

An Analysis of Bitcoin Zakat Calculation

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Abstract

Nowadays, the use of digital currency technology is recognised by a variety of industries, particularly those that use Bitcoin transactions. Bitcoin was created as a digital currency to facilitate online payment transactions between one party or individual and another without the use of a third party. However, Bitcoin is also used for money laundering, investment scheme fraud, and involvement in cybercrime, funding activities, and other illegal activities. Bitcoin is also unsuitable as a value storage tool because Bitcoin wallet virtual securities are frequently targeted by cyber criminals, and they can lose liquidity and become vulnerable to hyperinflation. This scenario compels experts and scientists from all over the world to pay close attention to hakam law and the risks of Bitcoin use. According to the Fatwa issued by the state of Perlis explains that any ownership of digital assets is subject to zakat if it is sufficient *haul* (storage period) and *nisab* (mandatory rate). This is because digital currency is property and currency that is *mutaqawwim* which is legal property according to sharia. The issue is whether zakat institutions are willing to accept zakat via Bitcoin transactions. How to make zakat payments with Bitcoin. This study's objective is to dismantle the method for calculating zakat on Bitcoin currency. This study collects data qualitatively through interviews with representatives of zakat institutions and Bitcoin practitioners. While data analysis is based on document analysis and data interpretation of information obtained through interviews. The findings of this study are calculation methods that can be applied to zakat Bitcoin currency. Thus, this study is able to provide new contributions to the academic development and management of zakat in the initial preparation and organise strategies for technological change and innovation that is growing rapidly in changing the way zakat collection today.

Keywords: Bitcoin, Cryptocurrency, Zakat Institution, Investment, Zakat Collection.

Introduction

The times are changing. Nowadays, online transactions and transactions are rapidly expanding. In this regard, digital currency is one of the available mediums of exchange. Many consumers have attempted to obtain this currency, despite the fact that it is not a recognised

currency in the majority of other countries around the world. The advent of Bitcoin in 2009 was intended to be an alternative payment tool to existing fiat currencies (Nakamoto, 2008). However, the fiat currency system that is currently used as an online transaction is still limited by the regulatory rules of a country that has limitations in terms of privacy, transaction costs, inflation, and so on.

Bitcoin was created as a new currency that is expected to overcome the problems in society in transacting without the intervention of third parties on its privacy. With everyone's acceptance of this digital currency, trading and buying and selling activities also occur involving Bitcoin, either as an item to be bought or as a tool to buy other items. Owned Bitcoin, like fiat currencies, will be saved for future use. The primary goal of bitcoin storage is to protect owned Bitcoin from theft. Fiat currency can be kept in a bank because fiat currency exists physically however with the idea of hiding Bitcoin under a mattress or elsewhere is not feasible, as Bitcoin has no physical manifestation. Bitcoin needs to be stored in a computer software complete with a high level of security i.e. a virtual wallet whether stored in a computer or a smartphone. To access the virtual wallet, users need to enter a private key as a security key in access to bitcoin usage (Elasrag, 2019; Ghysels & Nguyen, 2019).

However, the level of security of virtual Bitcoin wallets is frequently a target for cyber criminals, and there is no law that provides assistance in the event of a virtual wallet hack. Bitcoin owners may lose their virtual currency as a result of online theft. In December 2013, 96000 Bitcoins were stolen from Sheep Marketplace, a Chinese online drug website. While conducting Bitcoin exchange transactions, a world-class leader declared bankruptcy. The value of 400 million USD Bitcoin was lost due to a Mt. Gox failure in February 2014. The hacking of NiceHash, based in Slovenia, resulted in the theft of 70 million USD worth of Bitcoin late in 2017. Coincheck was also hacked by cybercriminals, resulting in the loss of Bitcoin valued at 530 million USD.

