

Bridging the gap between NFT public perspectives and its Islamic finance principles

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Article History

Received : 2024-12-21

Revised : 2025-08-14

Accepted : 2025-08-15

Published : 2025-08-15

Keywords:

NFT, Public perspective, Islamic finance principles, Sentiment analysis, Discourse analysis.

DOI:

[10.20885/JEKI.vol11.iss2.art5](https://doi.org/10.20885/JEKI.vol11.iss2.art5)

JEL Classification:

D14, G41, G53

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Paper type:

Research paper

Abstract

Purpose – Non-Fungible Tokens (NFT), one of the latest innovations in the financial world, have succeeded in triggering debate among the public, especially in terms of Islamic financial principles. Therefore, this study seeks to explore the gap between public societies' perspectives on NFT on Twitter and the discourse conveyed by experts in research articles or journalists in popular articles.

Methodology: This study combines two analyses, namely sentiment analysis, using the R Studio application to categorize public opinion into positive, neutral, and negative sentiments. Discourse analysis uses the NVivo 12 application to identify critical themes in scientific writing.

Findings – The results show various perceptions of positive sentiments often associated with NFT and innovation. By contrast, negative sentiments focus on speculation, lack of clarity, and the potential to conflict with the principles of Islamic finance. These findings convey concerns about the speculative nature of the NFT and its compliance with Sharia law. However, some scholars argue that NFT can be structured according to Islamic ethics if proper guidelines are followed.

Implications – This study contributes to bridging the gap between public perception and scholars, so that insights arise regarding NFT as perceived within the framework of Islamic finance.

Originality – We believe this study is the first qualitative study to investigate public sentiment about NFT from Twitter/X and discuss it with the principles of Islamic finance.

Cite this article:

Rahmatia, A., & Saputra, A. D., (2025). Bridging the gap between NFT public perspectives and its Islamic finance principles. *Jurnal Ekonomi & Keuangan Islam*, 11(2): 227-240. <https://doi.org/10.20885/JEKI.vol11.iss2.art5>



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Introduction

The emergence of NFTs has triggered debate across several sectors, from finance and technology to art (Pinto-Gutiérrez et al., 2022). NFTs belong to a subset of digital assets whose uniqueness is checked by blockchain technology, and when it does, it creates good news for many and skepticism at the same time. While many consider NFTs to be game-changing tools for creators and artists, others point to the speculative nature of this digital token, with environmental concerns also taken into consideration (Sifat et al., 2024; Zhang, 2023). More importantly, to the Muslim community, it becomes a manifold problem of whether NFTs align with Islamic finance principles of ethical dealing, transparency, and fairness

(Sundari et al., 2022). Therefore, this paper intends to bridge the gap between what the public thinks NFTs are all about and the core principles of Islamic finance through sentiment and discourse analysis.

One of the essential problems with Islamic finance and NFTs is whether they are Sharia-compliant, especially regarding speculation, uncertainty, and ethical asset handling (Ali, 2017; Tlemsani & Matthews, 2023). The principle of Islamic finance insists that all transactions should be conducted fairly and openly (Durmuş, 2024). The Quran says, "O you who believe, do not consume one another's wealth unjustly, nor send it to the rulers, lest they help you to consume people's wealth unlawfully while you know" (Al-Baqarah:188). This verse raised the bar for ethical transactions and fair dealing, as well as many questions about whether NFTs, in their present form, can meet these standards.

This speculative nature of the NFT market often developed into criticism from many of its volatile features that may run counter to Islam's prohibition on excessive risk and gambling (Sifat et al., 2024). Islamic finance is based on actual economic activity and tangible assets as opposed to the virtual and speculative elements that often characterize the NFT market (Zaman et al., 2023). A sentiment analysis of public discourse on Twitter reveals a growing divide between supporters who promote NFTs as legitimate investments and skeptics who see them as straw fires. This analysis can provide more context on how the public thinks about NFTs and how their sentiments align with Islamic ethical guidelines.

