

Optimising Digital Technology in Managing Zakat

Wan Nur Azira Wan Mohamed Salleh, Siti Zaleha Abdul Rasid,
Rohaida Basiruddin

Azman Hashim International Business School, Level 9, Menara Razak, Universiti Teknologi
Malaysia, Jalan Sultan Yahya Petra (Jalan Semarak), 54100 Kuala Lumpur, Malaysia
Corresponding Authors Email: wn.azira@graduate.utm.my

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Abstract

One of the most effective methods for reducing poverty is zakat, which is acknowledged in many nations. Utilizing zakat is consistent with the objective of Sustainable Development Goals, especially those aimed at eradicating poverty and hunger. Digitalisation of zakat offer opportunities and potentials for improving financial inclusion in some nations. In order to maximise financial inclusion in support of sustainable development goals, this conceptual study analyses prior work on technology views in the context of zakat collection and distribution. The purpose of this study is to examine the optimisation of digital technology or fintech that will affect the transformation of zakat management in Malaysia. This study employs a qualitative methodology by evaluating previous literatures for information if zakat organisations coordinate the distribution and collecting of zakat in relationship to the use of technology. Future studies would focus on developing a creative, technology-based integrated management strategy for zakat distribution and collection.

Keywords: Technology, Acceptance, Zakat, Collection and Distribution, Financial Inclusion.

Introduction

The United Nations Development Program (UNDP) approved the Sustainable Development Goals (SDGs) in 2015 with the intention of eradicating poverty worldwide by 2030. The SDGs and zakat share the same objective of alleviating poverty (United Nations, 2022). Studies by the World Bank and the Islamic Research and Training Institute of the Islamic Development Bank place the potential global zakat collection at USD 550 and USD 600 billion (Obaidullah, 2018). According to Rehman and Pickup (2018), who are the Senior Advisor on Islamic Finance UNDP and Resident Representative UNDP Serbia, respectively, Zakat as social finance is a philanthropic fund that is in line with the Sustainable Development Goal Projects (Rehman & Pickup, 2018). Zakat is another Islamic financing vehicle, in addition to Waqf and Sadaqah, that Indonesia utilises to combat poverty and is a world leader in social support. Muslims are the poorest group, according to the literature, and their population has increased dramatically over time. Islamic academics and IT experts believe that the zakat digital wallet could be the solution to lowering poverty among the asnaf group. The purpose of this study

is to examine the optimisation of digital technology or fintech that will affect the transformation of zakat management in Malaysia. This study examines earlier work on technology viewpoints in the context of zakat collection and distribution in order to maximise financial inclusion in support of sustainable development goals.

