

# Estate Planning of Shari'ah-Compliant Digital Assets Among Malaysians: A Mixed-Methods Approach

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## Abstract

This paper examines Malaysia's regulatory landscape and public awareness of digital assets, focusing on individuals under 45. It highlights the lack of global regulatory development for digital assets and the overlooks the aspect of posthumous management. The research evaluates awareness, adoption, and understanding of digital asset regulations, emphasising legal and Shari'ah challenges in estate management. Using a mixed-methods approach, the study collected 86 responses via social media surveys supported by doctrinal legal research. Findings show high interest in digital assets among younger with only 11.3% of participant possessing understanding of Shari'ah-compliant digital assets, whereas 20.8% had moderate familiarity with relevant laws on the assets. The study calls for educational campaigns and clearer Shari'ah-compliant regulatory guidelines to enhance market confidence and bridge the digital literacy gap. It offers insights for policymakers and digital exchanges on managing digital assets posthumously and suggests future research on specialised digital estate planning services and regulatory impacts.

**Keywords:** Digital asset, Digital estate, Shari'ah, Estate planning, Malaysia

## Introduction

Despite initial controversies regarding the Shari'ah compliance of digital assets in Muslim countries, their growing acceptance has raised new concerns about consumer protection and estate planning. Although the regulatory framework for digital assets is continually improving worldwide, experts remain focused on addressing investor concerns related to loss and estate planning (Kamis & Abd. Wahab, 2022). In the Malaysian market, digital asset adoption has seen a tremendous upward trend as the registered Digital Asset Exchanges (DAX) reported a 300 per cent growth with total trading valued at RM21 billion in 2021 across all exchanges (Bank Negara Malaysia, 2022). Although not an immediate concern in regulatory circles, it has been found that digital assets are more likely to be subject to abandonment and

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loss due to their intangible and non-physical attributes (Omoola & Ibrahim, 2023). The loss of assets is not in tandem with Shari‘ah legal theory on preservation of wealth which is an essential aspect of the objective of Islamic law i.e. *maq’asid-Shari‘ah*. Though this study predominantly uses data from young Malaysians invested in Shari‘ah-compliant digital assets, the findings could significantly influence Shari‘ah-compliant digital asset policies in other Islamic finance jurisdictions, particularly in Gulf region countries and Africa.

In Malaysia, the majority of digital asset users are tech-savvy individuals under 35 who are more inclined to take risks. According to Luno, their primary reasons for purchasing digital assets are investment and trading, followed by transactions and online payments (Azman, 2021). Figure 1 below shows the major purposes for acquiring digital assets among users in Malaysia.

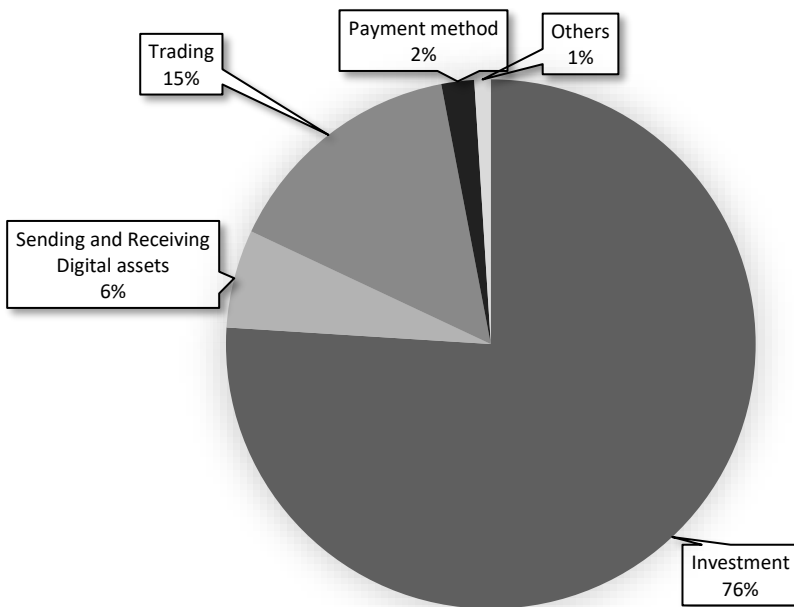


Figure 1: Purpose of digital assets ownership  
 Source: ( Adapted from Azman, 2021)

Investment purposes, accounting for 76 per cent of digital asset purchases, can either be long-term or short-term. Upon the death of the asset owner, these digital assets become part of their estate but can be easily overlooked due to lack of awareness of digital assets and digital estate planning. This study therefore supports the view of

authors who have discussed this lack of awareness (Katuk, Abd Wahab, & Kamis, 2023; Saleh et al., 2020) and emphasises that further promotion is needed to foster the awareness of digital estate planning among users and potential users. The Market in Crypto Asset (MiCA) framework was introduced by the Council of the European Union in June 2022, and its core objectives touch on aspects such as investor protection, financial stability, and the promotion of innovation (Berger, 2019) which aligns with these efforts. The study attempts to fulfil this objective by assessing the awareness, adoption, and regulatory understanding of digital assets in Malaysia among those under the age of 45, while also probing the emerging challenges in digital estate management from both the legal and Shari'ah perspectives.