The ideas of ownership in NFTs, which also offer digital proof of authenticity, affect how Muslims conceptualize notions related to wealth distribution and equity within Islamic finance (Muneeza et al., 2023). Islamic teachings encourage the proper distribution of wealth and frown upon practices that create hoarding or monopolies of resources. Therefore, NFTs offer a double-edged sword. Meanwhile, as NFTs allow artists to reach out directly to buyers, which democratizes the art market, exorbitant prices raise questions about inclusivity (Han & Nah, 2023; Pinto-Gutiérrez et al., 2022). The Quran calls for moderation in wealth: "And those who, when they spend, are neither extravagant nor stingy, but are in between the two then they are sufficient" (Al-Furqan: 67). Therefore, this study attempts to gauge whether NFTs can be utilized to support such values. While blockchain technology promises transparency and immutability, features combined with the principles of Islamic finance are essential for how it works in practice. There is much concern regarding ethics in the current market, fraud, a lack of regulation, and exploitation (Scharfman, 2023). These concerns reflect broader issues that exist in financial markets that are generally prohibited under Islamic finance. Contracts in Islam, such as those for Musharakah partnership and Ijarah rent, focus on risk-sharing and avoidance of unjust enrichment, providing principles on how NFTs may be considered in an Islamic context (Kaneko, 2021; Kociemska, 2020).

Islamic finance also joins broader instances of public opinion, calling for more inclusivity and ethics in the NFT market. Most scholars believe that NFTs could be compatible with Islamic teachings if directed to utility rather than speculation and ensure transparency, fairness, and equity in the transaction (Murugappan et al., 2023; Tlemsani & Matthews, 2023). Other innovations, such as green blockchain technology, can also reduce NFTs' ecological footprint of NFTs and align it with Islamic principles of Earth care (khalifah) (Hasan et al., 2022). Within the context of the rise of Islamic finance globally and the increasing popularity of NFTs, understanding how the two align becomes imperative for designing a more inclusive financial system (Taherdoost et al., 2024). This study explores how sentiment analysis can reveal public attitudes toward NFTs, and how discourse analysis can unravel serious concerns about NFTs' ethical and financial implications. This study contributes to a deeper understanding of NFTs and their potential role in Islamic finance by addressing these issues.

The junction of NFT technology with Islamic finance principles represents both opportunities and challenges. As such, through deep sentiment and discourse analysis, this research offers a much clearer view of how NFTs might begin to meet the threshold of the ethical standard in Islamic finance while considering a range of broader public concerns. The objective of this study is to bridge the gaps between these two worlds and contribute toward creating a more ethical and inclusive digital economic environment.

Literature Review

The integration of NFTs with Islamic finance presents an interesting challenge because it harmonizes modern technological innovations with Islamic Shariah Law. This process explains the technical difficulties behind NFTs and their placement within Islamic ethical and legal standards

(Alisa et al., 2024). NFTs are unique, incomparable digital assets in nature, and are recorded on a blockchain that allows the verification of ownership and authenticity. They differ from cryptocurrencies, such as Bitcoin, because they do not bear a fixed rate of exchange owing to their particular nature. Several authors have argued (Alisa et al., 2024; Fadzil & Busari, 2024; Zamri et al., 2025) that NFTs are only permissible under Islamic finance when they show adherence to the Shariah principles, which involves the avoidance of usury (*riba*), fraud, and gambling. NFTs must have legal value and benefit people (Sundari et al., 2022).

There is a significant gap in the understanding of smart contract technology, which underpins NFTs among Shariah scholars. This gap is primarily due to technical complexities and limited access to relevant information (Zulkepli et al., 2024). Collaboration between technologists and Shariah scholars is crucial for facilitating mutual understanding and bridging the gap between technological innovation and Islamic law. Increasing access to comprehensive resources that describe the technical aspects of smart contracts alongside the Shariah principles is essential for bridging this knowledge gap (Zulkepli et al., 2024).

Islamic finance principles assume ethical investments in line with social justice and environmental sustainability, which share the core values of investment within SRI: sustainable responsibility and impact investing (Bossman et al., 2024; Ghafoor, 2023). Such an integration of Islamic finance with modern-day financial innovations could be enabled by an integration-of-knowledge approach. This approach seeks to harmonize Islamic and conventional finance by leveraging fintech and waqf projects (Ahmad, 2024; Omercic, 2023). Public-private partnerships (PPPs) can also play a role in merging Islamic finance with mainstream finance, emphasizing corporate social responsibility and social justice values (Kociemska, 2020).

Trust is a central tenet of Islamic finance, and it is crucial to build trust in NFT transactions by ensuring that they comply with the Shariah principles (Ali, 2017). Ongoing research and discourse is encouraged to refine the understanding of NFTs within the Shariah framework, ensuring that they contribute positively to the broader objectives of Islamic finance (Zulkepli et al., 2024).

