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How Can a Shariah-Compliant Cryptocurrency Framework Enhance Financial Inclusion in Malaysia?

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Abstract
Purpose: This study aims to explore the cryptocurrency from a Shariah perspective and propose a Shariah-compliant cryptocurrency framework as a tool for enhancing financial inclusion in Malaysia. It investigates how Islamic legal principles, particularly *qawāʿid fiqhiyyah* (Islamic legal maxims), can be applied to address the ethical and regulatory challenges of integrating cryptocurrencies into the Islamic finance ecosystem. By analyzing existing Shariah-labelled cryptocurrencies and regulatory approaches, the study seeks to propose a conceptual framework that balances technological innovation with religious and socio-economic considerations.
Design/methodology/approach: This study employs a qualitative research design that integrates doctrinal legal analysis with case study and content analysis approaches. Data were drawn from Islamic legal sources, regulatory documents, and selected cryptocurrency whitepapers. Thematic analysis was applied to synthesize the findings and formulate the proposed Shariah-compliant cryptocurrency framework within Malaysia's dual financial system.
Findings: The findings indicate that while conventional cryptocurrencies often conflict with Shariah principles due to issues like volatility, lack of asset-backing, and speculative use, certain design features in existing Shariah-compliant cryptocurrencies—such as gold-backing, ethical governance, and zakat integration—offer viable pathways for compliance. The proposed framework integrates these features within Malaysia's regulatory and Islamic finance landscape, demonstrating potential to address financial exclusion among underserved Muslim populations.
Research limitations/implications: The study is limited by its reliance on qualitative data and case studies, which may not capture the full diversity of cryptocurrency applications globally. The proposed framework remains conceptual and requires empirical validation through expert opinions, pilot implementations and broader stakeholder engagement. Future research should expand to comparative analyses across jurisdictions and explore technical scalability of Shariah-compliant digital assets.
Practical implications: The study provides practical insights for regulators, Islamic financial institutions, and fintech developers seeking to innovate within Shariah boundaries. The proposed framework offers a blueprint for designing compliant digital financial solutions that can reduce barriers to financial access, particularly for unbanked and underbanked Muslim

communities. It also highlights the regulatory considerations necessary for fostering a supportive ecosystem for Islamic digital finance.
Originality/value: This research contributes to the growing body of literature on Islamic fintech by addressing the underexplored nexus between cryptocurrency and Shariah compliance. It is among the first studies to systematically apply *qawāʿid fiqhiyyah* to the evaluation of cryptocurrency mechanisms and propose a holistic framework for enhancing financial inclusion within a Muslim-majority context. The study's findings are valuable to policymakers, academics, and practitioners seeking to align digital finance innovations with Islamic ethical standards.

Keywords: Islamic Finance, Shariah-compliant Cryptocurrency, Financial Inclusion, Blockchain, *Maqasid al-Shariah*

Introduction

Financial inclusion has become a central objective in global development discourse, recognized as a critical enabler for reducing poverty, promoting economic empowerment, and achieving broader socio-economic equity. In the Malaysian context, despite the strength of its dual financial system—comprising both conventional and Islamic finance—a significant portion of the population, particularly those in rural, low-income, and faith-conscious segments, remains unbanked or underbanked. This financial exclusion is often exacerbated by religious concerns, where conventional financial instruments fail to meet the requirements of Shariah, including the prohibition of *riba* (interest), *gharar* (excessive uncertainty), and *maysir* (gambling).

With the rise of digital financial technologies, including blockchain and cryptocurrency, new opportunities have emerged to bridge this gap. Cryptocurrencies, in particular, offer features such as decentralization, transparency, and low-cost peer-to-peer transactions that are well-suited to addressing traditional access barriers in financial systems. However, the architecture of most cryptocurrencies remains fundamentally incompatible with Islamic legal principles. This incompatibility has limited their uptake among Muslim communities and raised critical questions about how digital assets can be designed to comply with both technological functionality and Islamic ethics.