To understand how younger Malaysians view the necessity of planning for their digital assets after death, a comprehensive survey was conducted to gather detailed data on their perspectives and attitudes. The survey was focused on Malaysians of a younger age group as Król and Zdonek (2023) had shown that it was this age group that had primarily shown interest in cryptocurrencies. Król and Zdonek further found that a considerable number of them encounter a hindrance in the form of inadequate knowledge and the absence of national and international market regulations. These factors, which could enhance investor confidence and transaction security, act as obstacles preventing their active engagement in cryptocurrency and online investment.

The paper is structured into six main sections, beginning with an introduction and background of the paper, followed by a synthesis of existing literature. The third section provides a detailed analysis of the methodology followed by findings of the quantitative data from the perspective of digital asset users in Malaysia, with tables presented to justify the opinions. The findings are discussed in the fifth section while the recommendations for improving the law and practice of digital asset management are provided in the sixth part.

## **Literature Review**

Existing literature on digital assets primarily focuses on their legality, acceptance for exchange, and investment potential. However, this section reviews previous studies that examine demographic dynamics and determinants of digital asset adoption, the prevalence in Malaysia, and the need for posthumous digital asset management plans. A search of existing literature seeks to explore the gaps in digital estate planning research.

## **Dynamics and Determinants of Digital Assets Adoption**

Several studies have identified indices to determine the adoption in the digital asset ecosystem. According to Seong *et al.*, (2021), a growing number of studies have suggested the direct impact consumer demographics such as income level, educational

qualification, age and gender on digital asset uptake behaviour (Pradhan & Wang, 2020; Rahim et al., 2023). Ndubisi (2005) included prior information technology literacy and education have direct link to consumer attitude. Subsequent demographic studies by Kaya, Turan and Palloş (2011) supported the findings of Ndubisi. Jalaludin *et al.*, (2021) and Zhao and Zhang (2021) expanded on the dichotomy between higher and lower income levels as the former have the propensity to explore more digital assets and investment opportunities than the latter. In contrast, study by Akhlaq and Ahmed (2013) found that income levels are not a direct factor in the adoption dynamics in digital assets. The study expands the scope of adoption by users to cover fintech products by also including other factors such as motivations, ease of use and other mental constructs.

In addition to the findings of Boroumandfar et al. (2010) income levels appears to be recurring factor along with financial literacy of users which has become prominent users' investment decision making choices in cryptocurrency. Panos et al. (2020) further observed that the generational shift in the attitude of users with high influence among millennials with some level of educational qualification. This study is more specific to respondents born between years 1981 and 1996 with variations in their gender and income levels.

While the above studies were situated in different parts of the world, it is important to examine the adoption dynamics in Malaysia. The pattern of adoption has not been clearly identified but remains speculative based on studies within the ASEAN region. Factors that could influence the adoption dynamics in Malaysia could include internet penetration, awareness of digital assets, need to diversify investment portfolio and the attitude of tech-aware, young Malaysian within the larger demographics.

Generational dynamics in general information technology adoption has tremendous effect on digital asset with more young people developing virtual investment tools, to provide financial support, diversify their earnings withing the anonymity and opaqueness provided in the cyber space. As this level of adoption continues to grow and high-volume disposable income hidden in the cyberspace, the effect of such asset being lost is high. The level of trust in digital assets investment among young Malaysians is high, hence the need to undertake a quantitative study of this phenomenon.

Clarity of the adoption dynamics in Malaysian digital assets landscape can provide direction in policy, regulation and protection for the users and other stakeholders. The intention and behaviour of digital asset users can be easily identified thus providing some guidance for the development of fintech and digital investment platforms.

Undoubtedly, the stratification of users across different demographics has been shown in the literature reviewed. Rate of digital asset uptake among the diverse demographics will provide depth for the adoption dynamics in Malaysia and give a future direction to the regulators

### **Digital Asset Adoption in Malaysia**

Due to the responsive regulatory environment, government policy, consumer education and sandbox approach to financial technologies, digital assets usage has grown with more e-wallets and cryptocurrency adoption in Malaysia. Several scholars, such as Nizam, Hwang, and Valaei (2019), observed that the ease of use and safety are twin impetuses for embracing e-wallets and digital financial tools. Liébana-Cabanillas, Sánchez-Fernández and Muñoz-Leiva (2014) observed that this development appears to be a global trend due to the use of graphical user interface (GUI) and other seamless tool for digital transactions.

