of Statistics (2019).

According to Central Bureau Statistics (2019), as shown in Table 1, the Government of Indonesia can reduce the number of its poor population, which is reflected in the overall indicators that show a decline every year. A nominal poverty rate and a smaller percentage indicate that the population below the poverty line is getting lower. The decrease in the depth index of villages and cities (P1) shows that the condition is getting better for people in the poor category, meaning approaching the poverty line. In comparison, the decrease in rural and urban severity index (P2) shows lower spending inequality among the poor population in villages and cities. The lower Gini ratio also indicates that community aggregate inequality is getting lower. Despite the decline in poverty indicators in Indonesia, this problem must remain a significant concern for the government (Rashid, 2018).

Islam has various alternative instruments that are relatively potential to be further developed in overcoming poverty in the form of social-economic empowerment, such as ZISWAF (zakat, infaq, and

waqf). This condition has been carried out in various countries where most of the population is Muslim but not yet optimal such as Saudi Arabia, Egypt, Turkey, Jordan, Malaysia, and Indonesia. According to Purwanto, Utomo, & Noor (2016); Thayyeb (2012) shows that the application of waqf has become one of the effective instruments in poverty alleviation as an example of the successful management of waqf in various fields such as property, agriculture, land reclamation and economy which is one of the sources of welfare improvement for the people in Egypt (Rosadi et al., 2018).

The most important thing from the management of this waqf must be done professionally, especially related to the management and development of a productive way so that the expected results will also be maximal, some evidence of success from several countries proves that waqf has excellent potential and can contribute in breaking down socio-economic problems (Medias, 2017). The concept of waqf is also in line with Sustainable Development Goals (SDGs) that are economical, in providing decent work and inclusive and sustainable economic growth (Goals 8); industrial development, innovation and infrastructure (goal 9) and reducing economic inequality (goal 10) (Ayuningtyas, 2010).

As an Islamic economic instrument that is not yet popular, the Muslim community in Indonesia has not maximized the management of waqf, and this is evidenced by the use of waqf, which is mostly not leading to the economic empowerment of the people and tends to the usual worship activities such as mosques, mushallas, schools, madrasas, Islamic boarding schools and tombs (Hubur, 2019). The importance of waqf development in Indonesia certainly has implications for how the management of waqf is optimal in providing utilization for the community. Therefore, professional, responsible, transparent, and accountable waqf management is needed (Saad et al., 2016). Based on the background of existing problems to encourage inclusive growth by reducing poverty, increasing development or equitable financial distribution, and increasing financial system stability through waqf funds, this proposal seeks to develop an integrated financial inclusion strategy in managing waqf funds in Indonesia to be more productive.

Research Urgency

The urgency of this research is the development of waqf fund management through waqf blockchain or creating a crowdfunding platform with a blockchain system. This condition illustrates the renewal in the management of potential waqf funds in Indonesia on a digital basis in collecting funds and managing the transfer of waqf funds to be more efficient. One of the benefits of using this blockchain system is that waqf funds that can be collected can be managed and developed in specific empowerment and distributed on target in an accountable and transparent manner, and can be monitored from the benefits of wakaf funds. The most critical factor in managing waqf funds lies in the distribution process because the empowerment of waqf can be done appropriately and benefit the people.

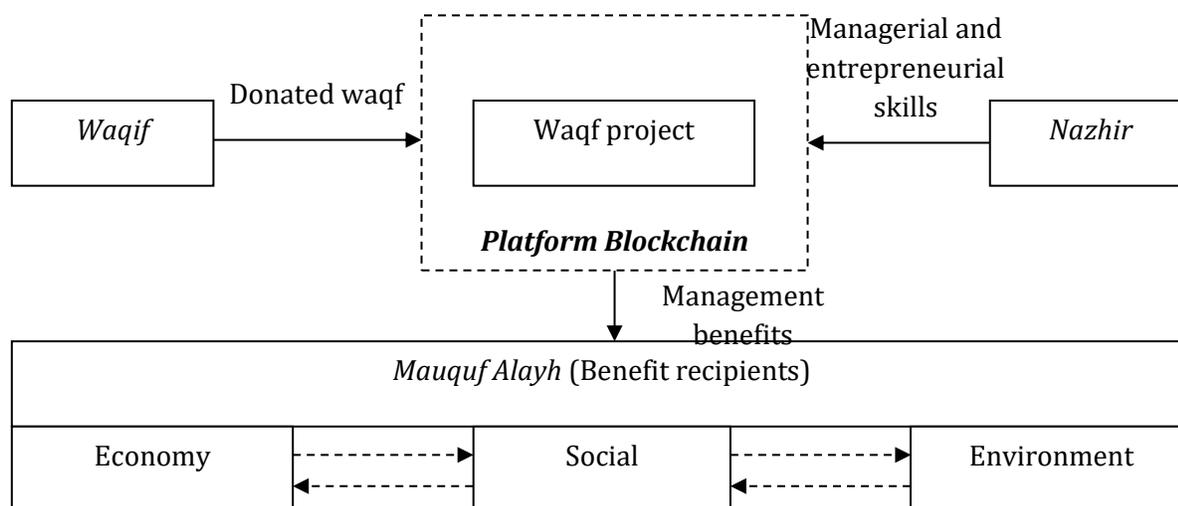
Research Approach

This study uses a qualitative approach with business model canvas analysis in describing and developing the concept of the waqf blockchain as a strategy to increase sharia-based financial inclusion in the management of potential waqf funds in Indonesia. This condition is important considering the massive waqf funds but not yet optimal in its management. So that his hope through this proposal the management of endowment funds can be more productive in the future for the benefit of the people in specific social projects specifically.