This study positions itself at the intersection of Islamic jurisprudence and financial technology, seeking to explore how a Shariah-compliant cryptocurrency framework can contribute to the national agenda of financial inclusion. It investigates not only whether such a framework is theoretically permissible under Islamic law but also how it can be operationalized within Malaysia's fintech regulatory landscape. By employing a doctrinal legal methodology and case study analysis, the research examines the structures and compliance mechanisms of existing Shariah-labelled cryptocurrencies—such as OneGram, NOORCOIN, ADAB Solutions, and Bayan Token—through the lens of *Qawāʿid al-Fiqhiyyah* (Islamic legal maxims). These maxims provide a foundational basis for evaluating the legitimacy and ethical integrity of financial innovations in Islam.

The ultimate goal of this research is to explore the cryptocurrency from a Shariah perspective and propose a conceptual framework for a Malaysian Shariah-compliant digital currency, one that not only adheres to Islamic legal standards but also contributes meaningfully to reducing financial exclusion. The framework incorporates blockchain-backed utility features, asset-backing, Shariah governance, and integration with Islamic social finance instruments like zakat and waqf. In doing so, this study seeks to provide a practical, ethically sound pathway for

Muslim-majority societies to participate in the digital economy—without compromising their religious obligations.

The paper is structured as follows. The next section provides a literature review to set the background of the study. The methodology is presented in the following section followed by findings and discussion. The final section concludes the study.

Literature Review

Global Context of Financial Inclusion

Financial inclusion refers to the access and usage of affordable, appropriate, and timely financial products and services for all individuals, particularly the underserved and low-income populations (Vaishnav, 2020). It plays a critical role in achieving the United Nations' 2030 Sustainable Development Goals (SDGs), where inclusive financial systems are recognized as enablers of poverty reduction and economic empowerment (UNCDF, 2017).

Global efforts toward financial inclusion began in the United Kingdom through the Financial Services Authority, which pioneered studies to improve consumer financial capability (Xiao, 2022). These initiatives emphasized the need for financial security, literacy, and protection against exclusion. Following this, countries such as the United States, China, and Indonesia adopted similar frameworks. In particular, the U.S. National Financial Capability Study (NFCS), last conducted in 2021, highlighted ongoing disparities across income and ethnic groups, especially among Black, Hispanic, and younger populations (Mottola, 2017; Biden, 2021).

Despite progress, 1.4 billion adults globally remain unbanked, with over 50% concentrated in seven countries: China, India, Pakistan, Indonesia, Bangladesh, Egypt, and Nigeria (Demirguc-Kunt et al., 2021). Barriers include high service costs, geographical distance, lack of documentation, and religious or cultural factors (Lichtfous, 2018). Importantly, religious sensitivity to interest-based banking was identified as a key reason among Muslim-majority countries (Demirguc-Kunt et al., 2021).

Non-governmental efforts have contributed significantly to expanding access. The Gates Foundation, for example, has promoted digital platforms like Mojaloop and supported the Better Than Cash Alliance to drive digital finance adoption among low-income groups (Center for Financial Inclusion, 2017). These initiatives have proven effective in reducing dependency on traditional banking infrastructure, especially through mobile money solutions.

Financial Inclusion Through Cryptocurrency

Cryptocurrency represents a disruptive innovation with strong implications for financial inclusion. Defined as decentralized digital currencies secured by blockchain, cryptocurrencies eliminate reliance on banks and intermediaries, thus providing financial access to unbanked populations (Nakamoto, 2008; Ozili, 2018). Their inherent features, low-cost cross-border transfers, peer-to-peer functionality, and transparent records—make them ideal for underserved communities, particularly in developing economies (Chen & Bellavitis, 2020).