The role of Malaysian financial regulator i.e., the Bank Negara Malaysia (BNM), in proactively following the emerging trend by promoting adoption of e-wallets within the payment system. While other countries might remain onlookers to digital assets or stifle cashless transaction in favour of traditional paper-based economy, BNM supported regulations to improve the operating environment for users' acceptance across different sectors of the economy. This effort has the effect of increasing the volume of digital asset in the Malaysian economy. The government has strategically positioned itself, endorsing certain types of e-wallets for various transactions in Malaysia (Thaker et al., 2023).

However, the overarching umbrella of 'digital assets' is not limited to e-wallets. Digital assets has been explained to include all types of virtual and electronic assets, regardless of how they are named or categorised by regulatory agencies (Kaal, 2021). Katuk, and Kamis (2023) further provide that digital assets with a financial value are also referred to by various names such as virtual currency, electronic money, electronic wallet, digital money and cryptocurrency. Digital money is increasingly finding favour among tech aficionados, particularly for its potential to democratize access to financial services, especially for the economically marginalized (Ravi, 2022). Nielsen's 2019 report provides an insightful snapshot of consumer preferences pre-pandemic, highlighting the prominence of debit cards and online banking.

The COVID-19 pandemic catalysed a seismic shift. Government-initiated e-wallet disbursements, attractive cashback offers, and pandemic-induced lockdowns accelerated the adoption of digital payments. Evidently, mobile wallets became the poster child of this digital transformation (Subramaniam, 2022). With the imposition of the Movement Control Order (MCO) in 2020, Malaysians, primarily millennials and Gen Z, exhibited a marked preference for cashless transactions, spurred by a

combination of lockdown-induced behaviour and infection prevention (Gan, Lim, Lim, Yoong & Lim, 2023).

BNM's governance extends to e-money and payment instruments, distinctly classifying them from other digital assets. The Financial Services Act of 2013 elucidates the definition of 'electronic money', emphasizing its tangible and intangible nature and its value pegged to sovereign-backed fiat currency (Rahman, 2019) .

Financial education stands as a pivotal factor influencing the perception and adoption of digital assets in Malaysia (Katuk et al., 2023). Suhaidi (2021) suggests that an enhanced understanding could pave the way for increased ownership and usage of digital assets. Nevertheless, it is crucial to underline the inherent limitations of privately issued digital assets, such as volatility and vulnerability to cyber threats, which in turn deters them from gaining universal acceptance (Khuen, 2022).

While there is a lack of authoritative reports on cryptocurrency adoption in Malaysia, anecdotal evidence suggests its presence since 2012 (Nawang & Azmi, 2021). Cryptocurrencies have a relatively short history, and Sukumaran et. al. (2022) narrate a picture of cautious optimism from a timeline starting in 2012. The optimism has been largely tempered by potential risks of theft, fraud, and exchange failures, which has hindered the large-scale adoption of cryptocurrencies (Zahudi & Amir, 2016) and is further corroborated by Nawang and Azmi (Nawang & Azmi, 2021). Malaysia's trajectory in digital asset adoption is still quite complex due to an evolving mix of consumer preferences, regulatory policies, technological advancements, and market dynamics.

### **The Imperative of Posthumous Digital Asset Management**

The rise in adoption of digital assets has caused Kamis et. al. (2023) to emphasise the importance of digital estate planning which will impact future generations. Kamis and Wahab (2022) highlight the need for clear succession rules for digital assets as part of the contemporary discourse on this issue. As digital currencies become more prevalent, regulatory authorities must be at the forefront to address inheritance issues on digital assets.

Conway and Grattan (2017) have further highlighted the void in digital estate planning which is made worse by religious and legal ambiguities. For instance, it is observed that the Perlis state Fatwa council's stance on Bitcoin only addresses on zakat issues and not on issues involving inheritance (Kamis et al., 2022). This ambiguity further clouds the management of digital estates belonging to the deceased.

There are further inherent complexities in managing cryptocurrency estates, for example Tyszka (2014) discusses the virtual nature and security protocols of such assets which pose challenges to conventional estate planning. Saleh et al. (Saleh et al.,

2020) categorized these cryptocurrency inheritance methods as traditional, technological, or mixed and noted the unique challenges of each method which would require diversified approaches to address their unique challenges.

Carter (2016) argues that certain digital assets, such as domain names, cannot be inherited. This reveals the next significant challenge; identifying and categorizing digital assets for inheritance purposes, which is a necessary step in disbursing the estate. Fiduciaries such as estate administrators often struggle to recognize these assets, and this is exacerbated when dealing with decentralized assets such as cryptocurrencies. This emphasises the need for updated asset inventories and comprehensive estate planning documents.

