

Bridging Legal Pluralism Through Community-Based Islamic Education: Enhancing Sharia Literacy on Cryptocurrency and NFTs in Indonesia

Muhammad Farid Romadhoni Alqodri^a✉ | Ayub Awaluddin^b | Annas Fajar Rohmani^c  | Muhammad Salman Al Farisi^e

^aFaculty of Informatics Engineering, Universitas Muhammadiyah Surakarta, Indonesia.

^bFaculty of Informatics Engineering, Universitas Muhammadiyah Surakarta, Indonesia.

^cFaculty of Islamic Religion, Universitas Muhammadiyah Surakarta, Indonesia.

^dFaculty of Arts and Human Sciences, Queen Arwa University, Yemen.

ABSTRACT

The rapid development of digital finance has led to widespread adoption of cryptocurrency and Non-Fungible Tokens (NFTs), including among Indonesian Muslims. However, a gap remains between state policy and Islamic legal perspectives on the legitimacy of these digital assets. While the Indonesian government recognizes cryptocurrency as a tradable commodity, Islamic authorities such as the Indonesian Ulema Council (MUI) consider it haram due to elements of gharar (uncertainty) and maysir (gambling). This normative divergence, coupled with the absence of integrated sharia-based digital education, creates confusion and increases the risk of speculative or unethical practices. This study adopts a descriptive qualitative approach through library research, drawing on academic literature, state regulations, fatwas, and digital media content. The findings reveal that community-based Islamic education—rooted in platforms such as pesantren, majelis taklim, and digital Muslim communities—plays a strategic role in enhancing sharia literacy. Digital educational media like YouTube, podcasts, and e-learning serve as powerful tools for contextualizing Islamic teachings in the digital economy. Collaborative educational initiatives involving scholars, educators, and influencers have shown positive outcomes in building awareness and ethical understanding of digital financial instruments. This research suggests that integrating fintech content into Islamic educational curricula and empowering da'i and PAI teachers with digital literacy skills are essential to developing an ethically grounded and technologically literate Muslim society.

ARTICLE HISTORY

Received: 10 February 2025

Revised: 14 April 2025

Accepted: 15 April 2024

KEYWORDS

Islamic Education; Cryptocurrency; NFTs; Community-Based Education; Sharia Literacy.

INTRODUCTION

The development of digital technology in the financial sector has driven the emergence of various new instruments such as cryptocurrency and Non-Fungible Tokens (NFTs) [1]. According to data from Statista, the global market value of cryptocurrencies reached over \$1.5 trillion as of 2023, marking a significant increase from approximately \$200 billion in early 2020. In Indonesia, a survey conducted by the Ministry of Trade revealed that the number of crypto asset investors had exceeded 17 million by the end of 2022, surpassing the number of conventional capital market investors [2]–[4]. This phenomenon indicates the growing public interest in cryptocurrencies and NFTs, including among Muslim communities. However, questions have arisen regarding the legitimacy and compatibility of these instruments with Islamic values, as well as the role of the state in regulating and educating the public about them [5].

Academic studies on cryptocurrencies and NFTs from an Islamic perspective reveal a wide range of opinions among scholars and Muslim intellectuals. Some studies argue that cryptocurrencies do not meet the criteria of money in Islam due to their high volatility, lack of asset backing, and speculative potential—elements categorized as gharar (excessive uncertainty) and maysir (gambling) in Islamic law [6]. On the other hand, some scholars believe that cryptocurrencies may be acceptable as a medium of exchange, provided they fulfill the principles of *maqasid al-shariah* (the objectives of Islamic law) and serve the public good (maslahah ammah). A similar debate applies to NFTs, where some scholars

deem NFT transactions permissible so long as they comply with the conditions of sale in Islamic law, although empirical studies and legal analyses on digital aspects remain limited [7].

Although Islamic legal discourse on cryptocurrencies and NFTs is gradually evolving, there remains a research gap in adopting a multidisciplinary approach that connects Islamic viewpoints, state policy, and digital educational media. Most existing literature focuses predominantly on fiqh or normative legal studies without directly addressing the role of public education or the perceptions of Muslim communities toward these instruments. Moreover, there has been little exploration of how educational media—such as YouTube, podcasts, and online learning platforms—could bridge the understanding between sharia and digital financial literacy among Muslims [8].