For example, El Salvador adopted Bitcoin as legal tender in 2021, primarily to reduce remittance costs, which constitute 20% of its GDP. However, over 70% of its population remains unbanked (Sparkes, 2021). Similarly, the Central African Republic declared Bitcoin legal tender in 2022 to address its 99% unbanked rate, despite low digital infrastructure (Rao, 2022; Browne, 2022).

Blockchain-based financial tools also reduce the need for conventional Know-Your-Customer (KYC) documentation, enabling broader access through decentralized applications (Ozili, 2022). In Islamic finance, the use of cryptocurrencies must comply with Shariah principles that prohibit *riba* (interest), *gharar* (excessive uncertainty), and *maysir* (gambling). Thus, Shariah-compliant cryptocurrencies emerge as a powerful tool for financial inclusion within Muslim communities, enabling access while maintaining religious obligations (Ibrahim et al., 2023).

Financial Inclusion in Malaysia

Malaysia has demonstrated strong performance in financial access, with 97.3% of adults owning bank accounts as of 2023 (Bank Negara Malaysia, 2023). The country has transitioned from physical banking to digital solutions, with internet and mobile banking penetration reaching 140% and 97%, respectively. E-payment usage per capita more than doubled from 2018 to 2023.

Nonetheless, credit access remains a challenge, especially for low-income individuals and SMEs. Only 41.2% of adults hold loan accounts due to strict lending criteria and collateral requirements (Ozili, 2022). Furthermore, about 3.5 million Malaysians remain unbanked, citing reasons such as shared family accounts, high service costs, and lack of documentation (Abdul Aziz, 2021).

Interestingly, religious reasons contribute minimally to financial exclusion in Malaysia (1.6%), but demand for Shariah-compliant alternatives remains significant. The Bank Negara Malaysia's Financial Sector Blueprint outlines strategies such as "innovative products and channels" to promote inclusion (BNM, 2020). This provides a policy window for adopting Shariah-compliant cryptocurrency as a complementary tool to serve the unbanked and align with the country's Islamic finance goals.
By integrating blockchain-based Islamic financial tools, Malaysia can address persistent gaps in rural banking access, youth financial engagement, and SME credit inclusion—strengthening both economic participation and social equity.

Regulatory Overview of Cryptocurrency in Malaysia

Malaysia adopts a dual-regulatory framework for cryptocurrency through Bank Negara Malaysia (BNM) and the Securities Commission Malaysia (SC). While BNM does not recognize cryptocurrencies like Bitcoin as legal tender, it does not outright prohibit their use. SC, on the other hand, regulates digital assets as securities under the Capital Markets and Services Act 2007, enabling the operation of registered digital asset exchanges (Nawang & Abd Ghani Azmi, 2021).

SC's Guidelines on Digital Assets (2019, revised 2022) define digital currencies and tokens and stipulate that digital assets are considered securities if there is an investment expectation, pooled contributions, and a passive investment structure (Securities Commission Malaysia, 2022). As of February 2024, six digital asset exchanges are legally recognized in Malaysia, including Luno Malaysia and Tokenize Technology (Aziz, 2020).

BNM's primary position, reiterated since 2014, is that cryptocurrencies are not legal tender and fall outside its regulatory purview for payments (Bank Negara Malaysia, 2014). This has led to confusion, as SC simultaneously permits regulated cryptocurrency trading (Raj, 2020). A joint clarification issued by BNM and SC in 2020 states that SC oversees digital assets for

fundraising and trading purposes, while BNM's focus remains on the security and integrity of payment systems (Securities Commission Malaysia, 2020).
Despite not endorsing cryptocurrency as a medium of exchange, both regulators acknowledge its innovative potential. SC's Shariah Advisory Council has also ruled that investment and trading in digital assets through registered exchanges are generally permissible (Aziz, 2020).
This suggest that Malaysia's approach is deliberately cautious, balancing innovation with risk oversight (Zulhuda & Sayuti, 2017). Some characterize it as a "wait-and-see" strategy, intended to support fintech development without stifling growth (Nawang & Abd Ghani Azmi, 2021). However, the lack of a comprehensive legal framework raises challenges, particularly concerning inheritance, taxation, and Shariah compliance (Zul Kepli & Ahmad Bustami, 2021).