In summary, as the digital landscape evolves, there must be quick adaptation by both individuals and regulatory bodies to ensure effective digital estate management. Currently existing studies lack quantitative analysis of digital estate planning among users, which indicates a critical area for future research. If these gaps are addressed, it will enhance market confidence and provide clearer guidelines for managing digital assets posthumously.

## **Methodology**

This research utilises mixed-methods to look into Malaysians' perceptions on estate planning for Shari'ah-compliant digital assets. This approach of both quantitative and doctrinal was chosen to provide a comprehensive understanding of the phenomenon and enhance the overall quality of the study and its findings (Mohamed, 2016). Quantitatively, a structured questionnaire was distributed via X (formerly called Twitter), Whatsapp and Facebook between June and September 2022. From this effort, responses from 86 individuals were received, a relatively low turnout, possibly attributed to the niche intersection of knowledge on digital assets, posthumous asset management, and their Shari'ah compliance. Notably, most respondents were under the age of 45, and the data was subsequently subjected to a descriptive analysis through Excel, highlighting specific demographic trends in the research outcomes.

To supplement the quantitative study, a doctrinal analysis was conducted through a methodical analysis of academic journals and conference papers, and literature on the area. The aim was to integrate the empirical data into the overarching context of current legal and Shari'ah standards and to also validate the quantitative findings against established literatures.

While the study offers valuable insights, the authors recognize limitations, notably the potential biases arising from platform-specific distribution and the niche subject matter. Throughout the data collection, the researchers upheld rigorous research ethics, guaranteeing participant anonymity and ensuring data confidentiality.

## Findings

As previously explained, the study captured responses from 86 individuals aged 20 to 51, focusing on their ownership, understanding, and management of digital assets. Respondents answered comprehensive questions about the types of digital assets they owned, their knowledge of the legal and Shari’ah frameworks, and their strategies for posthumous digital estate management. While the data provides valuable insights into digital asset ownership and management patterns, it has a notable limitation: the sample predominantly includes Malaysians, with most identifying as Malay and practicing Islam. This demographic focus may limit the broader applicability of the findings to more diverse populations. However, a larger sample size may include other ethnicity who are also Muslims thus providing more diver perspective.

### Digital Ownership

To address one of the research objectives which is to determine the landscape of digital asset ownership, respondents were queried about their possession of digital assets and their experience in handling them.

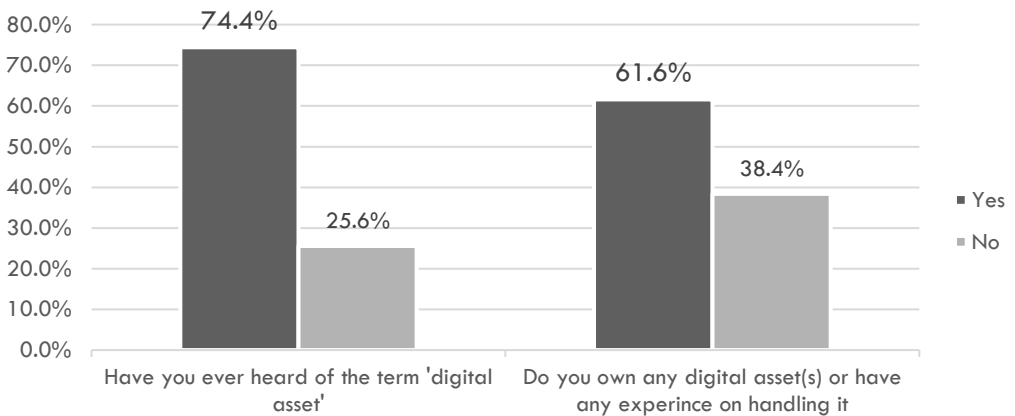


Figure 2: Responses on term of ‘digital asset’ and digital asset(s) ownership

Figure 2 shows that there is some awareness of the term “digital asset” among the respondents. 74.4% of the total respondents heard the term digital assets, while only 61.6% had experienced handling them. This is due to fintech, or financial technology being a recent development in the current financial world that has grown at an extraordinary rate. The early presence of fintech was detected in the early 80s. However, the world financial crisis started to become more prevalent in 2008 (Helleiner, 2011). Meanwhile, based on a 2021 report produced by the Institute for Capital Market Research Malaysia (ICMR), even though Bitcoin was the first digital



currency to appear in 2009, public awareness only began to rise around 2016 (Jalaludin et al., 2021).