Although the integration of NFTs with Islamic finance principles presents challenges, it also offers opportunities for innovation and growth. By fostering collaboration between technologists and Shariah scholars, increasing access to relevant resources, and leveraging modern financial innovations, the gap between NFT's public perspectives and Islamic finance principles can be bridged. This integration not only aligns with the ethical and social justice values of Islamic finance but also enhances its contribution to sustainable development goals.

Research Methods

This study combines sentiment analysis and discourse analysis to bridge the gap between public perspectives on Non-Fungible Tokens (NFTs) and Islamic finance principles. The study is divided into two primary phases: the first involves sentiment analysis using Twitter data from 2023, and the second focuses on discourse analysis of online articles and previous reputable scientific literature (see Figure 1).

The sentiment analysis component of this study utilized a dataset of 3357 tweets related to NFTs collected from Twitter from January to June 2024. The first half of the year is usually marked by more stable emotional patterns, allowing for cleaner baseline sentiment analysis. This removes holiday bias, summer breaks, or end-of-year economic fluctuations, thereby increasing the accuracy and generalizability of sentiment models learned from the data (Dodds et al., 2011; Golder & Macy, 2011). This study uses Twitter/X as the data source because Twitter/X has large and real-time data (Twitter/X offers a vast amount of up-to-date, user-generated content, making it valuable for analyzing public sentiment on current events, brands, or policies), diverse opinions (tweets reflect a wide range of perspectives from different demographics and regions), and short and focused texts (the 280-character limit encourages concise expressions of opinions, which are easier to process for sentiment analysis algorithms) (Kılınç, 2019; Monica & Nagarathna, 2020). The data collection process was conducted using a combination of Twitter's API and web scraping tools, focusing on keywords such as "NFT," "blockchain," "digital ownership," and "Islamic finance."

These keywords were chosen to capture a broad spectrum of public opinion, with particular attention paid to discussions that might intersect with Islamic values and finance. The dataset contains a variety of attributes such as the content of the tweet, timestamp, user metadata, and interaction metrics including likes, retweets, and replies.

The collected raw data were first preprocessed to make them suitable for analysis. This involved removing duplicates, filtering irrelevant content, and excluding non-English tweets to maintain consistency. Additionally, spam- and bot-generated tweets were identified and removed to enhance the accuracy of the data. The final dataset was processed using R Studio, employing the *tidytext* package for tokenization and *stopword* removal, followed by sentiment scoring using popular lexicons, such as AFINN, Bing, and NRC (Mowlaei et al., 2020).

Sentiment analysis was performed Using R Studio to identify the overall sentiment of public opinion regarding NFTs. Sentiment scores were assigned to each tweet, ranging from negative to neutral to positive sentiments (Satrya et al., 2022). These scores were then aggregated to identify broader trends in public perception. The analysis involved several techniques, including word-frequency analysis, sentiment polarity detection, and sentiment distribution. The results are visualized using sentiment plots, word clouds, and bar charts to provide a clear understanding of how public opinion is divided (Riani & Ikhwan, 2024). Sentiment analysis is specifically designed to highlight key emotions related to NFTs, including anger, fear, joy, surprise, and trust (Kim, 2022). Special attention is paid to tweets that mention Islamic finance, Sharia compliance, and ethical concerns, as these would provide insights into how well NFTs align with Islamic financial principles.

For discourse analysis, data are collected from a variety of online articles and reputable scientific articles that focus on NFTs and Islamic finance. Popular websites are targeted for general NFT discourse, whereas scientific articles from Islamic finance and blockchain studies are selected from an academic perspective. A broader overview of NFT conversations can be obtained through general and scientific discussions. Discourse analysis was conducted using the NVivo 12 application as a qualitative data analysis tool that supports complex thematic analysis. The collected articles were imported into NVivo 12, after which they were coded based on key themes, such as “NFT ethics,” “Sharia compliance,” “speculation,” “Islamic finance principles,” and “blockchain transparency.” Thematic coding helped to identify recurring patterns and narratives that could either support or challenge the integration of NFTs with Islamic finance.