Evolution of Technology to Manage Zakat

The first industrial revolution, which was limited to Great Britain and took place between 1760 and 1840, was marked by mechanisation using water and steam power. The second industrial revolution, which took place between 1870 and 1914, was marked by mass production and assembly lines using electricity. The third industrial revolution saw the adoption of computers and automation. The fourth industrial revolution, first proposed in Germany in 2013 (Petrillo et al., 2018), places an emphasis on technical advancements based on digitalization or automation using the Internet of Things (IoT) in conjunction with cyber-physical systems with the capacity to make their own decisions through the use of machine learning (Ortiz et al., 2020). Real-time data collecting makes it possible to analyse and store data on the cloud. The pillars of Industry 4.0 enable the exploitation of the Internet of Things (IoT), Big Data and data analytics, augmented reality, cybersecurity, collaborative robotics, additive manufacturing, cloud computing, artificial intelligence, and 5G networks, enabling production costs to be reduced by 10-30 percent, logistics expenses by 10-30 percent, and quality management costs by 10-20 percent (Rojko, 2017). Following its independence in 1957, Malaysia experienced the industrial revolution in its third and fourth phases. The National Policy on Industry 4.0 established policy for a suitable ecosystem, the nurturing of ideas, strategies, and action plans to turn Malaysia's manufacturing industry and allied services, including the financial sector, into industry 4.0 ready (Ministry of International Trade and Industry, 2018). As a result, the policy makers in Malaysia have a strong interest in seeing technology used in non-financial institutions like zakat institutions. Zakat institutions are under pressure to adapt the new technology for the collection and distribution of zakat as a result of the Malaysian government's encouragement of cashless payment, which is outlined in the National Policy on Industry 4.0 and the Bank Negara Blueprint 2011-2020. The National Policy on Industrial 4.0 aims to: (i) attract stakeholders to Industry 4.0 technologies & processes and further enhance Malaysia's attractiveness as a desirable manufacturing destination; (ii) build the proper environment for Industry 4.0 adoption and align current and future development initiatives; and (iii) change Malaysia's industry capabilities in a comprehensive and expedited fashion. Technology development, as demonstrated in Industry 4.0, has had an impact on how zakat is managed. Islam promotes socioeconomic fairness, thus the impoverished and underprivileged in society will also profit from the collecting and distribution of zakat (Wahab & Rahman, 2011). The nation gains from these zakat initiatives in terms of reducing poverty for the expansion of the economy. In line with the Qur'an, only zakat institutions are authorised to carry out these collection and distribution tasks. Based on each state's implementation of zakat, the State Religious Council oversees the separate state authorities that administer the zakat institutions in Malaysia. As a result, each state has a different perspective on how technology might be used to collect and distribute zakat. Online platforms for zakat distribution and collection were introduced by a few state-run zakat institutions in Malaysia. Muslims will have the chance to take part in creating a diverse, just, and successful country as a result of the development of social funding such as zakat and the digital age. According to the research's methodology, the government must provide significant assistance for the advancement of new technologies, as it does in the case of the digital wallet. According

to Venkatesh (2003), government support serves as a facilitating condition (Venkatesh et al., 2003), hence it is better for the government to use modern technologies to facilitate social funding. As qualified Muslims are confident in their ability to embrace and commit to adopting a technology, government assistance lends credibility and viability. According to prior study, government assistance is a major motivator that persuades people to see a behaviour favourably.

Effort to Digitalise in Managing Zakat

Digitalization has had an impact on zakat collection and distribution management changes by enhancing efficiency, transparency, security, and confidence. Zakat institutions require a unified regulatory framework and operating standards as a guide in order to ensure a complete approach and to minimise gaps in the process of fully adopting the technology. The Malaysian government, through the Economic Planning division, pushes digitization to progress the country's economy by the end of the twenty-first century, in accordance with the roadmap provided in the Malaysia Digital Economy Blueprint (Economic Planning Unit Prime Minister's Department, 2021). The government believes that understanding digital technology is crucial for advancing Malaysia's economy, which is why it places a great emphasis on a strong digital infrastructure. You can overcome productivity obstacles by using digital technology, especially during pandemics. COVID-19. The blueprint will be made public at the same time as the pandemic's anticipated start in 2020. In this context, the government recommended that regional enterprises' capacity be increased by appointing local IT firms as service providers to lead and collaborate with government organisations. By the end of 2022, the government intends to use the strategy to strategically aim for the migration of 80% of public data to hybrid cloud platforms. 22 strategies that were planned to be executed between 2021 and 2030 were listed in the blueprint. 48 national projects and 28 sectoral initiatives made up these strategies. On February 19, the strategy for 2021 was announced, and it is believed that this will put pressure on zakat organisations to implement digitalization more quickly. By enabling zakat institutions to function more effectively and efficiently, Industry Revolution 4.0's (IR 4.0) technical improvements may have an impact on zakat distribution and collecting in the future. To improve zakat collection, for example, especially during the 2020 COVID-19 pandemic, most of the state zakat institutions in Malaysia have embraced online payment.