Data and Sources

Related to the type of data used in this study uses secondary data to support the results of the study in formulating an ideal strategy for the development of waqf blockchain in Indonesia. Data sources were obtained from various sources such as literature, study journals, and various reports issued by waqf management agencies related to the research conducted.

In a conceptual framework, it shows that waqf projects managed by using the blockchain platform involve three parties, namely: (1) waqif (the party who donates funds for the benefit of waqf); (2) Nazhir (the party managing waqf, so that managerial and entrepreneurial skills are needed in maximizing the waqf project); (3) mauquf alayh (beneficiary party). The utilization of endowment funds in Indonesia only focuses on the construction of places of worship and public facilities, such as schools, so that the endowment project needs to be expanded to shape the development of productive business sectors. Because in essence, utilizing the endowment funds can be used to strengthen the economy and welfare of the people by utilizing various alternative programs that include a combination of economic, social, and environmental factors.



Source: (Gazali & Ismail, 2019)

Figure 2. Waqf as Faith-Based Impact Investing through Blockchain

Flow and Research Conceptual Framework

The process of compiling this research is based on the research flow, which is arranged systematically and sequentially so that, in the end, it can develop an appropriate strategy in the management of waqf funds based on the blockchain system in Indonesia. The research flowchart starts with socio-economic problems in Indonesia and the potential management of waqf funds is not optimal, whereas if this Islamic financial instrument can be maximized, it will reduce existing socio-economic problems. Along with the development of financial digitalization, this can also be applied in managing potential endowment funds on a blockchain platform basis.

This application can be an ideal financial inclusion strategy in optimizing the management of waqf funds in Indonesia. It is expected that the management of waqf funds will be carried out on target, accountable and transparent, and can be monitored for their usefulness. Because when waqf management and management system become more professional and modern, it is expected that waqf can become a tool for improving the economic and social welfare of the people of Indonesia.

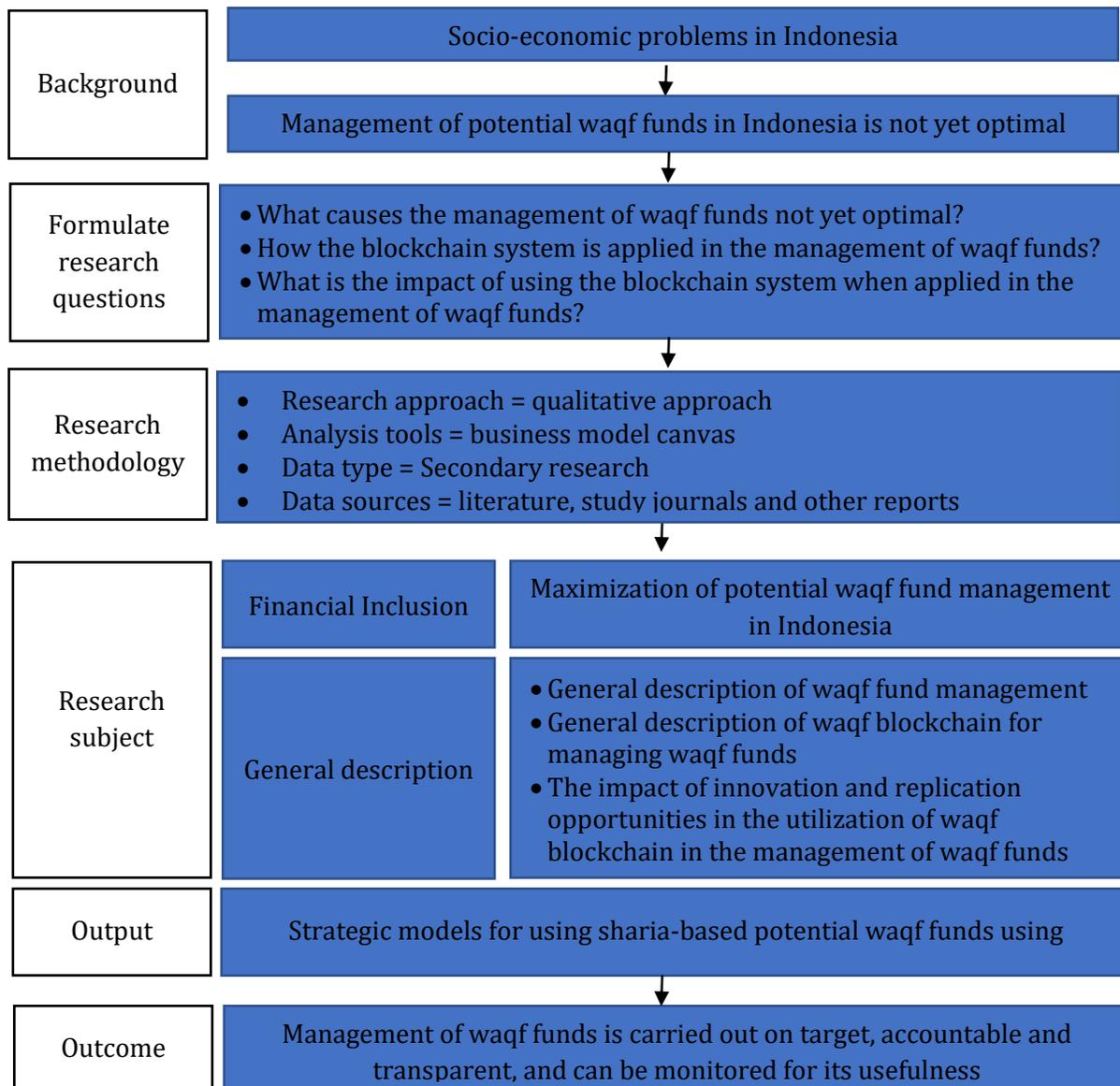
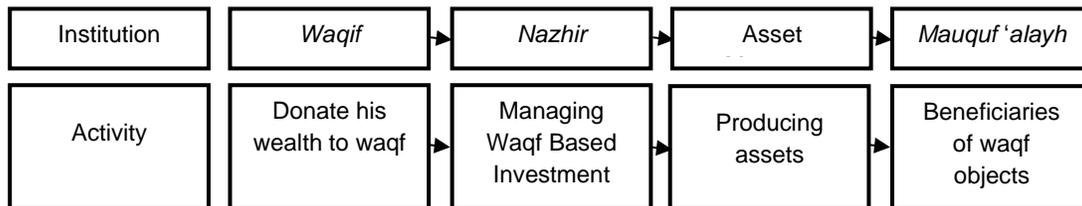