**Table 1:** *Cross-tabulation Between Respondents' Age and Respondents that Own Digital Assets*

Age	Do you own any digital asset(s) or have any experience handling it?				Total
	Yes		No		
	Frequency and Percent (%)				
20 years old and below	1	1.9	0	0.0	1
21 – 25 years old	16	30.2	24	72.7	40
26 – 30 years old	14	26.4	5	15.2	19
31 – 35 years old	7	13.2	1	3.0	8
36 – 40 years old	5	9.4	2	6.1	7
41 – 45 years old	6	11.3	0	0.0	6
46 – 50 years old	2	3.8	0	0.0	2
51 years old and above	2	3.8	1	3.0	3
<b>Total</b>	<b>53</b>	<b>100.0</b>	<b>33</b>	<b>100.0</b>	<b>86</b>

According to the data, table 1 portrays the age distribution in line with the ownership experience of any digital asset. The findings further indicate that the younger generation, particularly those aged 21-25, is at the forefront of digital ownership, with 30.2% possessing digital assets. As we move up the age spectrum to those between 26-45 years old, there is a decrease in ownership, suggesting a generational divide in digital adoption.

This trend aligns with Król and Zdonek's (2023) findings, which highlight the youth's growing interest in digital assets. However, they also note barriers like insufficient knowledge and a lack of regulatory frameworks. Such challenges can deter even the most enthusiastic from diving deep into the world of digital assets, such as cryptocurrencies and NFTs.

**Types of digital assets**

Out of the 86 participants, 53 had experience with digital assets. The research further probed the relationship between age and digital asset preferences. By analysing ownership percentages for assets like Security Tokens, E-Money, NFTs, and Cryptocurrencies, we aimed to understand how different age groups interact with these digital platforms. The objective at this stage of the research was to pinpoint specific age groups with a strong inclination towards certain assets and see how this preference evolves over various age ranges.

As seen in Table 2 below, the age group of 26-30 years old generally displays the most diversified digital asset ownership, leading in categories such as Security Tokens, Cryptocurrency, and Domain Names. The 21-25 age bracket also showed significant involvement, especially in Gaming Accounts and E-Money. As age increases, interest and ownership in these digital assets, however, noticeably decline, with those above 45 having minimal to no engagement.

**Table 2: Cross-Tabulation Between Age and Type of Digital Asset Owned.**

	Security Token (n=12)	E-Money (n=33)	Art works (such as NFT) (n=3)	Cryptocurrency (n=18)	Gaming accounts (n=16)	Domain names (n=4)	Others (n=3)
<b>Age</b>	<b>Frequency and Percentage (%)</b>						
<b>20 years old and below</b>	1(8.3%)	0	0	1(5.6%)	0	0	0
<b>26 – 30 years old</b>	6(50%)	7(21.2%)	1(25%)	8(44.4%)	4(25%)	2(50%)	1(33.3%)
<b>31 – 35 years old</b>	1(8.3%)	5(15.2%)	1(25%)	1(5.6%)	2(12.5%)	0	0
<b>36 – 40 years old</b>	1(8.3%)	5(15.2%)	0	3(16.7%)	2(12.5%)	1(25%)	0
<b>41 – 45 years old</b>	0	5(15.2%)	0	1(5.6%)	1(6.3%)	0	0
<b>46 – 50 years old</b>	0	2(6.1%)	0	0	0	0	0
<b>51 years old and above</b>	0	0	0	0	0	0	0
<b>Total</b>	12(100%)	33(100%)	3(100%)	18(100%)	16(100%)	4(100%)	3(100%)

**Knowledge Levels on Legal & Shari‘ah Aspects of Digital Assets**

In Malaysia, the regulatory framework for digital assets is established under the Capital Markets and Services Act 2007. The Securities Commission Malaysia

issued the Capital Markets and Services (Prescription of Securities) (Digital Currency and Digital Token) Order 2019, which became effective on January 15, 2019. This order essentially defines certain digital currencies and tokens as securities under securities laws. Following this, the regulatory body issued various guidelines, such as the 'Guidelines on Digital Assets', which took effect on October 28, 2020 (revised on December 19, 2022). The guidelines specify that digital currencies and digital tokens are not recognized as legal tender or as regulated payment instruments by the Central Bank of Malaysia, Bank Negara Malaysia (BNM) (Omoola & Ibrahim, 2023).

However, there are no existing laws that specifically regulate the Shari'ah compliance aspect of these assets. Nevertheless, the Shariah Advisory Council of the Securities Commission Malaysia deliberated on this matter during its 233rd meeting on June 29, 2020, and its 234th meeting on July 20, 2020. During these meetings, it was determined that the trading and investment of digital assets meeting certain specific criteria are permissible, especially when conducted on a Digital Asset Exchange (DAX) registered with the Securities Commission (Securities Commission Malaysia, 2020).

Furthermore, alongside this development, certain Malaysian states—namely, Perlis, Selangor, Johor, and Sarawak—have issued legal rulings through their respective state fatwa committees. These rulings pertain to the permissibility of cryptocurrencies for investment, trade, and asset storage, granted that they adhere to specific criteria.