The urgency of this study is further underscored by the absence of a well-established consensus, both in religious circles and in state regulation, regarding the legal status and governance of cryptocurrencies and NFTs. The Indonesian government, through Bappebti, regulates crypto assets as commodities rather than legal tender, while the Indonesian Ulema Council (Majelis Ulama Indonesia/MUI), in its fatwas, has expressed caution over cryptocurrency use due to its high speculative nature. In this context, education becomes a key element in avoiding misunderstandings and practices that may contradict both sharia and state regulations. Research that integrates Islamic perspectives with government policies through educational media can provide a valuable contribution to strengthening ethical and legally conscious Islamic digital literacy.

Based on the above background, this study addresses the problem of misalignment in views and understanding between Muslim communities, religious institutions, and the government concerning the legality and legitimacy of cryptocurrencies and NFTs from the perspectives of sharia and national law. Furthermore, the suboptimal use of educational media as a vehicle for Islamic values-based digital literacy poses a barrier to forming a holistic, moderate, and informative understanding of this phenomenon.

LITERATURE REVIEW

Recent studies highlight the growing need for Sharia-compliant education on cryptocurrency and NFTs within Muslim communities. Cryptocurrencies are often criticized for containing elements of *gharar* (uncertainty) and *maysir* (speculation), which render them non-compliant with Islamic law. However, alternatives like OneGram have been developed to align with Sharia principles, offering a potential path for integrating digital finance into the Islamic economic system [9]. Similarly, NFTs are considered permissible if they meet Sharia conditions, such as providing legal benefit and avoiding prohibited activities [10].

In Indonesia, research shows that Sharia financial literacy significantly shapes Muslim investment behavior, especially when delivered through culturally relevant, community-based models. For example, local mosque-based education programs have successfully improved understanding of Islamic finance in underserved regions [11], [12]. These findings suggest that increasing Sharia literacy through grassroots initiatives is crucial to help Muslim communities engage safely and ethically with digital financial tools.

METHODOLOGY

This study employs a descriptive qualitative approach using the method of library research. The research focuses on an in-depth exploration of Islamic perspectives and state policies concerning cryptocurrencies and NFTs, as well as the role of digital educational media in bridging public understanding. Data were collected from a range of relevant secondary sources, including academic journals, fatwas issued by the Indonesian Ulema Council (MUI), government regulations (including those from Bappebti and Bank Indonesia), classical and contemporary Islamic literature, and online educational content (such as YouTube, podcasts, and learning platforms).

Data analysis was conducted using a thematic and content analysis approach. This method was utilized to identify key themes related to the legality of cryptocurrencies and NFTs from the standpoint of Islamic law, government regulation, and the evolving literacy strategies in educational media. The researcher also employed the principles of maqasid al-shariah as a normative analytical framework to assess the conformity of cryptocurrencies and NFTs with the objectives of Islamic law.

To ensure data validity, source triangulation was employed by comparing findings from academic literature with official government documents and the views of authoritative religious institutions. The research findings are presented in the form of an analytical narrative that illustrates the integration of religious perspectives, legal policies, and the role of educational media in shaping Islam-based digital financial literacy.

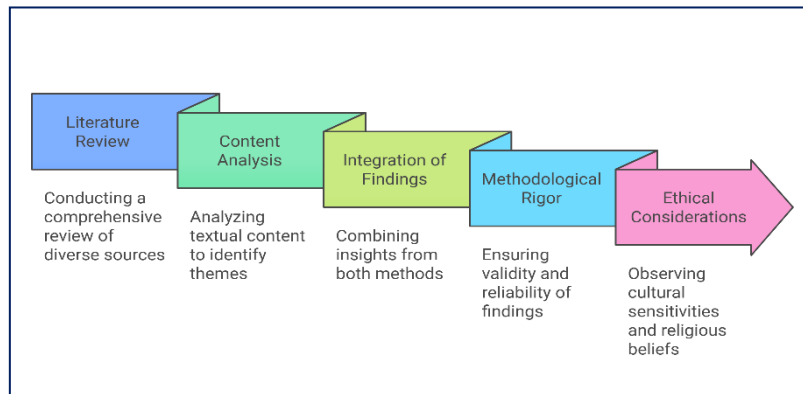


Figure 1. Research Flow.

RESULTS AND DISCUSSION

Islamic Perspectives on Cryptocurrency and NFTs

In Islam, the concept of money is bound by specific criteria that have been outlined by scholars since the classical period. These criteria include value stability, tangible societal benefit, and—according to some opinions—intrinsic value. As cryptocurrencies and Non-Fungible Tokens (NFTs) have emerged as new entities in the digital financial landscape, numerous Islamic scholars and Muslim intellectuals have undertaken studies to assess the compliance of these assets with Islamic law (sharia) [13]. Several studies conclude that cryptocurrencies cannot be categorized as money due to their extreme volatility and the absence of stable underlying assets. This leads to a high degree of uncertainty, thereby disqualifying them as legitimate means of exchange under Islamic principles [14].