In summary, SC and BNM jointly manage cryptocurrency regulation, with SC adopting a more proactive stance. Their cautious but open approach reflects an intent to nurture innovation while safeguarding the financial system.

Methodology
This study adopts a qualitative research methodology that combines doctrinal legal analysis, case study, and content analysis techniques. Library-based research was conducted to collect secondary data from academic publications, regulatory reports, and Islamic legal texts (fatawa), while case analysis of existing Shariah-compliant cryptocurrencies such as OneGram, NoorCoin, ADAB, and Bayan Token provided practical context. Thematic analysis guided the identification of key principles and governance mechanisms that informed the Shariah perspective of cryptocurrency and the development of the proposed conceptual framework for Shariah-compliant cryptocurrency in Malaysia.

Findings and Discussion
This study provides significant insights into the feasibility and design of a Shariah-compliant cryptocurrency framework tailored to the Malaysian financial landscape. The findings demonstrate that integrating cryptocurrency into Islamic finance is not only viable but also critical for advancing financial inclusion, particularly for the unbanked and underbanked Muslim populations.

Cryptocurrency from a Shariah Perspective
Islamic scholars and jurists remain divided on the permissibility of cryptocurrencies, with opinions ranging from prohibition to conditional permissibility. Much of the debate arises from cryptocurrency's inherent features—high volatility, lack of intrinsic value, decentralisation, and speculative use—which pose significant risks under Islamic commercial law. These attributes raise concerns about *gharar* (excessive uncertainty), *maysir* (speculation), and potential harm (*darar*) to consumers and financial systems (Allam, 2017; Syrian Islamic Council, 2019; Al-Qaradaghi, 2022). The absence of a central issuing authority or public guarantee undermines currency stability and consumer protection, thereby violating the Islamic legal maxim *al-darar yuzal* (harm must be eliminated) (Dusuki & Bouheraoua, 2011).

From the prohibitionist view, cryptocurrencies' speculative behaviour and sharp price swings are comparable to gambling activities, while the lack of backing by real assets leads to concerns about *bayʿ al-gharar* (prohibited uncertain sales). In particular, the decentralized issuance and absence of state regulation conflict with the classical understanding that money issuance is a sovereign prerogative, and that currency should be recognised as legal tender within a jurisdiction (MUI, 2021; Wifaqul Ulama, 2016). This point is especially relevant to the *sarf* (currency exchange) rules, where *ribawi* items like money must be exchanged hand-to-hand (spot) and in equal amounts if of the same kind. Thus, delayed settlement and digital custody arrangements raise doubt about the fulfilment of *qabd* (possession), potentially rendering many crypto transactions non-compliant.

Conversely, a number of contemporary Shariah scholars adopt a conditional permissibility stance, arguing that the Shariah status of cryptocurrencies must be assessed based on their functionality and context, rather than categorically. Scholars like Bakar (2019) and Zaharuddin (2018) argue that cryptocurrencies can serve as a medium of exchange and store of value, satisfying the essential roles of money, provided they comply with *sarf* conditions, do not involve riba, and avoid deception or manipulation. These scholars further distinguish between *gharar* and *khatar* (business risk), asserting that volatility in itself does not invalidate a financial product, as long as the structure is transparent and free from exploitative uncertainty. Moreover, blockchain's transparent ledger and auditability can support Islamic principles of trust (*amanah*) and accountability (*mas'uliyyah*) (Abu-Bakar, 2019).