Figure 1. Research Flow

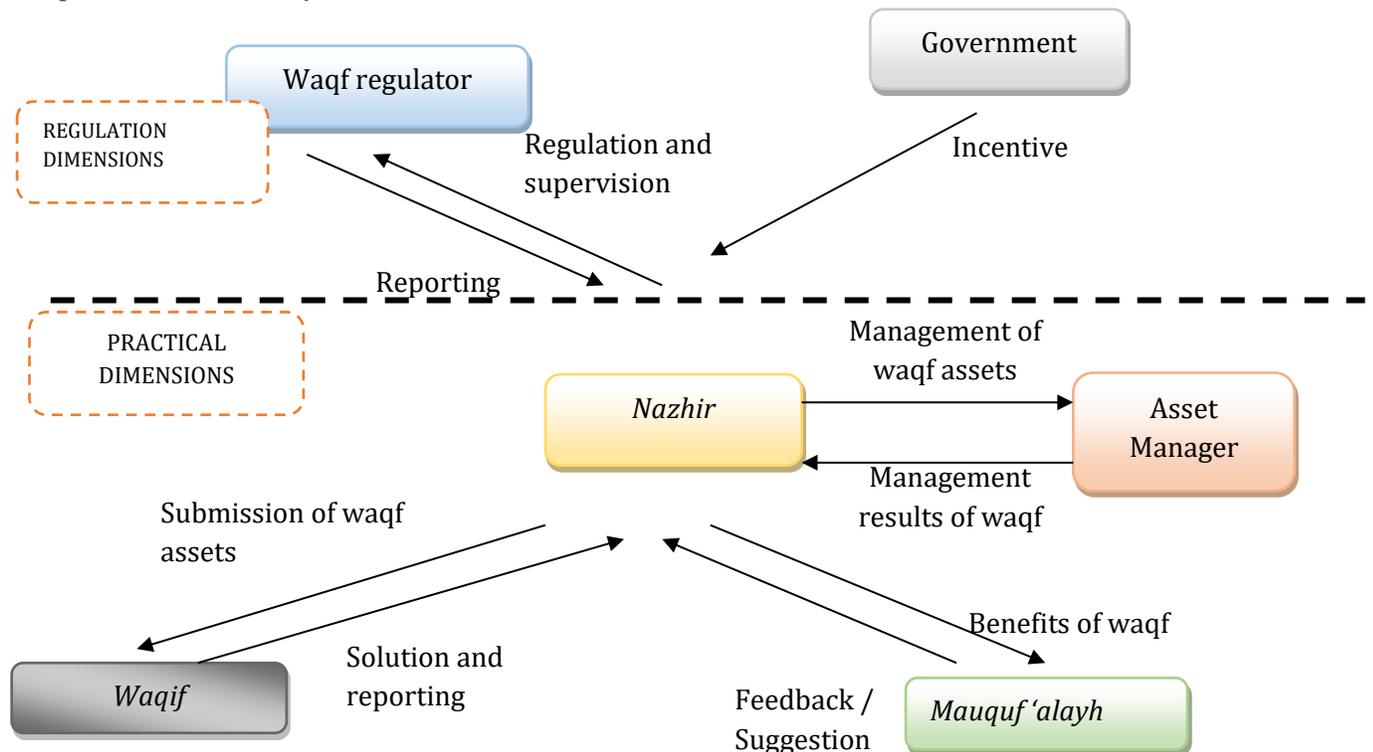
The implementation of waqf fund management as one of the philanthropic instruments which has a number of components as an inseparable unit, including:



Source: (Department of Sharia Economics and Finance Bank Indonesia and Department of Sharia Economics, Faculty of Economics and Business, Airlangga University, 2010)

Figure 3. Schema of Waqf

When the scheme is implemented by each institution it will produce a large multiplier effect for the socio-economy. However, what needs to be noted in the implementation of the management of waqf funds is that a regulator is responsible for making laws and regulations as well as supervising the management of waqf funds carried out by Nazhir.



Source: (Department of Sharia Economics and Finance Bank Indonesia and Department of Sharia Economics, Faculty of Economics and Business, Airlangga University, 2010)

Figure 4. Waqf System

The concept of centralizing the management of waqf funds is not new, because since the time of the Messenger of Allah and his companions had also been implemented, it is only necessary to adjust the character and conditions of a country as a form of strengthening the regulation of waqf institutions so that the targets or targets of waqf management can be achieved, that is: (1) increasing the usefulness of waqf property; (2) integration between institutions so that they do not overlap in developing waqf systemically; (3) carrying out the role of a supervisor in planning, organizing, implementing up to the evaluation of waqf nazhir; and (4) contribute to the achievement of the socio-economic goals of national development in short, medium to long term.

General Description of Waqf Blockchain in Management of Potential Waqf Funds

The renewal of using this blockchain system will be an added value for management and a more professional and modern Waqf fund management system even though this blockchain system adopts the technology used by the bitcoin currency that has existed since the last decade. Historically the management of waqf funds has existed from 1000 years ago where the peak was at the time of the Ottoman Kingdom, which included the donation of buildings, land, and other assets for religious purposes without intending to reclaim the assets.

The presence of this blockchain is the result of innovation in the IR 4.0 era that received a positive response from the community. According to Fonterra, a Singaporean financial technology company has developed a crowdfunding platform with a blockchain system in managing waqf funds which are expected to create more efficient ways of collecting funds and managing waqf transfers that receive donations from Muslims for specific social projects specifically. This result is justified by Gazali & Ismail (2019), in the management of waqf funds using this blockchain system can lead to increased efficiency and effectiveness in two aspects, is transparency and affordability, due to an increase in transparency in the management of waqf funds because Nazir and Waqif are in the same blockchain system so that monitoring can be done of their usefulness, and also the occurrence increased affordability because the blockchain system can reach Nazir not only in a particular country but its global scope thus increasing the opportunity for waqif from one country to donate funds for endowments in other countries, this is good especially for countries that are in need of funding for their development.

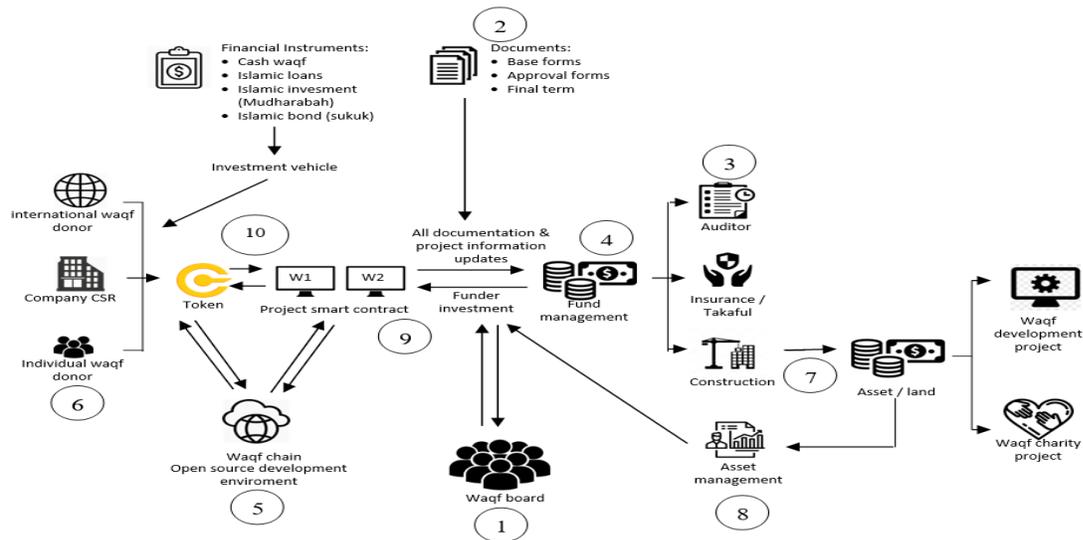
The term blockchain is interpreted as technology that resembles a ledger where each transaction is adequately recorded, forming a unified coherent. This blockchain system uses cryptography signatures and critical public infrastructure to guarantee that every recording process is safe (Lamieux, 2016). The recording mechanism, where each transaction will be recorded and form specific blocks that act as a database, will then be accumulated from all transactions that occur, in order to prevent duplicate records, each block is given a time-stamp. The link between existing blocks using cryptographic algorithms so that it will eventually form a chain. Each user will store proof of transactions digitally because transactions are replicated and distributed to the accounts of this user blockchain so that each user can check each waqf fund transaction that they do.