Similarly, NFTs—digital tokens that represent ownership of unique assets—are more often viewed as collectibles rather than mediums of exchange. Their value is determined by market trends and perceived scarcity rather than real societal needs. In many cases, NFTs are used not as instruments of genuine exchange but as speculative assets, making it difficult to align them with the shariah principles of stability and intrinsic value [15].

From the perspective of maqasid al-shariah (the objectives of Islamic law), financial transactions in Islam must aim to promote public benefit (*maslahah*) and prevent harm (*mafsadah*) [16]. Some research suggests that cryptocurrencies and NFTs entail more harm than benefit. Cryptocurrencies, for instance, are frequently employed as speculative instruments with a high risk of loss in a short period. Such practices resemble gambling (*maysir*) and involve uncertainty (*gharar*), both of which are prohibited in Islamic law [17].

NFTs are not exempt from similar criticism, as they are often used in market manipulation schemes such as pump-and-dump tactics and currently lack sufficient consumer protection frameworks [18]. In the context of sharia, such transactions may violate the principles of justice and asset security and potentially harm uninformed or less-educated participants in the digital asset space.

Nonetheless, there exists a diversity of opinion among Islamic scholars. Some argue that cryptocurrencies may be conditionally permissible, provided they are used in ways that do not violate sharia principles such as justice, transparency, and the protection of property rights [19]. This approach underscores the importance of context-based analysis and public benefit (*maslahah ammah*). Jasser Auda, in his contemporary Islamic legal philosophy, advocates for evaluating new phenomena holistically in accordance with the higher objectives of Islamic law, rather than relying solely on the literal interpretations of classical fiqh [20].

This broad spectrum of opinions reflects the complexity of challenges faced by Muslims in the digital age. On the one hand, there is a pressing need for active engagement in technological innovation to improve communal welfare [21]. On the other hand, limited understanding of contemporary Islamic legal discourse has led some members of the community to fall into speculative or even fraudulent digital practices. It is within this context that community-based Islamic education becomes increasingly relevant. Educational platforms such as *majelis taklim* (religious study circles), pesantren (Islamic boarding schools), and digital Muslim communities play a strategic role in bridging religious edicts (*fatwas*) with developments in the digital economy [22]. Through such approaches, sharia principles can be conveyed in accessible and contextually relevant ways, enabling Muslims to engage with cryptocurrency and NFTs thoughtfully and critically, without falling into technological marginalization or exclusivity.

State Perspectives on Cryptocurrency and NFTs

The Indonesian government has adopted a relatively firm stance regarding the legal status of crypto assets. Under current regulations, cryptocurrency is not recognized as a legitimate means of payment in Indonesia. Bank Indonesia (BI) explicitly prohibits the use of cryptocurrency as a transactional instrument through Regulation No. 18/40/PBI/2016 on the Implementation of Payment Transaction Processing. Nevertheless, through the Commodity Futures Trading Regulatory Agency (Bappebti), crypto assets have been legally recognized as digital commodities that may be traded on futures exchanges, following the issuance of Bappebti Regulation No. 5 of 2019. This approach is protective in nature: the state permits the trading of cryptocurrencies as investment instruments, yet prohibits their use as currency in order to safeguard the stability of the national financial system [23]–[25].

This governmental stance presents an intriguing dynamic when viewed in relation to the position of religious institutions. The Indonesian Ulema Council (Majelis Ulama Indonesia, MUI), through Fatwa No. 116/DSN-MUI/IX/2017, declares cryptocurrency as haram due to its elements of *gharar* (uncertainty), *maisir* (gambling), and the absence of a legitimate underlying asset as required by the principles of muamalah shariah. This fatwa reinforces the stance held by a majority of scholars who perceive cryptocurrencies and NFTs as instruments more aligned with speculation than with real economic productivity. Consequently, a normative conflict arises between state regulations, which legalize crypto as a tradable commodity, and religious rulings, which prohibit its use in Islamic economic activity [4], [26].

This conflict is further exacerbated by the absence of an integrated formal educational approach between the state and religious institutions. As of now, there is no standardized curriculum or educational module that bridges the public's understanding of the divergent views between state law and Islamic law regarding digital assets. As a result, laypeople are vulnerable to one-sided interpretations, which may lead them into speculative ventures or even digital fraud [24]. Recent studies emphasize the urgency of developing a sharia-based digital education curriculum, involving collaboration among the Ministry of Religious Affairs, academics, and practitioners in the halal digital industry, to strengthen literacy in contemporary Islamic economics.