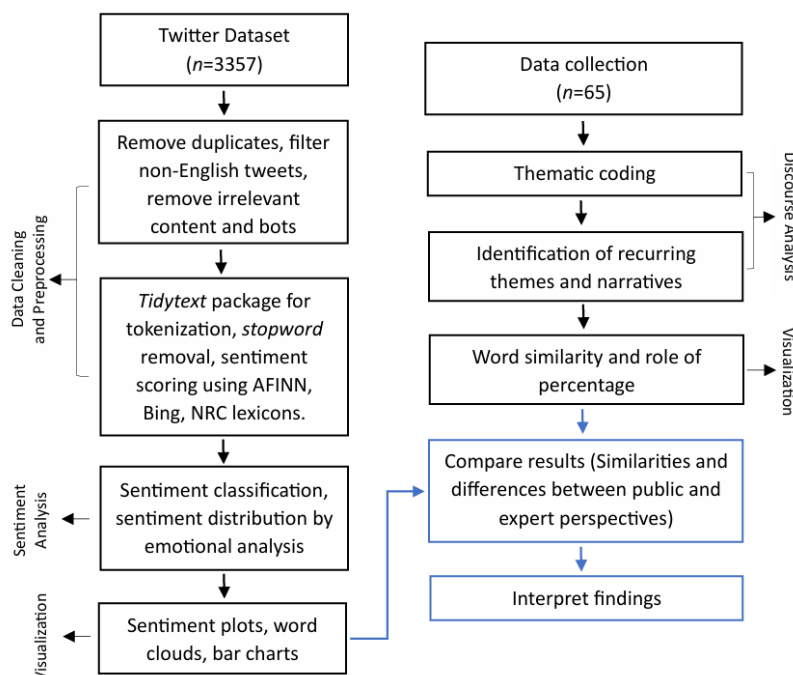


Figure 1. Basic setup flow chart
Source: Developed by the authors (2024)

Discourse analysis focuses on how different stakeholders (journalists, scholars, and industry professionals) frame NFTs in relation to ethical concerns and Islamic finance principles. Specifically, this study examines how discussions about *gharar* (uncertainty), *maisir* (gambling), and *riba* (interest) are represented in relation to NFTs, drawing connections to sentiment analysis findings.

Finally, the results from both sentiment and discourse analyses were compared to identify similarities and differences between public and academic perspectives. While sentiment analysis provides a quantitative understanding of how people feel about NFTs, discourse analysis offers qualitative insights into the depth and reasoning behind these sentiments. This mixed-method approach allows a holistic understanding of the gap between NFT public opinion and Islamic finance principles. All data collected for this study adhered to ethical guidelines, particularly regarding the use of publicly available Twitter data and proper attribution of online and scientific articles. No personally identifiable information was used or shared, and all the articles were appropriately cited.

Results and Discussion

Sentiment analysis uses natural language processing (NLP) and machine learning to identify and quantify emotions, opinions, or attitudes expressed in a certain text (Roumeliotis et al., 2024). Therefore, it categorizes data texts into sentiments, such as positive, negative, or neutral, with the aim of identifying public opinion. Figure 2 displays a bar chart representing the sentiment classification of tweets related to NFTs on Twitter.

The red bar, as a negative sentiment, has the highest number of tweets, exceeding 1,500. This means that most Twitter users have expressed negative views about NFTs. That could be because people are skeptical due to the volatility of the market, environmental issues associated with blockchain, or people are generally skeptical of whether NFTs have a bright future ahead. The second most frequent is the green bar, which contains almost 1,000 tweets. These neutral tweets likely represent discussions that are more informational or balanced, where users neither strongly support nor oppose the NFTs. The blue bar shows the fewest tweets, below 1,000 tweets. These positive tweets could reflect enthusiasm for NFTs as an investment opportunity, appreciation for digital art, or optimism about the future of blockchain technology.