Management of waqf funds based on the blockchain system increases its role and contribution to sustainable development goals, especially in the socio-economic field. In addition, there are other objectives for using the blockchain system, including (1) becoming the core of the growth of a sharia-based economic

community based on sustainable development; (2) encouraging Indonesia to become the center of waqf platform for Nazirs; (3) encouraging openness in the management of waqf (waqif obtains information on fostered partners who are already utilizing waqf funds that are placed; waqif also knows the growth of waqf funds from sources of revenue sharing from financing provided to foster partners or investments made by Nazir); (4) encourage monitoring of the management of waqf funds (waqif can find out the impact of waqf funds utilized on the condition or standard of living of the fostered partners; with certain conditions, it is possible to select and determine parameters in monitoring the management of waqf funds).

The workings of the blockchain system consist of a ledger of all decentralized transactions into the P2P network so that with this technology, participants can transfer the desired value. Besides this, blockchain technology is a digital record that records every transaction spread across many computers (nodes). Thanks to this blockchain system, transactions can be processed without involving third parties or specialized organizations. It can potentially improve efficiency in its management. The blockchain technology mechanism can support a capital increase in the development of waqf fund management described below:

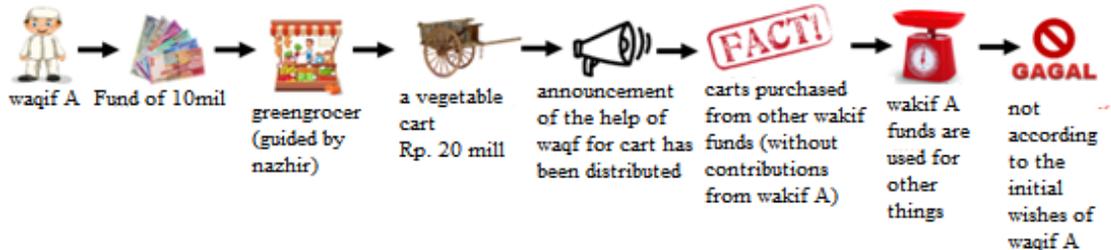
1. Waqf boards identify and provide assets or land to be developed as objects of waqf management
2. All documentation and information that includes land rights; feasibility study; development project plans; project costing; project profit and loss and recommended financing instruments are continually updated
3. The independent auditor reviews and approves the development project documentation
4. Fund managers who have licenses are then involved to launch an Initial Coin Offering (ICO) in the development of waqf fund management through the sale of tokens to investors globally.
5. Waqf chain is built on the use of an open source development environment through launching tokens to obtain funds in the implementation of smart contract projects
6. Investors globally buy tokens, so that the funds collected are in the management of the designated fund manager. When investors buy tokens they are given a choice of one financing instrument which of the four existing instruments they will use, including: (1) cash waqf; (2) Islamic finance; (3) Islamic investment; (4) Islamic bonds
7. After the capital is reached, the fund manager appoints a construction company to start building and developing asset or land management structures that are used as waqf objects
8. After construction is complete, the fund manager appoints an asset manager to operate and maintain the assets and land that is represented
9. Fund Managers collect revenue generated from the management of the assets and land represented
10. The collected income is then distributed to investors based on investment instruments used with the underlying terms and conditions



