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Digital Endowments: An Analysis of Their Legitimacy, Applications, and Impact on Sustainable Development

Anwar M. Radiamoda[1*], M. Imamuddin[2]

[1]*Mindanao State University, MSU, Marawi City, Philippines*
[2]*Universitas Islam Negeri Sjech M. Djamil Djambek Bukittinggi, Indonesia*

**Coresponding Author :* anwar.radiamoda@msumain.edu.ph

***Abstract**. Waqf (Endowment) is a key practice in Islam that is highly encouraged as part of ibadah. The growth of waqf property has been instrumental in advancing both the socioeconomic development of communities and the progression of Islamic civilization. This study explores the concept of digital endowments, focusing on their legitimacy within Islamic law, practical applications, and their role in fostering sustainable development. Using a qualitative approach, the research involved in-depth interviews and group discussions with government officials, financial regulators, Muslim community members, and the conference participants. The findings show that digital endowments, including cryptocurrencies and online platforms, are deemed legitimate if aligned with Shari'ah principles. The study also highlights their significant contribution to achieving global Sustainable Development Goals by providing transparent and sustainable funding. Recommendations include establishing Shari'ah oversight for digital endowments, creating clear regulatory frameworks, raising public awareness, and fostering collaboration between Islamic finance and technology companies to promote the growth of digital endowments.*
Keywords: Awqaf; Enovation; Islamic Finance, Sustainable Development

1. Introduction

Digital endowments represent a significant shift in the conventional concept of waqf (endowment) within Islamic finance and philanthropy. The waqf system, deeply embedded in Islamic charitable traditions, has historically been a means for individuals to dedicate assets for the common good, ensuring long-term benefits in social, educational, and religious spheres (Kuran, T. 2004). Traditionally, waqf involved physical assets like land, property, or cash, with the generated income being directed towards charitable endeavors. However, with society's growing digitization, the incorporation of technology into charitable activities has created new opportunities for establishing endowments. Digital endowments utilize various digital assets, such as cryptocurrencies, intellectual property, and online platforms, to generate sustainable income for charitable causes. This modern approach offers a scalable alternative to traditional waqf systems, making charitable giving more accessible, efficient, and transparent (Ahmed, H. 2016).

The expansion of digital financial systems and global communication networks has created fresh avenues for philanthropy, particularly in regions with limited access to traditional financial infrastructure. Digital endowments allow donors to contribute to causes globally, transcending local boundaries (Ariff, M., & Iqbal, M. 2011). Moreover, the use of blockchain and cryptocurrencies ensures transparent and traceable

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transactions, which address concerns related to financial accountability in conventional charitable giving. In this regard, digital endowments have the potential to revolutionize philanthropy, offering sustainable funding for charitable causes over the long term (Zohdy, M., & Riad, S. 2020).

Nevertheless, as with any emerging financial innovation, the introduction of digital endowments raises significant questions regarding their legitimacy under Islamic law (Shari'ah). Central to this debate is whether digital assets can be used in alignment with Islamic principles, which prohibit activities like riba (interest), gharar (excessive uncertainty), and maysir (gambling). Therefore, determining the Shari'ah-compliant nature of these digital assets is essential for their acceptance and integration into Islamic financial systems (Sulaiman, M., & Chik, M. 2020).

This paper aims to examine the legitimacy of digital endowments within the context of Islamic law, exploring how these modern instruments align with traditional waqf principles. Additionally, it will assess their practical applications, including the use of digital currencies, crowdfunding platforms, and online intellectual property, and evaluate their potential to contribute to sustainable development. By addressing these issues, this study aims to provide valuable insights into how digital endowments can create a more inclusive, transparent, and sustainable model for charitable giving, thereby supporting the United Nations' Sustainable Development Goals (SDGs).

2. Methods

This study investigates digital endowments (waqf), with a focus on their legitimacy, implementation, and contribution to sustainable development. It explores the legal framework, practical applications, and long-term social, economic, and environmental impacts, while also considering the challenges and opportunities of incorporating digital waqf into traditional systems.

The research utilizes Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs). FGDs will gather insights from experts, practitioners, and stakeholders about the practical challenges and potential of digital waqf. KIIs will offer in-depth perspectives from legal experts, platform developers, policymakers, and waqf representatives, addressing legal frameworks and implementation challenges.

Despite increasing interest in digital waqf as a solution for charity and sustainability, there is still uncertainty about its legal legitimacy, implementation, and long-term viability. Many waqf institutions are adapting to the digital age, with the integration of technology offering both opportunities an*d* challenges. This research aims to explore these key issues:

1) What is the concept of digital endowments (waqf) and their legal foundation?
2) What is the legal structure of digital endowments and their governance?
3) What are the technical specifications of digital endowments?
4) What are the practical applications of digital endowments?
5) What are the ideas and projects for digital endowments?