Meanwhile, neutral perspectives, such as those of the International Islamic Fiqh Academy (2019), emphasise that the matter remains subject to ongoing *ijtihad* (independent reasoning) due to the evolving nature of the technology. This camp calls for a regulatory framework that can better harmonise Islamic principles with technological realities, especially in jurisdictions like Malaysia where both Shariah governance and fintech regulation are developing concurrently (Muneeza et al., 2022).

A central issue that has often been underexplored in mainstream discussions is the role of legal recognition. Under Islamic jurisprudence, a currency should not only be used by consensus within a community but also be recognised by the state as legal tender, which enables public enforcement, consumer protection, and macroeconomic stability. Without this, the currency remains vulnerable to manipulation, which contradicts the Islamic finance objective of ensuring *maslahah* (public benefit) and mitigating systemic harm (*mafsadah*).
Synthesising the above views, this study suggests that any assessment of cryptocurrency's permissibility must account for both classical requirements of currency (e.g., ribawi exchange, possession, legal tender) and contemporary use cases, particularly in promoting financial inclusion. As Hassan (2019) notes, Shariah assessments must evolve alongside technological innovations to ensure that cryptocurrencies can contribute to financial inclusion without undermining Islamic values:

1. The currency must function as a medium of exchange, rather than merely a speculative asset;
2. It should serve as a store of value, supported by mechanisms to stabilise excessive volatility;
3. It must be commonly accepted as a means of transaction within a defined community;
4. Ideally, it should be recognised as legal tender in at least one jurisdiction, or regulated under existing financial frameworks (Hassan, 2019).

In response to these principles, this paper proposes a Shariah-compliant cryptocurrency framework incorporating asset-backing, transparent governance, and a hybrid regulatory–religious oversight mechanism. These measures are designed to mitigate speculative behaviours, ensure lawful ownership, and embed Shariah principles directly into the system architecture. In doing so, the framework upholds the overarching goals of *maqasid al-shariah* namely, the protection of wealth, prevention of harm, and equitable access to finance for all.

Other Considerations

The research also underscores the regulatory ambiguity in Malaysia's current approach to cryptocurrency. While the Securities Commission Malaysia permits the trading of digital assets under a regulated environment, Bank Negara Malaysia maintains a cautious stance by refusing to recognize cryptocurrencies as legal tender. This duality necessitates a clear and harmonized regulatory framework to support Shariah-compliant digital finance solutions. The findings indicate that such harmonization is possible through collaborative policymaking and by leveraging existing digital asset guidelines to incorporate Shariah compliance standards.

Additionally, the study highlights the potential of Shariah-compliant cryptocurrencies to serve as a bridge between underserved Muslim communities and the broader financial system. Existing Shariah-labelled cryptocurrencies such as OneGram, NoorCoin, and Islamic Coin showcase practical models where gold-backing and social finance integration create ethical and inclusive financial ecosystems. These cases demonstrate that incorporating Islamic legal maxims like *al-dararu yuzal* (harm must be eliminated) and *maslahah* (public interest) ensures alignment with *maqasid al-shariah* (objectives of Islamic law).

Conceptual Framework

Based on the Shariah standpoints on the cryptocurrency and other considerations discussed earlier, a conceptual framework of Shariah-compliant cryptocurrency is developed as shown in Figure 1 below.

This framework is developed to address the key issues and challenges in implementing currency-based cryptocurrencies, with a focus on ensuring compliance with Shariah principles. Its ultimate objective is to promote financial inclusion in the Malaysian context through the integration of Shariah-compliant cryptocurrency into the financial ecosystem.

From a technical standpoint, the findings underscore the importance of alternative consensus mechanisms such as Proof of Stake (PoS) and Ripple's consensus protocol, which offer environmentally sustainable and Shariah-friendly alternatives to Bitcoin's energy-intensive Proof of Work (PoW). These innovations address ethical concerns about environmental harm, aligning with the growing emphasis on Environmental, Social, and Governance (ESG) principles in Islamic finance.

The proposed conceptual framework meets this need by outlining operational procedures, governance models, and compliance pathways that ensure ethical integrity and regulatory alignment.