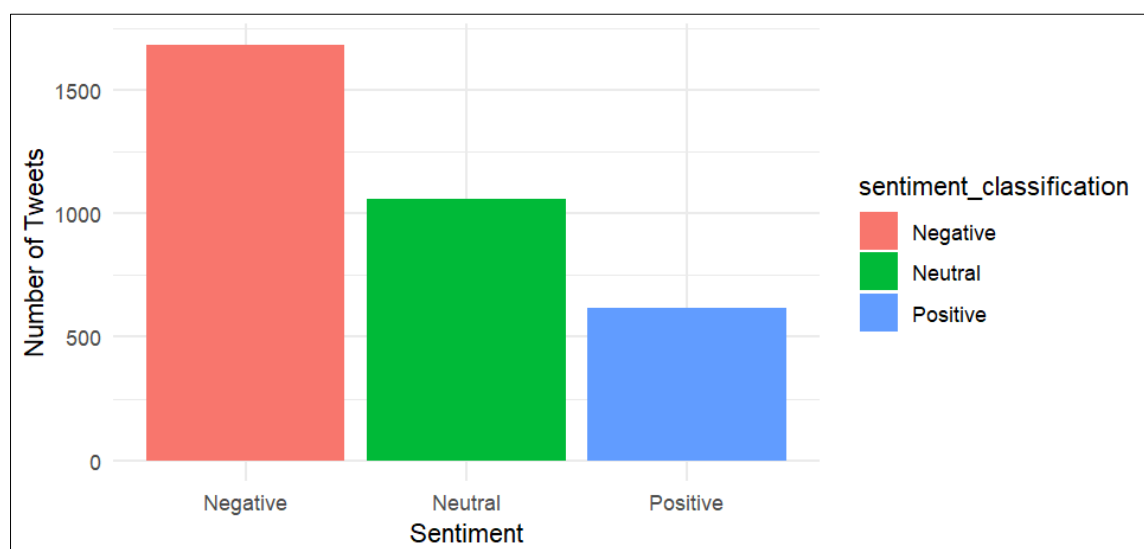


Figure 2. Sentiment classification of NFTs public opinion
Source: Analyzed by the authors (2024)

Overall, the sentiments of the tweets towards NFTs can be described as negative, reflecting skepticism, criticism, or caution. On one hand, there was a large percentage of neutral opinions, showing that many weighed the pros and cons of NFTs. Positive sentiments, while present, are the

least frequent, suggesting that advocates of NFTs, while vocal, form a smaller part of the conversation than critics. This visualization highlights the mixed but generally cautious outlook that the Twitter community has towards NFTs.

Figure 3 illustrates the sentiment distribution by emotion from the Twitter data related to NFTs. The emotions represented are happy, angry, surprise, sad, and fear, and the boxplot visualizes the spread of sentiment scores for each emotion.

Red happy sentiment scores ranging from approximately 0 to 0.25, with some outliers reaching up to 1.0. This suggests that on average, positive sentiments (happiness) related to NFTs are relatively mild, although some tweets exhibit extreme positive reactions. Orange is an anger sentiment that shows scores mostly close to 0, indicating minimal intense negative reactions, although some outliers appear to suggest occasional higher levels of anger. Green is a surprise emotion that shows a distribution of up to 0.25, with a few outliers reaching higher scores. This suggests that there are some moments of astonishment in NFT discussions, but they are not as frequent. Blue indicates the sadness sentiment ranging from 0 to 0.5, indicating a more significant range of negative emotional reactions. This shows that sadness is somewhat prevalent in conversations surrounding the NFTs. Purple as a fear sentiment has the broadest distribution, with scores ranging from 0 to 0.5, but some outliers reach as high as 1.0. This suggests that there is a notable concern or apprehension about NFTs in public discussions on Twitter, making fear a more prominent emotion.