Thus, the state's policy on cryptocurrency and NFTs reflects a dualistic approach: accommodating technological innovation on one hand, while maintaining control over the monetary system by prohibiting the use of crypto as currency. Meanwhile, the position of MUI and other religious institutions represents an effort to preserve the sanctity of Muslim economic transactions from speculative elements. This gap can only be bridged through adaptive and collaborative sharia-based education—one that not only conveys fatwas but also contextualizes them within the

realities of the digital economy [18]. Table 1 presents a comparative summary of how state institutions and Islamic scholars perceive the legality and implications of cryptocurrencies and NFTs.

Table 1. Comparison of State and Religious Views on Cryptocurrency and NFTs

Aspect	State (Bappebti & Bank Indonesia)	Religious Institutions (MUI)
Legal Status of Crypto	Recognized as a tradable digital commodity	Declared haram in Fatwa No. 116/DSN-MUI/IX/2017
Use as Currency	Prohibited by Bank Indonesia regulations	Prohibited for not meeting Islamic criteria for currency
Reasoning	To protect financial system stability and investors	Contains gharar (uncertainty), maysir (speculation), and lacks real assets
NFTs	Not specifically regulated yet but considered part of the digital economy	Permissible if fulfilling contract (akad) requirements, otherwise haram
Legal Framework	Positive law focused on national economic protection	Normative shariah based on maqasid al-shariah and ethical transactions
Public Implication	Legal as investment, but often misunderstood as currency	May mislead the public into speculative or unethical practices

A Community-Based Approach to Islamic Education on Cryptocurrency and NFTs

Community-based education in Islam is rooted in values of collectivity, active participation, and the sustainability of communal religious outreach (dakwah). Foundational principles such as jama'ah (communal unity), ukhuwah Islamiyah (Islamic brotherhood), and the spirit of dakwah within local communities form the philosophical basis of this educational model. In the modern context, its practical manifestations can be found in activities such as majelis taklim (Islamic study circles), pesantren (Islamic boarding schools), digital Muslim communities, and online discussion groups. Community-based education in Islam does not rely solely on formal institutions but is also built upon social interactions that are relational and participatory in nature [27].

The urgency of this model becomes increasingly evident in light of the growing complexity of the cryptocurrency and NFT phenomena. Many Muslims—particularly younger generations—are drawn to investing in digital assets without adequate understanding of contemporary fiqh muamalah (Islamic commercial jurisprudence), thereby exposing themselves to risks such as gharar (uncertainty), maysir (gambling), and digital fraud [28]. Research indicates that low levels of digital sharia literacy make Muslim communities vulnerable to speculative investment practices that contradict Islamic principles. In this context, community-based education plays a critical role in delivering Islamic financial education that is both preventive and transformative [1].

One strategic approach is to utilize digital educational media as a means of dakwah and literacy transformation [29]. Platforms such as YouTube, podcasts, social media, and e-learning can be employed by Islamic communities to disseminate educational content on cryptocurrency and NFTs aligned with sharia principles. The use of such media must be developed critically and purposefully—not merely to inform, but also to filter narratives that contradict Islamic values. Initiatives such as digital literacy training for ustadz (religious teachers) and santri (Islamic boarding school students) in modern pesantren have already demonstrated a positive and sustainable impact on enhancing Islamic digital literacy [30].

Amid the rapid growth of Web3 and blockchain technologies, Muslim communities must also become more proactive in designing curricula or educational modules that address these technologies from a sharia perspective.

Inclusive community-based education can create spaces for dialogue among scholars, academics, and younger Muslim generations, enabling a critical yet open-minded understanding of cryptocurrency and NFTs in relation to contemporary change [31]–[33].

Thus, the community-based education approach serves not only as a solution for improving digital sharia literacy but also as a strategic dakwah tool for cultivating a Muslim society that is technologically literate, religiously grounded, and critically engaged with the complexities of global transformation.

Educational Media as a Tool for *Dakwah* and Literacy Transformation

In the digital era, platforms such as YouTube, podcasts, e-learning, and social media have become strategic tools for disseminating contemporary Islamic dakwah, particularly in addressing technological issues such as cryptocurrency and NFTs [34]–[36]. These platforms enable da'i (preachers), educators, and Muslim communities to reach broader audiences through diverse and interactive formats. Several digital dakwah initiatives have proven effective in enhancing sharia literacy among younger generations, particularly within urban Muslim circles and digital natives. The use of social media platforms like Instagram and TikTok by Muslim influencers has also contributed to engaging Generation Z, who are especially susceptible to the hype surrounding uncritical digital investment lacking fiqh-based literacy.