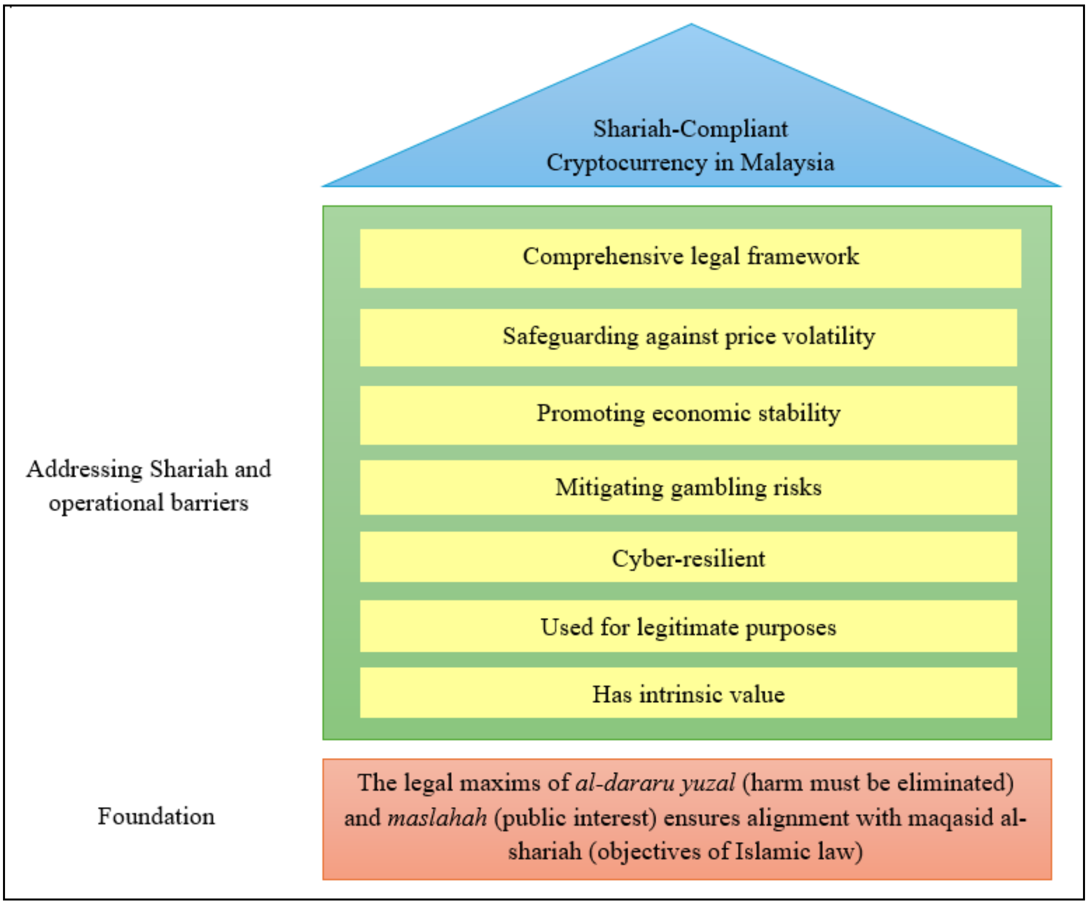

Figure 1. Conceptual Framework of Shariah-compliant Cryptocurrency

The findings position Shariah-compliant cryptocurrency as a viable instrument for enhancing financial inclusion in Malaysia. The proposed conceptual framework offers a roadmap for integrating Islamic ethical values with cutting-edge financial technology, fostering a more inclusive and equitable financial ecosystem that resonates with the needs of faith-conscious consumers and contributes to the national financial inclusion agenda.