Despite these evolving regulations, the inheritance aspect of digital assets remains conspicuously absent from the legislative framework (Kamis et al., 2023). To gauge the respondents' awareness of the regulatory environment involving digital assets, the survey presented statements relating to aspects such as legal regulations, the acknowledgment of digital assets in Malaysia, their alignment with Shari'ah principles, the management of digital assets posthumously, and mechanisms for dispute resolution in the realm of digital assets.

Table 3, detailing the survey results, paints a telling picture. A scanty 11.3% exhibited comprehensive understanding of Shari'ah-compliant digital assets, whereas 20.8% presented moderate familiarity with relevant laws. Alarmingly, over half, at 52.8%, revealed ignorance about dispute resolution related to digital assets, more so in cases straddling Muslim and non-Muslim legal paradigms. These findings resonate with the observations of Conway and Grattan (2017) and Mali and Prakash (2020), who identified a prevalent reluctance among individuals to factor in digital assets in their posthumous estate planning. This conspicuous gap necessitates immediate and strategic educational interventions to enhance legal literacy and encapsulate the dynamic nuances of digital assets.

**Table 3:** *Knowledge of Respondents on Legality of Digital Assets*

Statements	Knowledge level					Total
	Not at all familiar	Slightly familiar	Somewhat familiar	Moderately familiar	Extremely familiar	
	<b>Frequency/Percent (%)</b>					
Applicable Law	16 (30.2%)	13 (24.5%)	9 (17%)	11(20%)	4(7.5%)	53
Legal recognition of digital asset products in Malaysia	13 (24.5%)	14 (26.4%)	13(24.5%)	9(17%)	4(7.5%)	53
Shari'ah compliant digital asset product	11 (20.8%)	17 (32.1%)	14(26.4%)	5(9.4%)	6(11.3%)	53
Management of digital assets after death	23 (43.4%)	11(20.8)	8(15.1%)	6(11.3%)	5(9.4%)	53
Dispute resolution mechanism and administration digital estate	28 (52.8%)	10(18.9%)	6(11.3%)	6(11.3%)	3(5.7%)	53

Further extending the research objectives, the study also sought to discern the anticipation of the digital asset users concerning posthumous asset management. The results, presented in table 4, were revelatory: a mere 22.6% displayed thorough consideration, 26.4% demonstrated partial thought, and a dominant 50.9% had overlooked it entirely, underscoring the substantial awareness deficit in the realm of digital estate planning within the Malaysian digital asset community.

**Table 4:** *On Whether They Have Thought of How Their Digital Assets Will Be Managed After Their Death*

Response	Frequency	Percent (%)
Yes	12	22.6
Somewhat	14	26.4
No	27	50.9
Total	53	100.0

### Digital Estate Management Methods

Having established the respondents' awareness levels and assessed the proportion that has given thought to posthumous digital asset management, the discussion now shifts to the intricacies of digital estate management itself. This section delves into the findings related to the specific strategies and methods digital asset holders in Malaysia consider for the effective management of their digital estate.

Numerous literatures have suggested numerous strategies and methods on managing their digital estate (Katuk et al., 2023). Among the suggested methods are; Lawyers to include in will (Carter, 2016; Crawford, 2020), transferring the bitcoin during the owner’s lifetime (Tyszka, 2014), prepare a detailed record and creating an inventory of digital assets (Firth, 2019), storing digital asset passcodes in flash drives which will be given to heirs (Taylor et al., 2019) and asset owners sharing the key with the heirs during their lifetime (Saleh et al., 2020).

Incorporating the recommendations of the authors, respondents were presented with a selection of estate management methods to gauge their preferences. Based on the answers of 53 of the respondents (those who own digital assets), as seen in Table 5, a total of 24.5% opted to hire lawyers to draft wills and provide advice on digital estate distribution.

**Table 5: Preferred Method of Estate Management**

Method of estate management	Yes No			
	Frequency and percent (%) n=53			
Hire a lawyer to draft a will and advice on how the digital estate will be managed/ distributed	13	24.5	40	75.5
Through a trust deed, appoint a trustee to manage the digital asset(s) on your behalf	10	18.9	43	81.1
Provide a list of username(s) and password(s) as well as the list of the digital asset(s) to your intended beneficiaries	18	34.0	35	66.0
Tell the intended beneficiary(s) to take the hard drives, flash drives, laptops, tablets, smartphones, and cameras	3	5.7	50	94.3
Informing intended beneficiary(s) of the list of the digital asset(s) that you own and orally telling them what to do	9	17.0	44	83.0
Give instruction for the asset(s) to be contributed for waqf for charity	2	3.8	51	96.2

Meanwhile, 18.9% expressed a preference for establishing a trust deed to appoint a trustee for their digital assets. Direct communication methods had a noticeable presence in the survey findings. Specifically, 34.0% of the respondents showed a preference for sharing usernames, passwords, and a list of digital assets directly with their intended beneficiaries. An additional 17.0% would choose to

verbally inform beneficiaries about the assets they possess and guide them on subsequent actions. A minimal number, 5.7%, preferred the straightforward approach of instructing beneficiaries to collect physical devices, such as laptops and hard drives. Lastly, a mere 3.8% exhibited a charitable inclination, indicating a preference to dedicate their digital assets to '*waqf*'.