Currently, educational content on cryptocurrency and NFTs within digital channels remains highly varied. While much of it remains profit-oriented and speculative, there is a growing emergence of sharia-based channels—such as those led by Ustadz Oemar Mita, Ustadz Hilmi Firdausi, and institutions like the Sharia Economic Council—which address cryptocurrency from a halal-haram perspective. This type of content plays a critical role as a counter-narrative to crypto-related media that neglect Islamic principles. Recent studies indicate that Muslim audiences tend to place greater trust in educational content presented by religious authorities, academics, or competent Islamic finance practitioners [37], [38].

Effective strategies employed by da'i and Muslim influencers include the use of storytelling, visual illustrations, and contextualized, accessible discussions on muamalah (Islamic commercial law). Many of them also incorporate the principles of maqasid al-shariah when discussing digital economy topics. A study by Dewi and Ferdian found that gradual and contextual approaches to sharia education—such as through social media and online workshops—are more effective in enhancing literacy and awareness among Muslim diaspora communities [5].

One example of a progressive Islamic digital education initiative is the Indonesian Muslim Crypto Education community, which operates actively on Telegram and Instagram. This community conducts online classes, discussions on fiqh muamalah, and invites speakers from the MUI's National Sharia Council (DSN-MUI) and sharia economic practitioners to discuss developments in Web3. In the academic domain, Islamic universities such as UIN Sunan Kalijaga and Universitas Muhammadiyah Yogyakarta (UMY) have organized thematic webinars on NFTs and Islamic law, streamed via YouTube. A study by Heryatun and Septiana (2023) reports that digital training for ustadz and santri significantly enhances their ability to deliver Islamic teachings on contemporary technological issues in a critical and informative manner [39].

Collaborative models involving scholars, academics, and digital communities have proven effective in fostering holistic understanding—from scholarly discourse and fatwa issuance to socio-economic context. Evaluations of these educational programs indicate increased participant awareness of the speculative risks in crypto and the importance of valid Islamic contracts (akad) in digital transactions. These findings align with research by Sunil et al., who developed an NFT-based educational platform for higher education institutions as a means of authenticating academic achievements in accordance with sharia principles [23].

To respond effectively to the challenges of the digital economy era, the development of adaptive community-based Islamic education (PAI) is imperative. One approach is the integration of cryptocurrency and NFT content into informal Islamic curricula at pesantren, majelis taklim, and digital Muslim communities [40], [41]. This material should not only address the technological dimensions but also the ethical, legal (muamalah), and maqasid al-shariah principles. A study by Wibowo shows that community-based Islamic financial education can significantly improve members' understanding of halal financial practices through family- and community-oriented religious approaches [18].

Training for da'i and Islamic Religious Education (PAI) teachers is also of critical importance, enabling them to explain topics such as Web3, NFTs, and blockchain within an Islamic framework that is both clear and relevant. Collaboration between Islamic educational institutions, Muslim mass organizations (such as Nahdlatul Ulama and Muhammadiyah), and digital educational platforms is essential for establishing a responsive dakwah and education ecosystem. A study underscores the need for synergy among *dakwah* actors to construct a sharia-oriented narrative of digital finance that empowers the Muslim community [4].

CONCLUSION

Addressing the complex challenges of cryptocurrency and NFT adoption among Indonesian Muslims requires a community-based Islamic education approach that integrates religious, legal, and digital literacy. While the government classifies crypto as a tradable commodity, Islamic authorities deem it haram due to elements of uncertainty (gharar) and speculation (maysir), creating a normative gap. The absence of integrated educational frameworks further exacerbates public confusion. Community-based education—through platforms like majelis taklim, pesantren, and digital Muslim networks—offers a strategic model to bridge this gap by promoting accessible and contextual sharia literacy. Additionally, leveraging digital media such as YouTube and podcasts for dakwah enables educators and influencers to transform Islamic teachings into relevant literacy tools for navigating the digital economy. Therefore, integrating fintech content into Islamic education and equipping educators with digital competencies are essential steps toward building an ethically informed and digitally literate Muslim society.

Acknowledgements

The authors gratefully acknowledge the support of all individuals and institutions who contributed insights and resources to this study, particularly in the fields of education and Islamic ethics.

Author Contribution

All authors contributed equally to the main contributor to this paper, some are as chairman, member, financier, article translator, and final editor. All authors read and approved the final paper.