3. Results and Discussion

3.1. Legitimacy of Digital Endowments

The legitimacy of digital endowments is a key concern, especially in relation to Islamic law (Shari'ah). While traditional waqf involves dedicating physical assets to charitable causes, the shift towards digital assets like cryptocurrencies, intellectual property, and online platforms raises questions about whether these digital assets can be treated similarly within Shari'ah law. For digital endowments to be considered legitimate, they must comply with Islamic principles, including the prohibition of riba (interest), gharar (uncertainty), and maysir (gambling). These endowments must ensure that the generated income is directed toward charitable purposes while avoiding prohibited elements. Scholars have started examining the permissibility of digital assets such as cryptocurrencies and intellectual property under Shari'ah principles (Mohd, 2020). Additionally, digital endowments must align with national and international legal frameworks governing cryptocurrency, intellectual property, and digital contracts, ensuring their legal recognition and protection of both donor and beneficiary rights (Bashir, 2021)..

3.2. Applications of Digital Endowments

Digital endowments can take various forms, each offering unique opportunities for charitable contributions. One notable application is cryptocurrency-based endowments, where digital currencies like Bitcoin or Ethereum are donated to endowment funds, with the funds either invested or used for charitable purposes. Blockchain technology ensures transparency, enabling easy tracking of donations and disbursements, thus promoting accountability as described by (Nasir, 2022).

Another application is the use of online platforms and crowdfunding websites, which allow individuals to donate to causes globally. These platforms can function as waqf institutions, where the income generated is directed towards charitable activities, thus expanding the reach and attracting donors (Al-Saud, 2020).

Moreover, intellectual property (IP) is also being utilized as a form of endowment, with assets like patents, trademarks, and copyrights generating income through licensing or royalties, which are then used for philanthropy. This innovative approach allows for the use of intangible assets in charitable work as mentioned by Hasan, (2021). Additionally, digital content and educational endowments, such as e- books, online courses, or software, generate revenue through sales or subscriptions, which can fund educational projects, scholarships, or community development initiatives (Amin, 2023).

3.3. Impact on Sustainable Development

Digital endowments can significantly contribute to sustainable development by providing a continuous flow of funding for social and economic initiatives. One key benefit is financial inclusion, as digital endowments allow individuals worldwide, particularly from underdeveloped regions, to contribute to charitable causes, overcoming geographical and economic barriers to philanthropy (Shah, 2020). Additionally, digital endowment funds can be directed toward projects aimed at achieving the United Nations Sustainable Development Goals (SDGs), supporting areas such as poverty reduction, healthcare, education, and environmental sustainability (UN, 2022).

The integration of technology in managing digital endowments improves efficiency, reduces operational costs, and ensures that more funds are directed to projects. Technologies like blockchain enhance transparency and accountability, fostering donor trust and ensuring the sustainability of funded initiatives (Zaman, 2021). Furthermore, by generating passive income from digital assets or intellectual property, digital endowments provide a long-term, stable funding model, ensuring that charitable projects can continue to have a lasting impact without the financial instability that often affects traditional charity models (Amin, 2023).

Digital endowments are a modern adaptation of traditional waqf, utilizing digital assets like cryptocurrencies and intellectual property to improve scalability, efficiency, and transparency in charitable giving. This approach enables global participation and accountability through blockchain, but concerns about compliance with Islamic law, such as prohibitions on interest and uncertainty, must be addressed. Legal frameworks are essential for recognizing and protecting these endowments, which can fund charitable causes and support sustainable development aligned with the UN's SDGs. Technology integration ensures cost efficiency and long-term funding for projects.

In relation to crypto-currencies, like Bitcoin and Ethereum, are digital currencies secured by cryptography and operate on decentralized blockchain networks, ensuring transparency and traceability. The legitimacy of crypto- currencies in Islamic finance is a subject of debate. While Islamic finance prohibits riba (interest), gharar (uncertainty), and maysir (gambling), crypto-currencies don't directly involve interest. However, their speculative nature raises concerns about excessive uncertainty and gambling. Some scholars consider them acceptable as they serve as a medium of exchange similar to fiat currencies, already used in Islamic finance. On the other hand, others argue that their volatility and speculative nature make them unsuitable for Islamic finance, particularly when used for trading or investments based on uncertainty (Zohdy & Riad, 2020; Mohd, 2020).

The crowd-funding platforms are online services that facilitate the raising of funds for specific projects, businesses, or causes by collecting small donations from a large number of people, typically via the internet (Khan, F., 2010). These platforms are used to support a wide range of initiatives, such as creative endeavors, charitable causes, business startups, medical expenses, and community-based projects. Well-known platforms include Kickstarter, GoFundMe, and Indiegogo.Crowd-funding usually takes two main forms as explained by Usmani (2002): reward-based crowd-funding, where donors contribute money in exchange for non-financial rewards like products or recognition, and equity-based crowd- funding, where investors provide funds to a business in return for ownership shares and a share of future profits.