Source: Rashid, (2018), modified

Gambar 5. Blockchain Technology-Based Waqf Fund Management Scheme

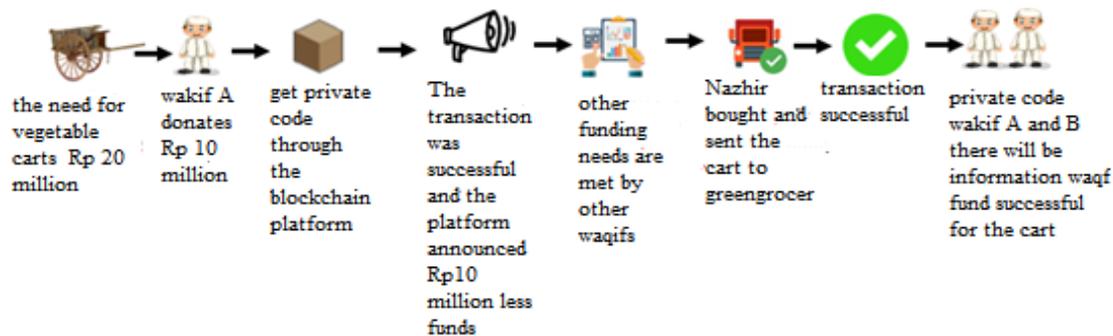
A simple explanation of the comparison of the concept of performing waqf without a blockchain base is illustrated through an illustration below:



Source: (Gazali & Ismail, 2019), modified

Figure 6. Schema of Waqf Fund Management Without Blockchain System

This illustration is an example of waqf management without using a blockchain system that has a potential risk of reputation (resulting in distrust of waqif) over the performance of waqf due to the lack of available information waqf management is not following the initial intentions of the waqif. A waqif A wants to donate his funds in Rp. 10 million, which is then given in the form of a cart to a traveling greengrocer guided by Nazir waqf, who wants to be bought for Rp. 20 million. Nazhir waqf can convey to waqif that waqif assistance in the form of a cart has been distributed although Nazhir purchased the cart with funds from other waqifs without contributions from waqif A. Funds from waqif A itself have the potential to be used for other things, such as the purchase of a scale, outside of the scale the original purpose of waqif A. Then compare when managing waqf funds using the blockchain system, as illustrated by the following illustration:



Source: (Gazali & Ismail, 2019), modified

Figure 7. Schema of Waqf Fund Management with Blockchain System

Waqf management based on platform blockchain can be an instrument that increases the transparency of waqf management by Nazhir so that public trust is expected to increase. Looking at the illustration above, when Nazhir uploaded the vegetable cart needs of Rp. 20 million, then waqif A with a value of Rp. 10 million will get his personal code (encryption code) through the blockchain platform. When the transaction is carried out successfully, at the same time, the blockchain platform will automatically announce that there is still funding short of Rp. If their needs have been fulfilled by other Nazir who is also carried out with the exact mechanism as Waqif A, Nazir will buy a cart to the craftsman, who then dispatches the physical cart to a mobile vegetable trader who needs the cart earlier. After the transaction is successful, the personal code (encryption code) owned by waqif A will be informed that the waqf fund of Rp. 10 million has entered the cart account.

Business Canvas Model in the Development of the Waqf Blockchain Strategy

Considering that the potential for managing waqf funds is not yet optimized, the development of the blockchain system as a strategy for developing waqf management is more professional and modern. It can be one of the ideal instruments for overcoming socio-economic problems considered appropriate. If we want to support the waqf blockchain program, an in-depth study and analysis are needed, one of which can use the business canvas model to maximize opportunities for comprehensively using the blockchain system to manage waqf funds in Indonesia.

<p>KEY PARTNERSHIP</p> <ol style="list-style-type: none"> 1. Regulator <ol style="list-style-type: none"> a. Government (Ministry of Religion) b. Waqf (BWI) 2. University 3. Nazhir (waqf manager) 4. Wakif (donor) 5. Asset manager 6. Islamic Social Institutions (Islamic bank, Islamic insurance) 	<p>KEY ACTIVITIES</p> <ol style="list-style-type: none"> 1. Construction or maintenance of waqf platform 2. Strengthening the role of Nazhir as waqf manager 3. Build or maintain business with Islamic financial institutions 	<p>VALUE PROPOSITION</p> <ol style="list-style-type: none"> 1. Openness (traceability and transparency) in the management of waqf funds 2. monitoring the usefulness of the management of waqf funds (in accordance with the intentions and wishes of waqif) 3. Increasing the productivity of waqf objects 	<p>CUSTOMER RELATIONSHIP</p> <ol style="list-style-type: none"> 1. Human 2. IT (platform) 3. Socialize the benefits of waqf 	<p>CUSTOMER SEGMENTS</p> <p><i>Waqif</i></p> <ol style="list-style-type: none"> 1. individuals aged 25-55 years 2. Business entities / legal entities / Nazhir / CSR companies / donor agencies 3. pay attention to the management of waqf funds as a goal in sustainable development <p><i>Mauquf alaih</i></p> <ol style="list-style-type: none"> 1. halal business sector and in accordance with Islamic law 2. Does not conflict with the concept of sustainable development 3. entrepreneurs and startups aged 20-55 years 4. Nazir guidance
<p>KEY RESOURCES</p> <ol style="list-style-type: none"> 1. IT and internet infrastructure 2. HR managerial skills (fund management, risk management and business development) 		<p>CHANNELS</p> <ol style="list-style-type: none"> 1. Nazhir waqf or donor agency 2. Islamic financial institutions 3. Community of taqlim assemblies 4. Investment manager 		
<p>REVENUE STREAMS</p> <ol style="list-style-type: none"> 1. Percentage of the value of waqf funds placed by waqif 2. Profit sharing from investment management 		<p>COST STRUCTURE</p> <ol style="list-style-type: none"> 1. Platform and infrastructure development and maintenance costs 2. HR costs 3. Operational costs 		

Figure 8. Business Model Canvas in Blockchain Technology-Based Waqf Fund Management

RESULT AND DISCUSSION

The results and discussion section can be divided into several subtopics. The presentation of results and discussions should provide a clear and precise description of the research findings, the author's interpretation of these findings, and the conclusions that can be drawn.