Conflicts of Interest

All authors declare no conflict of interest.

REFERENCES

- [1] R. Setia and M. Maharani, "Problems With Digital Currency: Cryptocurrency In Indonesia," *J. Econ. Bus. UBS*, vol. 12, no. 4, pp. 2452–2459, Aug. 2023, <https://doi.org/10.52644/joeb.v12i4.491>.
- [2] W. A. T. Haryanto, M. Irayadi, and A. Wahyudi, "Legal Analysis of Cryptocurrency Utilization in Indonesia," *Rechtsnormen J. Law*, vol. 1, no. 2, pp. 67–76, Jul. 2023, <https://doi.org/10.55849/rjl.v1i2.390>.
- [3] E. Erwanto and A. P. A. Santoso, "Study of Crypto Currency in Indonesia," *JISIP (Jurnal Ilmu Sos. dan Pendidikan)*, vol. 8, no. 3, p. 1527, Jun. 2024, <https://doi.org/10.58258/jisip.v8i3.6870>

- [4] M. H. Christopher Panal Lumban Gaol, S.H., "Indonesia Cryptocurrencies in Islamic Law," *Int. J. Humanit. Soc. Stud.*, Jun. 2023, <https://doi.org/10.24940/theijhss/2023/v11/i5/HS2305-018>.
- [5] M. K. Dewi and I. R. Ferdian, "Enhancing Islamic financial literacy through community-based workshops: a transtheoretical model," *J. Islam. Account. Bus. Res.*, vol. 12, no. 5, pp. 729–747, Aug. 2021, <https://doi.org/10.1108/JIABR-08-2020-0261>.
- [6] N. W. I. Rahayu et al., "An Islamic point of view of cryptocurrency investment: Generations z fear of missing out (FOMO) and their personal traits as traders," *Edelweiss Appl. Sci. Technol.*, vol. 8, no. 5, pp. 1880–1905, Sep. 2024, <https://doi.org/10.55214/25768484.v8i5.1920>.
- [7] S. N. Khan, "The legality of cryptocurrency from an Islamic perspective: a research note," *J. Islam. Account. Bus. Res.*, vol. 14, no. 2, pp. 289–294, Feb. 2023, <https://doi.org/10.1108/JIABR-02-2022-0041>.
- [8] A. Nouruzzaman, A. Wahab, and A. Hamid Habbe, "Cryptocurrency In Islamic Economic Principles," *Dinasti Int. J. Educ. Manag. Soc. Sci.*, vol. 3, no. 2, pp. 233–239, Jan. 2022, <https://doi.org/10.31933/dijemss.v3i2.1068>.
- [9] A. K. N. Iman and A. Samsuri, "Cryptocurrency; Financial Risk And Shariah-Compliant Alternative Concept," *Equilib. J. Ekon. Syariah*, vol. 10, no. 1, p. 109, Jun. 2022, <https://doi.org/10.21043/equilibrium.v10i1.13278>.
- [10] N. F. Izzati Fadzil and S. Abdullahi Busari, "دراسة فقهية تحليلية: (NFT) للاستبدال Non-Fungible Tokens (NFT) Investment: A Juristic and Analytical Study," *J. Fiqh*, vol. 21, no. 1, pp. 19–64, Jun. 2024, <https://doi.org/10.22452/fiqh.vol21no1.2>.
- [11] H. Haris, "Do Muslim Investors Consider Sharia literacy in Their Behavior When Trading Stocks? Experiences of Indonesian Stock Investors," *INFERENSI J. Penelit. Sos. Keagamaan*, vol. 18, no. 1, pp. 75–98, Jul. 2024, <https://doi.org/10.18326/infsl3.v18i1.75-98>.