Meanwhile, Grant and Hogan (2015) state that, while Bitcoin currency exchange transactions are arguably free of international currency issues and easy to transact because they are not controlled by any party, Bitcoin is subject to the same price fluctuation risk as other currencies. It is clear from this that stability is a major issue in this regard. Bitcoin, which is still considered new, has faced the problem of price fluctuations during its lifespan. Segendorf (2014) also claims that the high volatility of the Bitcoin exchange rate makes it unsuitable for protecting its value because purchasing power will quickly diminish as a result of the issue. In some ways, determining Bitcoin's value fluctuations is similar to determining the value fluctuations of other goods based on demand and supply (Ausop, 2018). When there is a high demand for an item, its value rises. There are also several other factors that influence value fluctuations such as Barker (2017), stating that another factor that influences Bitcoin value fluctuations is the influence of mass media displaying unpleasant news about Bitcoin. This influence has implications and impacts on Bitcoin demand, as well as causing Bitcoin prices to fluctuate dramatically. Furthermore, one of the risks associated with the use of this cryptocurrency is theft and fraud in Bitcoin transactions (Yermack, 2014).

In contrast, the public's enthusiasm for Bitcoin has pushed its price to a high level in 2018, where it was initially offered at USD65 and is now said to be worth USD6,281.76 (RM26,340) (Luqman, 2018). Bitcoin is now well-known and has a place in the hearts of

everyone, including Malaysians. Furthermore, some people believe that Bitcoin is a halal currency under Islamic law (Meera 2018). The legal status of Bitcoin may encourage more Muslims to use it as a payment tool. As a result, Bitcoin can be used as a zakat payment asset. According to Kahf (2017), Bitcoin is a legitimate currency and a currency that does not contain an element of usury (Evans, 2015). Moreover, Adam (2017) claims that Bitcoin is a currency and that Bitcoin is required for zakat because it has monetary value. The question is whether zakat institutions are willing to accept zakat via Bitcoin transactions. How can Bitcoin be used as a tool for paying zakat?

The interesting debate regarding the use of bitcoin as a digital currency in buying and selling transactions has attracted many researchers in conducting studies related to this currency (Yaakob, et al., 2019; Husairi & Dahlan, 2019; Tektona & Safilia, 2020; Salleh et al., 2019; Beik et al., 2019). Unfortunately, it is difficult to find studies that discuss how to calculate zakat on Bitcoin currency as a whole. Previous research has not clearly discussed the use of Bitcoin as a tool for zakat payment by zakat institutions. To fill this void, this research attempts to determine how to calculate property zakat on Bitcoin currency.

Literature Review

Bitcoin from an Islamic Perspective

The issue of Bitcoin and the Islamic perspective on it is still relatively new in Malaysia, and it is undoubtedly still under investigation among Malaysian scholars of muamalat and Islamic finance. According to a study by Fakhri et al (2018), Bitcoin has not been accepted as a legitimate currency in Islam because its value is still unstable. If it is accepted as a legal form of currency in Malaysia in the future, the laws governing nuqud (gold and silver) will also apply to it, just like fiat money. This is included in the sale and purchase, nisab zakat, riba, and other calculations. However, there will be some exceptions, such as when it is used to pay zakat and waqf.

In terms of maslahah and mafsadah, there is still no need for the use of Bitcoin in Malaysia at this time, whether it is a dharuriyyah or hajiyyah requirement. The external risk remains high because it is a safe medium for criminals and the mafia to conduct illegal transactions between them. Furthermore, Malaysia is not ready for Bitcoin transactions due to people's lack of knowledge about it, as well as the need for additional details to existing laws to ensure that every user is guaranteed security and can be controlled.

Zakat Bitcoin

Based on the results of the study of Faiz et al (2019), the readiness of zakat institutions to accept Bitcoin transactions can be divided into several key components that are interrelated as a guideline namely knowledge and skills, technology, economics and investment, security as well as continuous improvement. The Kedah State Zakat Board is a financial institution that needs to be prepared from all dimensions by establishing guidelines for the acceptance of the use of cryptocurrency as payment of zakat and waqf. Although the recognition of the use of cryptocurrencies is still uncertain, the current state of the world is encouraging for the acceptance of cryptocurrencies under the conditions that will be established. It is also necessary to identify an analysis of the current hakam law on the use of cryptocurrencies in order to reveal expert opinions and risks associated with Bitcoin usage in the Muslim community. Perlis is one of the earliest states to make zakat obligatory for citizens who own digital assets, such as Bitcoin (MAIPs, 2020). The decision of the Perlis State Fatwa Committee

states that ownership of digital assets in the form of Bitcoin is subject to zakat if it has sufficient haul (storage period) and nisab (mandatory rate) as *Urudh al-Tijarah* (merchandise).