Notably, the most preferred method of estate management among the respondents is to "Provide a list of username(s) and password(s) as well as the list of the digital asset(s) to your intended beneficiaries," with 34.0% (or 18 out of 53 respondents) opting for this approach. This method emerged as the leading preference among digital asset holders when considering how to manage and distribute their assets posthumously.

This diverse range of responses highlights the varied considerations and trust levels digital asset holders in Malaysia have when thinking about the future of their online possessions.

## **Discussion**

To reiterate, the primary objective of this study was to explore the landscape of digital asset ownership and understand the perceptions, awareness, and strategies for posthumous digital estate management among Malaysians. The sample predominantly consisted of the Malays ethnic, reflecting the primary religious ethnic group in Malaysia, which limits the broader applicability of the results. Additionally, the number of respondents was initially 86, but narrowed down to 53 individuals with actual experience in dealing with digital assets. Due to the limited number of participants, the findings were supported by existing literature to strengthen the conclusions drawn. A larger sample of participants could consider non-mixed methods approach with more robust variables.

### **Generational trends in digital asset ownership and associated challenges**

From the findings, the relationship between age and digital asset ownership is clear. Data from the questionnaire highlight that individuals aged 21-30 are more engaged and open to acquiring and diversifying digital assets. The trajectory of generational embrace of digital asset is global and the data shows that young Malaysian are not left behind. This is attributable to the penetration of digital commodities, innovative product offerings and ease of interaction with technological tools.

Other studies such as Król and Zdonek (2023) found that the interest users in digital asset wane downwards as age of the user increases. Hence the adoption trajectory continues to reflect generational divergence. The study further found that older age groups are unable to align with the trend due to limited understanding of the

regulatory framework in the fast-paced innovation. This has become a challenge to adoption of digital asset as they grow older.

Within the Malaysian context, there is a continuous need for the regulators to cater for both the Shari'ah and conventional digital asset frameworks. Efforts need to be made to understand the divergence and convergence in dual jurisdictions such as Malaysia. For instance, the principal capital market framework in Malaysia i.e., the Capital Markets and Services Act 2007 has highlighted a general framework while the gaps and opacity within the digital asset and emerging innovations are subject periodic Shari'ah Advisory rulings. In line with Shari'ah legal theory, this helps to maintain Shari'ah compliance, reduce uncertainty and protect consumers. Despite these efforts, the survey shows that majority of respondents have less understanding or are uninformed about the digital asset devolution, and dispute resolution options. These findings support the outcome of Conway and Grattan (2017) and Mali and Prakash (2020) as both studies explored knowledge and awareness of estate planning regulations among digital assets users. Undoubtedly, this has resulted in loss of assets due to lack of information. This gap can be subjected to further study on the relationship between digital asset and estate planning.

### **Digital estate management: Awareness and approaches**

The need to determine the perception of respondent on how to plan for digital asset inheritance was one of the purposes of this research. The lack of digital estate planning for users could attract legal disputes lead to mismanagement or loss of assets. Studies by Katuk, Abd Wahab, and Kamis (2023) supports this position as the paper found that estate planning awareness is in its lowest ebb in Malaysia. Similar findings were noted in Wahab et al. (2021) who show the dearth of estate planning knowledge among owners of non-shariah complaint digital assets. As a result, the need for gap-filling regulation and awareness for estate planning for digital and traditional asset classes in Malaysia.

Numerous steps can be observed for effective preservation of digital assets into the estate of the owner upon their demise. Hidayah (2018) discussed the conventional methods which include the nomination of a personal representative or selection of an administrative authority and application for letters of representation which is consistent with the peculiarities and value of the estate. It is essential for asset owners and heirs to be aware of these methods of devolution in order to prevent dispute in relation to the distribution and management of the estate.

Certain peculiarities of digital assets require specific strategies to effectively manage this category of assets. The respondents in this study have suggested a hybrid approach to estate planning for their digital assets which includes both traditional methods to personal trust-based approaches. Majority of the respondents consider

conventional legal means such as services of a lawyer to draft a will or designating trustees. This is a preference of long held trust in the role of lawyers in estate management procedures. In their choices, respondents consider the long-term impact of inaccurate and poorly managed asset and its effect on digital assets.