Technology Trends Affecting the Way Zakat is Managed in the Future

New technologies are occasionally created, and the advancement of current technologies is changing quickly. These developments have an impact on how zakat institutions will operate in the future. Zakat institutions should be aware of the following technology trends in IR 4.0: (i) artificial intelligence; (ii) augmented reality; (iii) blockchain; (iv) automation; and (v) internet of things. Artificial intelligence (AI) is the term used to describe the simulation of human intelligence in robots that have been designed to think and act like people (World Bank Group, 2020). Artificial intelligence is a machine-based system that makes judgments affecting the actual world or virtual world (OECD, 2018). Artificial intelligence (AI) refers to machines that do tasks while also "learning" from repeated interactions. These machines have human traits such as speaking, reading, perceiving, and even recognising emotion (machine learning). By applying algorithms that adjust to location, speech, or use-history devices, artificial intelligence allows zakat organisations to tailor the collecting and distributions of zakat to carry out laborious jobs more precisely, combined with augmented reality systems. An

example is the blockchain technology which ensure the promise of an open government in accessing information, however it may be unachievable to some countries. Some information is confidential and inaccessible and at times it is time consuming and costly. However, all this about to change by using blockchain system specifically digital wallet for zakat payment because of the usefulness since blockchain is secured, transparent and immutable. An expert Datuk Mohd Daud Bakar who is the Chairman of the Shari'ah Advisory Council expresses his view on Bitcoin and Blockchain in Malaysia as legal under Shari'ah law. In fact, he reiterated that it is high time that Malaysia adopt blockchain concept in dealing with Islamic matters. The idea proposed by Datuk Mohd Daud Bakar is good due to the fact that blockchain technology is such that it is transparent and nobody could alter the transactions. In this regard that the research focus in the context of zakat payment in which the use of digital wallet addresses integrity, transparency and trust among the various stakeholders. In Malaysia zakat digital wallet is not in place yet, therefore this research looks into the behavioural intention from the perspective of individual zakat payers among information technology professionals.

People can immerse themselves elsewhere, react to what's around them, and change their virtual environment in real-time thanks to systems that mix real-time 3D vision, sound, haptics (the sensation of touch), location data, and even other senses like scent. In order to increase efficiency in tasks like communicating with zakat payers and beneficiaries, zakat institutions may benefit from using augmented reality technology. Blockchain technology is a method of securely keeping trusted documents, recording transactions, and verifying those transactions. For the objective of maintaining data security, zakat organisations may use blockchain technology to change cumbersome, centralised, unreliable, and insecure systems. Machine learning and connectivity lead to automation, which is the development and use of technologies in terms of techniques and processes to produce and deliver goods and services with little to no human involvement. This increases the efficiency, transparency, reliability, and/or speed of many tasks that were previously carried out by humans. To better disburse zakat to the beneficiaries (asnaf), zakat institutions may employ automation technologies to track zakat payers and beneficiaries. The administrator of the zakat automation system will be better able to keep track of the total amount of zakat collected and distributed in this way. The Internet of Things (IoT) is a network of physical devices that can be accessed online and that include inbuilt technology to communicate with internal or environmental conditions (Banafa, 2018). Data collection and exchange are made possible because the items or equipment are connected via sensors, software, and other electronic devices (Banafa, 2018; World Bank Group, 2020). For instance, the IoT will make it possible to measure the stress and poverty levels in a household (Muneeza, 2021). By enabling the impoverished to register only once using the household data that was recorded in the system, the IoT will improve the distribution of zakat to the underprivileged. In this situation, IoT allows zakat institutions to check whether people who registered to get zakat are eligible, and if they are, zakat can be delivered using a QR code via a smart device with a sensor connected to the internet.

Addressing Zakat Issues with Financial Technology

Fintech is a term used to describe a concept that employs technology to transform the way that businesses, operations, and customers interact with financial services. All qualified Muslims who participate in zakat donate 2.5 percent of their total income, which is one of the methods used to attain the SDGs. Many nations acknowledge zakat as one of the most effective ways to reduce poverty. Utilizing zakat is consistent with SDGs, especially those