- [12] T. Hidayati et al., "Increasing Literacy and investment assistance in Sharia Financial institutions for Muslim Study Groups in the Suburbs of Palangka Raya City," *J. Pengabd. Masy. Bestari*, vol. 3, no. 4, pp. 229–240, Apr. 2024, <https://doi.org/10.55927/jpmb.v3i4.8943>.
- [13] A. Muneeza, S. A. Bin-Nashwan, M. I. Abdel Moshin, I. Mohamed, and A. Al-Saadi, "Zakat payment from cryptocurrencies and crypto assets," *Int. J. Islam. Middle East. Financ. Manag.*, vol. 16, no. 3, pp. 482–497, 2023, <https://doi.org/10.1108/IMEFM-12-2021-0487>.
- [14] D. Siswanto, R. Handika, and A. F. Mita, "The requirements of cryptocurrency for money, an Islamic view," *Heliyon*, vol. 6, no. 1, p. e03235, Jan. 2020, <https://doi.org/10.1016/j.heliyon.2020.e03235>.
- [15] N. R. Febriandika, F. Fadli, and D. A. Mi'raj, "How are NFT (Non-Fungible Token) transactions reviewed according to Islamic law?," *Borobudur Law Rev.*, vol. 4, no. 1, pp. 1–12, May 2022, <https://doi.org/10.31603/burrev.6807>.
- [16] K. Abadi, Ahmad Taufiq, and Rizka Roikhana, "Cryptocurrency and Crypto Assets in the Perspective of Islamic Legal System Philosophy," *Hikmatuna J. Integr. Islam. Stud.*, vol. 9, no. 2, pp. 131–146, Dec. 2023, <https://doi.org/10.28918/hikmatuna.v9i2.1216>.
- [17] M. A. I. Bintarto, Y. Setiawan, M. U. Alqarni, and F. Hilmi, "Zakah and Waqf for Cryptocurrency in Islamic Law," *Al-Istinbath J. Huk. Islam*, vol. 7, no. 1, pp. 21–38, 2022, <https://doi.org/10.29240/jhi.v7i1.4229>.
- [18] K. A. Wibowo, "Transformation of Islamic Financial Literacy in the Member of BMT in Indonesia Through Community Development MKU Methods," *SSRN Electron. J.*, 2020, <https://doi.org/10.2139/ssrn.3678336>.
- [19] M. K. Hassan, A. Muneeza, and I. Mohamed, "Cryptocurrencies from Islamic perspective," *J. Islam. Account. Bus. Res.*, vol. 16, no. 2, pp. 390–410, Jan. 2025, <https://doi.org/10.1108/JIABR-09-2022-0238>.
- [20] M. Z. M. Nor et al., "Crypto currency and Shariah Compliant Aspects: An Overview," *Res Mil.*, vol. 12, no. 2, pp. 772–779, 2022, <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85141173624&partnerID=40&md5=b0cca39a4505a22eb22ecb0e44e5faa1>.
- [21] A. P. Buana, R. Ramadani, A. Aswari, and Z. Zainuddin, "Polarisation of Islamic Scholars on the Legality of Cryptocurrency Usage as Currency," *Arena Huk.*, vol. 17, no. 2, pp. 448–464, Aug. 2024,