The findings derived from the doctrinal, case study, and thematic analyses provide critical insights into the feasibility and challenges of implementing a Shariah-compliant cryptocurrency framework in Malaysia as a tool for enhancing financial inclusion. The study confirms that religious prohibitions against riba (interest), *gharar* (uncertainty), and *maysir* (gambling) are significant barriers for many Muslims in accessing conventional financial systems. By examining existing Shariah-compliant cryptocurrencies. it becomes evident that innovative mechanisms like asset-backing, Shariah supervisory boards, and charitable allocations can effectively address these concerns.

This aligns with previous scholarship that emphasizes the need for ethical and religious compatibility in financial innovation (Muneeza et al., 2022). Moreover, the integration of blockchain technology's transparency, security, and decentralization resonates with Islamic financial principles of trust (*amanah*), justice (*'adl*), and harm minimization (*la darar wa la dirar*). The research builds upon Dusuki and Bouheraoua's (2011) framework of *maqasid al-shariah*, demonstrating that digital financial tools can serve higher objectives such as wealth redistribution and social equity when designed appropriately.

However, the study also reveals limitations and risks that require careful management. The volatility of cryptocurrencies, potential for illicit use, and the absence of a central authority raise legitimate Shariah and regulatory concerns. While asset-backing (as in OneGram's gold reserves) addresses intrinsic value issues, not all cryptocurrencies employ such safeguards. The divergence in scholarly opinions—from prohibition to permissibility—underscores the dynamic and evolving nature of Islamic jurisprudence in response to technological change.
At the regulatory level, Malaysia's cautious approach, with the Securities Commission recognizing digital assets as securities and Bank Negara Malaysia not recognizing them as legal tender, reflects a pragmatic "wait-and-see" strategy (Nawang & Abd Ghani Azmi, 2021). This duality highlights the need for harmonized regulation tailored to Shariah-compliant digital assets. Dedicated Shariah Advisory Committee under the SC ensure religious compliance, while sandbox initiatives could allow safe experimentation with these financial innovations.

Importantly, the findings underscore that Shariah-compliant cryptocurrencies are not intended to replace Malaysia's Islamic banking system but rather to complement it by serving unbanked and underbanked segments. Mobile and blockchain-based solutions could overcome geographical and documentation barriers, extending financial services to rural areas and marginalized groups.

This study also highlights the transformative potential of Shariah-compliant cryptocurrency frameworks in addressing financial exclusion within Muslim communities in Malaysia. By integrating Islamic jurisprudential principles with blockchain technology, such frameworks can offer ethical, transparent, and accessible financial solutions. Existing Shariah-compliant cryptocurrencies demonstrate that it is possible to design digital assets that adhere to Islamic legal standards while supporting economic empowerment and social justice.

Conclusion

This study sheds light on the cryptocurrency in the Shariah perspective and proposes a feasible Shariah-compliant cryptocurrency framework as a tool for enhancing financial inclusion in Malaysia. The study's proposed conceptual framework emphasizes asset-backing, robust Shariah governance, and integration with Islamic social finance instruments. These elements ensure compliance with *maqasid al-shariah* and provide practical avenues for financial inclusion, particularly among rural and low-income populations.

However, the successful adoption of such frameworks requires regulatory clarity and alignment between Malaysia's financial authorities. A harmonized approach that supports innovation while safeguarding financial stability is essential. Furthermore, public education and awareness initiatives will be critical to fostering trust and understanding of Shariah-compliant cryptocurrencies.

Future research should explore empirical testing of proposed framework through pilot projects or regulatory sandboxes in collaboration with Islamic financial institutions. Comparative studies across Muslim-majority countries could provide additional insights into best practices and challenges in implementing such systems globally.

In conclusion, this study contributes to both academic discourse and practical policymaking by offering a Shariah-compliant cryptocurrency framework as a viable tool for enhancing financial inclusion in Malaysia. By addressing both technological and ethical dimensions, it charts a path forward for Muslim-majority societies seeking to balance faith and financial innovation in the digital era.

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