Comparison of Bitcoin Property Zakat Law

Today's world is witnessing the rapid growth of digital transactions. As a result, globalisation in the financial system is impacted. Bitcoin has emerged as a phenomenon in the evolution of online transactions. There are risks associated with this phenomenon (Faiz et al., 2019). Furthermore, this phenomenon has implications for transactions conducted by Muslim individuals and communities worldwide. In fact, there is a school of thought that holds that this transaction must be used to pay zakat under certain conditions.

Based on the functions and characteristics of the currency discussed in the Bitcoin virtual financial system, Islamic scholars are divided into two opinions in determining the status of this Bitcoin cryptocurrency according to Islamic perspectives. The use of Bitcoin as a means of payment is a must because Bitcoin is a *mutaqawwim* currency and property (Al-Islami, 2018). Kahf (2017) states that bitcoin is specifically a legitimate currency. Bitcoin according to Evans (2015) is a legitimate currency and free from the element of usury. Each unit issued on the market, he added, demonstrates that Bitcoin is a legitimate currency. Bitcoin should be subject to zakat obligations because it has a monetary value (Adam, 2017; Muhammad, 2017).

Although the process of exchanging bitcoin with the same type or with fiat currency can be done in cash as it is done online, the failure and malfunction of the internet system that causes denial of the Bitcoin handover process remains inevitable (Bodarenko, 2019; Grinberg, 2012; Hurlburt & Bojanova, 2014). The delay and denial of the handover process of Bitcoin exchange with fiat currency will result in the existence of *nasiah* usury element which is prohibited in Islam even the exchanged bitcoin can also disappear overnight (Asif, 2018; Zahudi & Amir, 2016), in the market shows Bitcoin is a real currency.

However, the results of the study of Faiz et al (2019) discuss various scholarly views on this issue. Thus, it was found that Bitcoin is a new tool that has been introduced by certain parties as an alternative to the existing currency system in a country. Scholars have disagreed on three points when it comes to determining the law on this issue. These differences occur when their points of view differ. For those who need it, scholars can look at Bitcoin from a micro perspective; it is a currency that meets the characteristics of a currency, and there is no element of *gharar* or *jahalah* that can harm the transaction of this currency.

However, it was discovered that the scholars who banned it should look at Bitcoin from a macro perspective and expect a broader scope. In addition to the lack of supervision and control by authorities, the existence of this currency can jeopardise the stability of a country's currency. The use of Bitcoin is also expected to cause additional issues, such as the emergence of fraudulent investment schemes and easy entry points for terrorists and cybercriminals. There are a few scholars who are more *tawaqquf* on this subject. This is because it was discovered that they took safer and more cautious measures by gathering as many insights as possible on the use of this currency. The final decision is made once they are completely satisfied with the information obtained. Bitcoin should be subject to zakat obligations because it has a monetary value (Adam, 2017; Muhammad, 2017).

Methodology

The goal of this research is to look into the integration of zakat and Bitcoin. This study used qualitative methods, including semi-structured interviews with two zakat officers and two Bitcoin investors. The distinction of qualitative research is that it focuses on a specific group of people (Edwards & Holland, 2013). The officers of the Perlis Zakat Institution and Bitcoin investors were chosen as participants for this study. In qualitative research, sample size is determined by the research needs of the researcher (Boddy, 2016). Qualitative methodologies, details, and descriptions of specific issues will yield a wealth of comprehensive data on a small number of participants (Creswell & Creswell, 2017). This case study clearly demonstrates that research on the integration of zakat and Bitcoin is accurate when qualitative methodologies are used. The qualitative method enables the researcher to ask questions while observing the participants' body language. The semi-structured interview method was chosen because the emphasis is on the interview design, which includes a series of broad themes to be used during the interview to guide and direct questions toward the topics and issues about which the interviewer is interested (Qu & Dumay, 2011). Following the completion of the interviews and data collection, the data is transcribed into a paper script (McLellan et al., 2003). It is difficult to transcribe four participants in a short period of time. The researcher spent nearly three days for each participant to transfer all recordings into a script, totaling about 15 days to complete the transcribing process. This includes breaks every 5 minutes for a total of 20 minutes of transcription.