- <https://doi.org/10.21776/ub.arenahukum2024.01702.12>.
- [22] W. Wartoyo and A. S. Haerisma, "Cryptocurrency in The Perspective of Maqasid Al-Shariah," *Afkaruna Indones. Interdiscip. J. Islam. Stud.*, vol. 18, no. 1, Jul. 2022, <https://doi.org/10.18196/afkaruna.v18i1.14164>.
- [23] S. Sunil, A. Z. Bhat, and A. Abbas, "EduNFT: a secure NFT platform for Higher Educational Institutions," in *2024 6th International Conference on Blockchain Computing and Applications (BCCA)*, 2024, pp. 171–178, <https://doi.org/10.1109/BCCA62388.2024.10844478>.
- [24] T. Kusuma, "Cryptocurrency dalam Perdagangan Berjangka Komoditi di Indonesia Perspektif Hukum Islam," *TSAQAFAH*, vol. 16, no. 1, p. 109, May 2020, <https://doi.org/10.21111/tsaqafah.v16i1.3663>.
- [25] H. Aprilia, M. Zaki, and L. Faizal, "Tinjauan Hukum Ekonomi Syariah Terhadap Mekanisme Penjualan Karya atau Kreasi Digital Berbasis NFT (Non Fungible Token) Pada Platform Opensea," *Medina-Te J. Stud. Islam*, vol. 19, no. 1, pp. 22–31, Jun. 2023, <https://doi.org/10.19109/medinate.v19i1.17410>.
- [26] W. Darmalaksana, "Crypto Digital Asset Phenomenon in Hadith Review with Anthro-Economic Social Approach," *Khazanah Huk.*, vol. 4, no. 3, pp. 205–212, 2022, <https://doi.org/10.15575/kh.v4i3.19048>.
- [27] R. M. A. Qaruty, "Virtual Currencies & Islamic Law: Origin, Features And Sharia Rulings," *J. Leg. Ethical Regul. Issues*, vol. 24, no. Special Issue 1, pp. 1–10, 2021, <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85113188814&partnerID=40&md5=c121ed5cbc02a13cbc40ad4e8dbc5d94>.
- [28] M. F. Flórez, "Clandestine Baptism and Crypto-Christianity in the Ottoman Archipelago during the Seventeenth Century," *J. Mediterr. Stud.*, vol. 30, no. 2, pp. 171–188, 2021, <https://doi.org/10.1353/jms.2021.a881032>.
- [29] Maslamah, "Digital Library As Strategies To Improve Digital Islamic Literacy For Education," *J. Soc. Sci. Humanit.*, pp. 14–22, Mar. 2023, <https://doi.org/10.56943/jssh.v2i1.268>.
- [30] L. Blue, C. Xing, and T. Pham, "Cryptocurrencies: Who is vulnerable and what are the vulnerabilities?," *Aust. J. Soc. Issues*, Jul. 2024, <https://doi.org/10.1002/ajs4.351>.
- [31] H. Ahmed, "Security tokens, ecosystems and financial inclusion: Islamic perspectives," *Int. J. Islam. Middle East. Financ. Manag.*, vol. 17, no. 4, pp. 730–745, 2024, <https://doi.org/10.1108/IMEFM-04-2024-0195>.
- [32] M. Widjaja and S. A. H. Havidz, "Are gold and cryptocurrency a safe haven for stocks and bonds? Conventional vs Islamic markets during the COVID-19 pandemic," *Eur. J. Manag. Bus. Econ.*, vol. 33, no. 1, pp. 96–115, 2024, <https://doi.org/10.1108/EJMBE-05-2022-0135>.
- [33] M. Ghaemi Asl, S. Ben Jabeur, and Y. Ben Zaid, "Analyzing the interplay between eco-friendly and Islamic digital currencies and green investments," *Technol. Forecast. Soc. Change*, vol. 208, 2024, <https://doi.org/10.1186/s40854-024-00623-5>.
- [34] S. Ali, I. Yousaf, and X. V Vo, "Comovements and hedging effectiveness between conventional and Islamic cryptocurrencies: evidence from the COVID-19 pandemic," *Int. J. Emerg. Mark.*, vol. 19, no. 12, pp. 4383–4408, 2024, <https://doi.org/10.1108/IJOEM-10-2021-1571>.
- [35] I. M. Unal and A. F. Aysan, "Fintech, Digitalization, and Blockchain in Islamic Finance: Retrospective Investigation," *FinTech*, vol. 1, no. 4, pp. 388–398, 2022, <https://doi.org/10.3390/fintech1040029>.
- [36] M. Ghaemi Asl and D. Roubaud, "Asymmetric interactions among cutting-edge technologies and pioneering conventional and Islamic cryptocurrencies: fresh evidence from intra-day-based good and bad volatilities," *Financ. Innov.*, vol. 10, no. 1, 2024, <https://doi.org/10.1186/s40854-024-00623-5>.
- [37] Z. H. Shaikh, A. Sarea, and M. Irfan, "Islamic Banking Strategies in the World of Fintech: Success Story of Bahrain," in *Lecture Notes in Networks and Systems*, 2022, vol. 423 LNNS, pp. 97–104, https://doi.org/10.1007/978-3-030-93464-4_10.
- [38] A. K. Aldohni, "Understanding the inherent limitations of crypto finance in the Islamic finance context," *Cap. Mark. Law J.*, vol. 18, no. 4, pp. 573–588, 2023, <https://doi.org/10.1093/cmjl/kmad017>.
- [39] Y. Heryatun and T. I. Septiana, "Enhancing Digital Literacy for Ustadz/Ustadzah in Modern Islamic Boarding Schools at

- Banten Province through Sustainable Media Integration,” *Engagem. J. Pengabd. Kpd. Masy.*, vol. 7, no. 1, pp. 45–61, May 2023, <https://doi.org/10.29062/engagement.v7i1.1164>.
- [40] N. Mansour Nomran, A. Laallam, R. Haron, A. Kashi, Z. Hossen Shaikh, and J. Abey, “The Impact of the Cryptocurrency Market on Islamic vs. Conventional Stock Returns: Evidence from Gulf Cooperation Council Countries,” *J. Risk Financ. Manag.*, vol. 17, no. 7, 2024, <https://doi.org/10.3390/jrfm17070305>.
- [41] M. Ghaemi Asl, S. Ben Jabeur, S. S. Hosseini, and H. Tajmir Riahi, “Fintech’s impact on conventional and Islamic sustainable equities: Short- and long-term contributions of the digital financial ecosystem,” *Glob. Financ. J.*, vol. 62, 2024, <https://doi.org/10.1016/j.gfj.2024.101022>.