aimed at eradicating poverty and hunger. According to the five pillars of Islam, every Muslim has a responsibility to give the obligatory alms known as zakat. A Muslim has a duty to contribute to zakat based on their wealth, according to certain conditions and requirements. In the Qur'an, zakat refers to both the muzakki, or zakat payer, and the beneficiaries. Examples include individuals who are underprivileged, in need, recently converted to Islam, financially disadvantaged, enslaved, in debt, spending money for the benefit of Allah, and those who travel for charitable purposes (musafir). These eight recipients are therefore qualified zakat recipients. The minimal amount of zakat that every Muslim must pay if their wealth exceeds a specific threshold is known as nisab. According to a formula that is computed in accordance with Shari'ah principles, the needy who qualify as zakat recipients will get money to utilise as they see fit (Ahmad & Ma'in, 2014). In 2020, the epidemic COVID-19 caused problems with zakat delivery and collecting. The prolonged nationwide Movement Control Order (MCO) experience has a negative impact on the nation's economy and raises the unemployment rate. The pandemic's surge in Asnaf applications for zakat recipients forced zakat organisations to grapple with how to administer zakat under the new standard. With the pandemic crisis, zakat institutions were immediately faced with problems and difficulties, such as how to disburse zakat fairly as many people lost their employment and turned Asnaf. In this situation, using technology to solve collection and distribution for financial inclusion is a creative option. The implementation of blockchain is decentralized and not centralized. It is tampered evident and tamper resistant digital ledgers which are distributed systematically. Basically, under normal circumstances, the community of users are able to record transaction in this shared ledger and none of these transactions can be changed once it is published. According to the authors, that in 2008, the blockchain idea was combined with several other technologies and computing concepts to create modern cryptocurrencies (Yaga et al., 2018). In line with the proposed digital wallet for e zakat, the nature of blockchain itself empowers one to ensure transparency of the transactions of zakat fund.

Behavioural Adoption of Technology

Information system researchers are compelled to look for an explanation of users' intention to adopt technological innovations in the twenty-first century due to the rapid advancement of technology (Aguila-Obra & Padilla-Melendez, 2006; Chor et al., 2015; Mahdzan et al., 2017). The emergence of digital wallets, which represent a shift away from traditional payment systems toward e-wallets and e-payments, is one of the technological advances. Digital wallets frequently transition to mobile payment through mobile apps to assist consumers in making purchases using smartphones. Digital wallet popularity and use have considerably increased in recent years, but data suggests that only 22% of people currently use them (Price Waterhouse Coopers, 2018), which is still a small percentage. In several research, the behavioural intention is used to describe how people accept and use technology. For instance, Sobti (2018) uses m-wallets and m-banking to study the behavioural intention and acceptance of mobile payment services in India. According to the research, the use of mobile payment services in India is positively and significantly impacted by behavioural intention, demonetisation, and enabling factors (Sobti, 2019). In an investigation of the variables affecting acceptability of internet banking, Tarhini et al (2016) look at user adoption of online banking in Nigeria. The results suggest that customers' decisions to use online banking services are mostly influenced by security concerns (Tarhini et al., 2016). In a different study, Hussin (2011) explored a conceptual framework for Islamic credit card adoption in Malaysia in order to examine factors that influence the use of Islamic credit cards by bank customers

in Malaysia (Jamshidi & Hussin, 2012). The study offers insights into the benefits of Islamic credit cards as a banking system innovation and user perceptions of using Islamic credit cards (Hussin, 2011). To completely comprehend how stakeholders' perceptions of technology affect adoption decisions in terms of cognitive, emotional, and contextual issues, numerous studies of technology acceptance and adoption are required (Straub, 2009). Future academics will be able to conceptualise, discriminate, and understand existing and future applications of technology thanks to studies on behavioural adoption and acceptance theories.

Conclusion

Optimising digital technology may have an impact on how zakat institutions manage zakat collection and distribution in order to promote efficiency, accountability, and transparency, which will increase their credibility. Future studies will focus on developing a creative integrated technology-based management strategy for zakat collection and distribution by enhancing quality, developing creativity, and being exposed to new technologies. Studies on the technology viewpoint of zakat collection and distribution are crucial to: ensure effective zakat collection and distribution management; identify the suitable application system based on the theoretical model; adopt and use technology for zakat institutions to boost human capability to perform services more effectively; and processing the process of zakat collection and distribution more efficiently.

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