Result & Discussion*Bitcoin Status According to Legal Terms*

In determining the law pertaining to Bitcoin, there are numerous scholarly disagreements regarding the classification, nature, and status of Bitcoin in terms of the legitimacy of its value and the recognition of Bitcoin as a valuable asset (*Mal Mutaqawwam*). In addition, there is disagreement among scholars regarding the legality of dealing with Bitcoin, which includes the process of trading (buying and selling), storing, and employing it, as well as the zakat obligation on it.

The Perlis State Mufti has issued a fatwa stating that Bitcoin is a valuable asset and that Bitcoin owners must pay zakat accordingly, as long as there is no government directive prohibiting the use of bitcoin (Perlis State Mufti Department, 2019). The Perlis State Mufti Department (2019) has submitted the following points of view:

1. Nature and validity of property value on bitcoin: It is valid and can be recognised as having property value due to the nature of the 'multi-function and benefit' obtained by the Bitcoin owner. Among the advantages mentioned are:
 - Access to a complete ecosystem that allows the transfer of ownership to be carried out safely and accurately.
 - The ability to store and transfer to others easily, quickly and cheaply.
 - Its ability to be traded on the crypto market is open.
 - Acceptance of some parties against him as an intermediary of payment.
 - The use of blockchain technology that adds to the features of transparency, security of Bitcoin as well as its value.

Thus, Bitcoin can be described as a digital asset in a unique form with a variety of benefits that should be (permissible), particularly for communities that know how to use and utilise it. Bitcoin is currently deemed insufficient for currency classification, so it cannot be considered a currency and is not subject to the guidelines of *Sarf* law.

2. Bitcoin must be used as an intermediary for payments, money transfers, savings assets, and trade. However, it must consider the information in item five (5) below.
3. Since Bitcoin is regarded as a valuable asset, any ownership that exceeds the value of 85 gram of gold, as well as a sufficient period of ownership of one year, requires Bitcoin owners to pay property zakat of 2.5% of the Bitcoin's current value.
4. Those who want to use Bitcoin must also understand how it works. It is critical to avoid the gharar element while using it. Furthermore, the parties involved must first understand the high level of risk associated with Bitcoin transactions.
5. Bitcoin usage laws can turn out to be illegal or prohibited due to several external factors such as:
 - When its use was banned by the government at that time, it also became illegal in terms of Shariah law on the basis of public interest and to avoid harm according to the assessment by the *ulil amri*.
 - When participating in a Bitcoin Scheme via a get-rich-quick scheme organised by a middleman or an intermediary company that promises a fixed or lucrative profit. Sharia and local law both hold this to be illegal. This is why some people purchase Bitcoin through accounts owned by such companies, resulting in fraud.

This method states that in every muamalah or transaction, any goods or services must be sold as long as they meet the original requirements of the sale and purchase, which is aqad (agreement between seller and buyer), and no illegal elements are clearly proven. As a result, it can be concluded that the original position Bitcoin nor the transaction and its use are halal and should be followed as there is no proposition to show Bitcoin engaging in unlawful matters in matters of muamalah such as the sale of pigs, alcohol, riba, gharar, gambling, fraud, and causing harm.

Zakat Payment Method on Bitcoin Digital Assets

According to the Perlis Fatwa Council, any ownership of Bitcoin digital assets is subject to zakat if there is sufficient haul (storage period) and nisab (mandatory rate) due to its nature as 'Urudh al-Tijarah' (merchandise) (Perlis State Mufti Department, 2020). This is the first fatwa that obligates and guides owners of digital assets to pay zakat on their ownership. The payment rate has been set by the Perlis Fatwa Council Committee, as has the payment of zakat, which is mandatory for gold owners. Payment can be made in the form of money or Bitcoin units (BTC).

There are two common calculation methods used for the payment of zakat for a cryptocurrency such as Bitcoin depending on whether the cryptocurrency is traded or simply as a deposit in a cryptocurrency. For cryptocurrencies stored in a cryptocurrency wallet, the cryptocurrency calculation method is similar to the fiat currency deposit calculation. Once the total amount meets the required minimum amount of 85gm of gold (nisab) and full ownership for a year (haul), then it is obligatory for the owner to pay zakat of 2.5% of the total amount of cryptocurrency owned at the end of the year (Perlis State Mufti Department, 2020).