In the realm of ease and less rigorous options, a group of respondents chose simplified methods of managing their digital assets through granting access to beneficiaries, kith and kin. Though it shows the mutual trust between digital asset owners and their acquaintance, this method poses risk of misuse, exploitation as well as cyber-security potential (Kaal, 2020). Such option could require additional layer of paperwork to provide certainty and avoid disputes and contestation in the presence of other beneficiaries. This underscores the significance of awareness and education in the management of complex issues around digital estate planning.

Respondents showed lack of interest in the conversion of their digital asset for charitable purposes, endowment or “*waqf*. This is an indication that there is a poor relationship between digital asset ecosystem and cheerful giving and more awareness need to be done. Future trends are expected to shift within the mainstream of digital asset platforms towards benevolent giving from the current outlook towards personal investment rather than communal benefits.

## **Conclusion and Recommendations**

Despite the increasing preference for digital assets investment, posthumous asset management is one of the challenges in the digital era. This research has followed the natural extension of current literature and attempted to look into the patterns of digital asset ownership in Malaysia, with trends that are intricately linked with age, cultural influences, and religious considerations. There is a rampant interest towards digital assets in the younger generation, but it is simultaneously tempered by barriers such as lack of comprehensive knowledge in the relevant regulatory laws, as well as a rapidly evolving digital asset landscape.

One prominent barrier is the ambiguity surrounding the *Sharī'ah* laws regarding digital assets, which signals a pressing need for clearer guidelines and frameworks. Addressing this is a necessary step to explore further questions of Muslims investing in digital assets and the attitude of *Sharī'ah* laws towards digital estates. Similarly, there is a consensus from both scholars and the findings of this study on the urgency to strengthen education and awareness efforts particularly among the younger generation, for whom the digital realm is popular. They require immersive, engaging, and interactive educational experiences that align with their digital consumption patterns.

Based on these findings, we suggest two paths for effective management of digital estate. Firstly, digital assets literacy and education should be more innovative



and place some emphasis on effective asset management and digital estate planning. The target of this educational approach needs to be younger generation constitute larger percentage of digital asset holders. Secondly, financial sector regulators and policy makers could consider policies which encompass the dual financial regulation is required. There is the need to formulate a Shari'ah complaint guidelines which will cater for the Muslim population in Malaysia and enhance financial inclusion in the digital asset landscape. These steps can be elucidated by the following proposals:

### **Boosting Education and Awareness of Digital Estate Management**

The educational approach to digital estate management has been the basis of discussions in several literature. (Conway & Grattan, 2017; Kamis & Wahab, 2022; Katuk et al., 2023). We propose that such awareness should extend beyond a foundational grasp of digital assets and should include an in-depth understanding of the complexities of posthumous management, transfer, information management, and safeguarding of digital assets. Furthermore, these awareness campaigns should resonate with users and their unique consumption patterns. This educational approach has the potential of creating the foundation to equip the digital asset owners with the required knowledge to make informed decision regarding the distribution and preservation of their digital assets, thus mitigating beneficiary disputes borne out of uncertainties. Furthermore, digital asset owners armed with comprehensive knowledge are less exposed to cyber threats that capitalise on ignorance, thus protecting their rights and the rights of their potential beneficiaries.

### **Strengthening the Shari'ah Compliance Digital Landscape through a Defined Framework**

Currently, the position of digital assets is ambiguous in its alignment with Shari'ah compliance especially in the aspect of inheritance. Given that the trend of digitization is not going away and only increasing, and that there has been increased interest of the Muslim population in this sphere, there is a critical need to define and refine these Shari'ah guidelines with contemporary financial and technological advancements.

The benefits of implementing such efforts are diverse. First and foremost, a robust Shari'ah framework is crucial for Muslims venturing into the digital domain to receive clear guidance and certainty. This ensures that their digital activities, spanning from simple transactions to complex estate planning, are in-line with Shari'ah principles. Moreover, clear guidelines can significantly improve enhance stability within the digital asset market by improving investor trust in the surrounding framework. This could expand the potential reach of the digital assets domain to encompass the Muslim demographic who are eager to ensure their engagements are within the bounds of Shari'ah. Lastly, when it comes to inheritance, a clear and well-

structured framework would dispel uncertainties for both executors and beneficiaries. Having a roadmap for the posthumous distribution and management of digital assets would mitigate and perhaps even avoid potential conflicts.

In conclusion, as Malaysia and the global community navigate the unceasingly changing landscape of cryptocurrencies and other digital assets, it is vital to bolster both education and regulation initiatives. This will provide the best form of protection to digital asset owners as well as their future potential beneficiaries.

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