The Impact of Innovation on the Application of the Waqf Blockchain

Every effort from development is expected to create changes in people's behavior for the better. This result is reflected in the improvement of quality of life that covers many aspects of social life so that there is affordability or ease of access in carrying out its activities. The presence of this blockchain system in managing potential waqf funds in collecting, managing, and distributing is one of the critical breakthroughs so that waqf management can be optimized. This effort was carried out to increase the benefit

and welfare of the people, especially in socio-economic terms. Create a more efficient way of collecting funds and managing the transfer of waqf received from Muslims for specific social projects managed explicitly by fund managers (Nazhir).

The essence of managing waqf funds shows that waqf assets are not allowed to settle without any results. Because the waqf funds program can be collected, managed, and distributed, the greater use beneficiaries of zakat funds, on the other hand, the greater get some goodness that will flow to the waqif (endowment donors), and the greater funds received by *nazhir* (the party managing waqf funds) indicate that *nazhir* is entitled to a maximum of 10 percent of waqf receipts and 10 percent of profits derived from the use of waqf funds through fostered partners or other instruments that will be used as waqf managed funds (Impaq, 2019). On this basis, the development of this waqf property needs professional management of individuals or groups, according to the rules referred to as Nazir.

This result is justified by Yumarni & Suhartini (2019), which state that Nazhir is the central party most responsible for managing waqf funds. Nazhir is demanded not only to mobilize waqf funds and directly spend them in the form of alms but also to realize them first as assets and manage them productively so that the results can be used for alms. Of course, to do that, Nazhir must be competent, have extensive insight and ability in managing waqf funds through halal instruments. The same statement Hajjar (2019) expressed that waqf management must display the best performance so that the social economy can feel its usefulness. The people who can manage waqf projects in the financing sector will benefit and see investments that can provide high returns and are following or permitted by sharia teachings.

However, unfortunately, a survey conducted in the management of waqf funds showed unsatisfactory results, where 77 percent of waqf assets are more silent than 23 percent of productive waqf assets or products, and the usefulness of waqf funds are still separate for mosque purposes by 79 percent from the allotment the other 21 percent. Other findings show that Nazhir is not focused on managing waqf funds, where it is described that work as Nazhir is only a part-time job and does not get 84 percent of wages, compared to Nazir, which is a whole job that only reaches 16 percent. Management of individual waqf also still dominates by 66 percent compared to professional organizations by 16 percent and legal entities by 18 percent. Based on this survey, classic problems and the stagnation of waqf fund management are influenced by: (1) waqf assets that are not productive (silent); (2) Nazhir's unprofessional capacity. This condition is undoubtedly contrary to the professional management of endowment funds. Even though it plays a central role in the management of waqf funds, waqf stagnation is not only a mistake of Nazir, and the waqf side is also insensitive because it does not care and does not understand related to the status of assets and waqf funds that they distribute for the benefit of waqf which should be protected for public welfare according to with the purpose, function, and purpose of waqf (Islamiyati et al., 2019).

Whereas when waqif cares about its waqf funds, it can monitor Nazir's performance in managing waqf funds so that it can be optimized. So with the blockchain system, it is expected that the funds collected can be managed and developed for empowerment and distributed on target in an accountable and transparent manner, as well as monitoring the benefits of waqif fund management by waqif so that the empowerment of waqf funds is right on target and can bring benefit to the people.

Replication Opportunities from Waqf Blockchain

Besides looking at the impact of innovation which is one of the renewal aspects of managing waqf funds using this waqf blockchain. Another thing that is also quite important in determining how ample the opportunity to replicate from this blockchain platform is. The success for replication opportunity of waqf blockchain application must not conflict between the legal basis, both originating from the Qur'an and hadith, as well as formal law. In Q.S Ali Imran: 92, the verse explains the suggestion to use the possessions as part of the consummation of worship, which means: " Never will you attain the good [reward] until you spend [in the way of God] from that which you love."