In Islamic finance, crowdfunding is judged based on its compliance with Shari'ah law, which prohibits interest (riba), excessive uncertainty (gharar), and gambling (maysir). Reward-based crowdfunding is usually allowed if the project follows Islamic principles and avoids haram activities like alcohol or gambling. For equity-based crowdfunding, investments must ensure the business doesn't engage in haram practices and the contract avoids interest and uncertainty. Shari'ah boards often review these platforms to ensure they follow the rules. Some platforms also offer Islamic-compliant investment models, like Sukuk or Murabahah, to avoid issues with interest or uncertainty. Peer-to-peer lending using profit-sharing models like Mudarabah or Musharakah is also considered Shari'ah-compliant if it avoids interest.

Bitcoin is a decentralized digital currency introduced in 2008 by an anonymous entity known as Satoshi Nakamoto. It relies on blockchain technology to facilitate secure transactions and regulate the creation of new units, with its value subject to fluctuations driven by supply, demand, and market conditions. Ethereum, launched in 2015 by Vitalik

Buterin, is an open-source, blockchain- based platform. Unlike Bitcoin, which serves primarily as a digital currency, Ethereum focuses on supporting decentralized applications (DApps), smart contracts, and the development of new cryptocurrencies (tokens) on its blockchain, as noted by Usmani, M. T. (2002).

The Islamic finance perspective on Bitcoin and Ethereum is argued due to concerns over their adherence to Shari'ah principles such as riba (interest), gharar (excessive uncertainty), and maysir (gambling). Bitcoin is often criticized for its speculative nature, high volatility, and links to illicit activities, prompting some scholars to deem it non-compliant, while others accept its use for lawful purposes. Similarly, Ethereum's role in facilitating the creation of new cryptocurrencies and enabling smart contracts raises concerns about its compliance with Shari'ah. Some scholars argue Ethereum can be permissible if used for halal purposes, but the acceptability of both cryptocurrencies largely hinges on how they are used and whether they align with Islamic finance principles, as discussed by Al-Salem, M., & Mohamed, Z. (2020) and Mohammad, A., & Hamid, S. (2015).

Therefore, traditional waqf is a charitable endowment where assets like land, property, or money are donated to support a cause or community, with the income benefiting initiatives such as schools, hospitals, or helping the poor. These assets are managed by a trustee. In contrast, digital waqf is a modern version using digital assets like websites or software to generate funds for causes such as education or healthcare. The main differences are that traditional waqf involves tangible assets and physical management, while digital waqf uses intangible assets and is managed online, offering more scalability, transparency, and global access. Additionally, digital waqf generates income through online platforms, unlike traditional waqf, which relies on physical property income.

In Summary, Waqf is an Islamic practice where an individual dedicates a portion of their wealth or property for charitable purposes, managed by a trustee. The donated asset cannot be sold or transferred; instead, its income supports causes like helping the needy or building mosques and schools. Digital waqf involves using digital assets, such as websites or cryptocurrencies, to fund charitable causes and create a steady income. It is permissible in Islam as long as it follows the principles of traditional waqf, ensuring the proper use of assets for charity and adhering to Islamic values of fairness and honesty, while avoiding forbidden activities.

Digital endowments use technology to achieve charitable and social objectives, such as facilitating online donations and running digital charity projects. These endowments must align with Islamic principles, ensuring proper intention, public benefit, and asset preservation. They require a legal framework that complies with both local and international regulations, and are typically managed by nonprofit organizations focused on transparency and accountability. Technologically, digital endowments rely on advanced platforms that support online donations, ensuring security and transparency through tools like blockchain. Practical applications include online donation platforms, crowdfunding, and digital currency-based projects, as well as efforts in areas like e-learning, healthcare, and poverty relief. Ideas for digital endowments encompass digital donation apps, educational platforms, renewable energy initiatives, and the use of blockchain to ensure transparency in financial management.

4. Conclusions

Digital endowments, which leverage digital assets like cryptocurrencies, intellectual property, and online platforms, are revolutionizing charitable giving within Islamic finance by promoting transparency, inclusivity, and efficiency. These modern endowments offer a reliable funding source for charitable causes and support sustainable development, aligning with the United Nations' SDGs. However, their compliance with Shari'ah law is important, ensuring that they avoid interest, uncertainty, and gambling. Cryptocurrencies like Bitcoin and Ethereum face mixed views in Islamic finance due to their speculative nature, while crowdfunding platforms are generally considered Shari'ah-compliant if they avoid haram activities. Digital endowments are seen as a transformative tool for global philanthropy, offering scalable, transparent, and accountable charitable solutions.

Recommendation

To promote and enhance digital endowments, key recommendations include strengthening legal and Shari'ah compliance frameworks to ensure adherence to Islamic finance principles, raising awareness through educational campaigns to build trust and participation, and improving technology infrastructure to ensure secure, transparent, and efficient platforms. Additionally, promoting global inclusivity allows wider participation, especially from underserved areas, while encouraging partnerships with tech and philanthropy organizations can help scale digital endowments and integrate them with the UN's SDGs. Supporting green and social impact initiatives, ensuring transparency through blockchain, and developing incentive models for donors can further increase participation and effectiveness. Implementing these strategies will make digital endowments more Shari'ah-compliant, scalable, and impactful in advancing sustainable development.

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