The next method of calculating zakat is for traded cryptocurrencies. The method is to think of a cryptocurrency as an investment, similar to a stock market investment. The standard method for calculating zakat is to take 2.5% of the profit realised during the year and the number of crypto units owned at the end of the year. The following is the zakat calculation method for Bitcoin (BTC) digital assets traded:

$$\begin{aligned} &[(\text{Lowest value of BTC units in one year} \times \text{number of BTC units}) \\ &+ \text{trading profit for the year}] \times 2.5\% \end{aligned}$$

(Source: Perlis State Mufti Department, 2020)

For example, Ash Owner purchased one Bitcoin at a cost of RM 30,000.00 on 1 January 2022. After one year, on 1 January 2022, the haul period is over, which is one year, and the current value of his Bitcoin is RM250,000.00. Current value exceeds state nisab, which stands at RM 20,361.00. Zakat has to be paid accordingly.

a) Calculation of zakat method 1:

Bitcoin's lowest value between 1 January 2021 and 1 January 2022 is RM 26,000.00 (Lowest value in April 2021).

Number of BTC units: 1

Trading profit: 0 (never sold units)

So $[(\text{RM } 26,000.0 \times 1) + 0] \times 2.5\% = \text{RM } 650.00$

The value of 650.00 is taken from the sale of a portion of Bitcoin or paid to any zakat institution using other means such as fiat money.

b) Calculation of zakat method 2:

Another example of calculation, Owner Ali has a Bitcoin storage balance of 10 units in 2021 where the lowest value of Bitcoin in that year is RM10,000 and the highest value is RM500,000.

Calculation of zakat by Ali:

The lowest value of BTC 2021 = RM10,000

Total BTC savings balance: 10 BTC

If the highest value of BTC is RM500,000 in 2021

So $[10,000 \times 10] + [500,000 - 100,000] \times 2.5\% = \text{RM}12,500.00$

As a result, zakat of up to RM12,500 must be paid on the remaining 10 units of Bitcoin owned.

Although only Perlis issues fatwas on Bitcoin, any investor who wishes to pay zakat on the basis of their fatwa and method of calculation can do so through any zakat institution. Even though the fatwa is specific to Bitcoin, Arham (2021) claims that the calculation can be applied to other cryptocurrencies.

Conclusion

The use of bitcoin currency in Malaysians is still increasing and demanding among Muslim also in parallel with the development of technology to become an alternative to fiat currency. Based on the findings, the recognition of Bitcoin as a valuable asset (*Mal Mutaqawwam*) which is bitcoin includes the process of trading (buying and selling), storing, and employing it, as well as the zakat obligation on it. There are two common calculation methods used for the payment of zakat for a cryptocurrency such as Bitcoin depending on whether the cryptocurrency is traded or simply as a deposit in a cryptocurrency. First method is the total

amount meets the required minimum amount of 85gm of gold (nisab) and full ownership for a year (haul), then it is obligatory for the owner to pay zakat of 2.5% of the total amount of cryptocurrency owned at the end of the year. The second method of calculating zakat is for traded cryptocurrencies. The method is to think of a cryptocurrency as an investment, similar to a stock market investment. The standard method for calculating zakat is to take 2.5% of the profit realised during the year and the number of crypto units owned at the end of the year. However, zakat institutions need to complete preparations from various angles whether from a skill point of view, expertise, knowledge, dissemination of information and the zakat channel. Need to determine whether zakat is paid using any medium in the case of cryptocurrency. The institution of zakat is also necessary provide specific manuals or guidelines in the determination and calculation of zakat for assets diverse digital. Zakat institutions must be able to accommodate the needs of new potential contributors who hold crypto as a valuable digital asset. The readiness and preparation of zakat institutions to accept Bitcoin transactions as a change to the digital financial aspect must be meticulously prepared for the technological advances of the financial literacy boom. The act of providing a crypto zakat payment platform will be a small part of a larger beneficial effort to steer crypto towards a more formal economy. So, in the context of the Malaysian economy, it benefits the country's economy as a whole and improves societal well-being.

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