The formal legal basis in Indonesia in managing waqf funds is reflected in Law no. 41 of 2004 concerning Endowments. This regulation contains waqf both in general and more specific matters. Technical description of the implementation of Law No. 41 of 2004 is explained by PP No. 42 of 2006. Other regulations relating to the management of endowment funds are described in the Minister of Religion Regulation No. 4 of 2009 concerning the Administration of the Registration of Money Waqf and the Decision of the Director-General of the Islamic Community No DJ.II / 420 the Year 2009 concerning the Model and Form of Money Waqf Form Fortification. Related to managing waqf funds using digitalization, the Financial Services Authority issued a regulation related to financial technology management in OJK Regulation No. 77 / POJK.01 / 2016 Regarding Information Technology-Based Lending and Borrowing Services, as well as Bank Indonesia also completed it through PBI 18/40/2016 Concerning the Implementation of Payment Transaction Processing. However, it should be noted that the regulation has not explicitly regulated financial technology on an Islamic basis, even though some startups or institutions have started to appear. This research is the next focus of the government in providing a legal umbrella in the implementation of management, especially digital-based waqf. So that it is hoped that the more modern and comprehensive management of waqf will be able to make transactions more accessible, make it easier to access financial products, and improve public financial literacy so that ultimately it has a multiplier effect on improving economic conditions.

Starting with the existing social-economic problems, it takes one instrument to help overcome these problems, one of which is in Islamic waqf funds because the dominant number of Muslims reached 87.18 percent. This result is the biggest asset in collecting and developing waqf funds that can be optimized for the benefit and welfare of the people, especially their socio-economics.

Table 2. Total Population Based on Religion

Religion	Number of Adherents	Percentage (%)
Islam	207.176.162	87,18
Christian	16.528.513	6,96
Catholic	6.907.873	2,91
Hindu	4.012.116	1,69
Buddha	1.703.254	0,72
Khong hu cu	117.091	0,05
Others	299.617	0,13
No answer	139.582	0,06
Not asked	757.118	0,32
Amount	237.641.326	100

Source: Central Bureau of Statistics (Population Census of 2019).

Facing the dominance of Indonesian people who are Muslim, waqf funds have the potential to reach Rp 3 trillion per year, with the following details:

Table 3. Potential Management of Money Waqf Funds

Monthly income level	Muslim Amount	The amount of waqf per month	Potential waqf of money per month	Potential waqf of money per year
Rp500.000	4.000.000	Rp5.000	Rp20 Billion	Rp240 Billion
Rp1.000.000 – Rp2.000.000	3.000.000	Rp10.000	Rp 30 Billion	Rp360 Billion
Rp2.000.000 – Rp5.000.000	2.000.000	Rp50.000	Rp 100 Billion	Rp1,2 Trillion
> Rp5.000.000	1.000.000	Rp100.000	Rp 100 Billion	Rp1,2 Trillion
Amount				Rp3 trillion

Sorce: Nasution, (2019)

From these data, it shows that (1) If Muslims have an income of Rp. 500,000 representatives, then every year there will be a fund of Rp. 240 billion; (2) If Muslims earn between Rp. 1,000,000 to Rp. 2,000,000, a waqf fund of Rp. 360 billion; (3) if Muslims earn between Rp 2,000,000 to Rp. 5,000,000 do waqf for a year will be collected in the amount of Rp. 1.2 trillion; (4) for Muslim communities with an income above Rp. 5,000,000, the endowment funds will be collected in the amount of Rp. 1.2 trillion for one year.

Other calculations of potential funds for endowment money in Indonesia assuming that as many as 20 million Muslim communities or 10 percent of the population of Muslims in Indonesia are able and willing to donate Rp. 100,000 per month, it will collect as much as Rp. 24 trillion for one year. If only there were only 1 million Muslim communities who donated funds amounting to Rp. 100,000, a waqf fund collection will be obtained each year in the amount of Rp. 100 billion every month (Rp. 1.2 trillion per year) (Hamad et al., 2016).

CONCLUSION

The emergence of blockchain technology is a result of innovation in the Industry 4.0 era, which has been met with a positive response from the public. The Waqf Blockchain program seeks to address existing challenges by serving as an instrument to enhance transparency in waqf management by Nazhir, thereby aiming to boost public trust. This initiative represents tangible support for modernizing and improving waqf management, facilitating more accessible transactions, expanding access to financial products, and improving financial literacy. Ultimately, it generates a multiplier effect on economic development.

The success of the Waqf Blockchain program hinges on improving transparency in managing waqf funds, as both Nazhir and Waqif operate within the same blockchain system, enabling effective monitoring of fund utilization. Additionally, the program enhances affordability by extending the blockchain system's reach beyond national borders, allowing Waqif from one country to contribute to endowments in other nations, particularly those in need of development

funding.

Blockchain-based waqf fund management increases its role and contribution toward achieving the Sustainable Development Goals, particularly in the socio-economic sector. The program also pursues additional objectives, including: (1) fostering the growth of a Sharia-based economic community aligned with sustainable development; (2) positioning Indonesia as a hub for the waqf platform for Nazhirs; (3) promoting transparency in waqf management, where Waqif can access information on supported partners utilizing waqf funds, as well as track fund growth through revenue-sharing from financing or investments managed by Nazhir; and (4) facilitating the monitoring of waqf fund management.

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