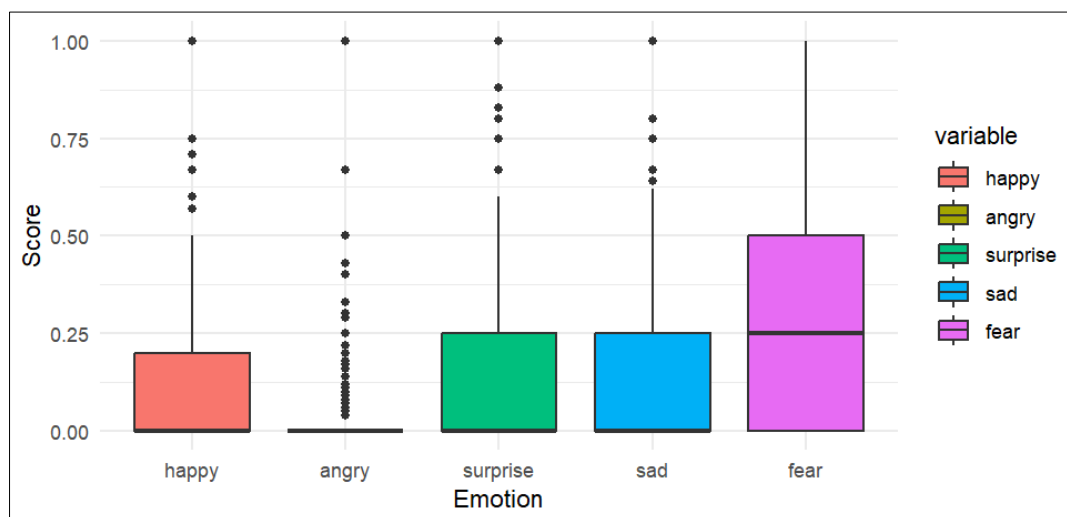


Figure 3. Sentiment distribution by emotion about NFT

Source: Analyzed by the authors (2024)

Fear seems to be the most prevalent emotion with wider ranges of sentiment scores, indicating that a considerable amount of uncertainty or negative feelings may surround the topic of NFTs on Twitter. Sadness, happiness, and surprise appear to be less frequent or intense emotions, whereas anger shows minimal variation, suggesting that frustration or extreme negative sentiments are relatively rare. This analysis highlights the mixed emotions that NFTs evoke, with a substantial portion of the conversation reflecting concern and fear, likely due to the volatility and uncertainty in the NFT space.

The word cloud shown in Figure 4 represents various terms and sentiments associated with NFTs, as expressed by Twitter users. The most prominent word, NFT, is central to conversation and highlights its dominant focus. Words such as skepticism, volatility, and scams reflect the negative opinions and concerns commonly associated with NFTs, particularly regarding their financial risks, potential for fraud, and environmental impact. On the other hand, terms such as potential, technology, creators, and digital indicate more positive or neutral discussions regarding the future applications of NFTs in industries such as art, music, and gaming. The words debate, polarized, and opinion suggest that the public discourse on NFTs is highly divided, with some users

advocating for potential benefits, while others are more critical of their drawbacks. Overall, the word cloud visually captures the polarized nature of NFT discussions on Twitter, balancing both enthusiasm and caution.

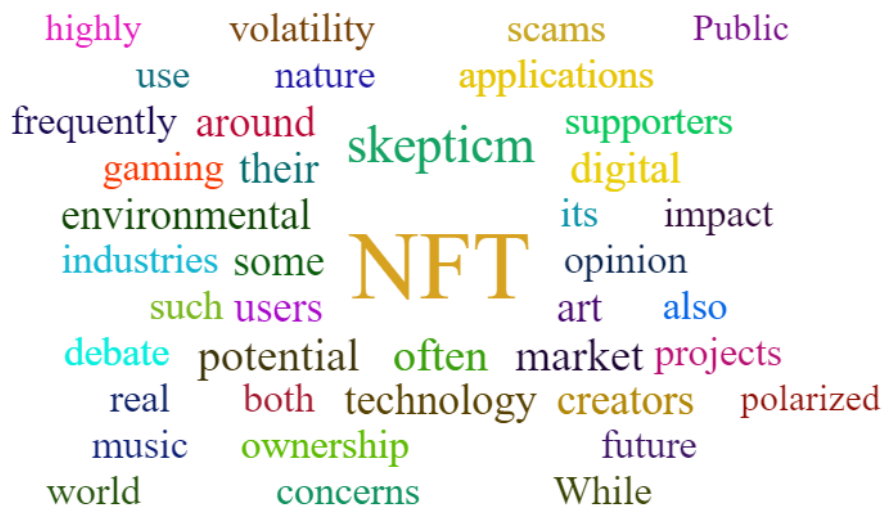


Figure 4. Word cloud of NFT's public opinion
Source: Analyzed by the authors (2024)

Discourse analysis of word similarities between NFTs and Islamic finance reveals several key thematic connections and divergences (see Figure 5). Ownership is a central concept in both discussions, but is interpreted differently. In the NFT context, ownership is about holding unique digital assets in blockchain technology, emphasizing rarity and digital scarcity. However, Islamic finance requires ownership to adhere to the Shariah principles, involving tangible, lawful assets without excessive uncertainty (*gharar*) or interest (*riba*). This contrast highlights the challenge of applying traditional Islamic notions of ownership to the virtual, intangible nature of NFTs.

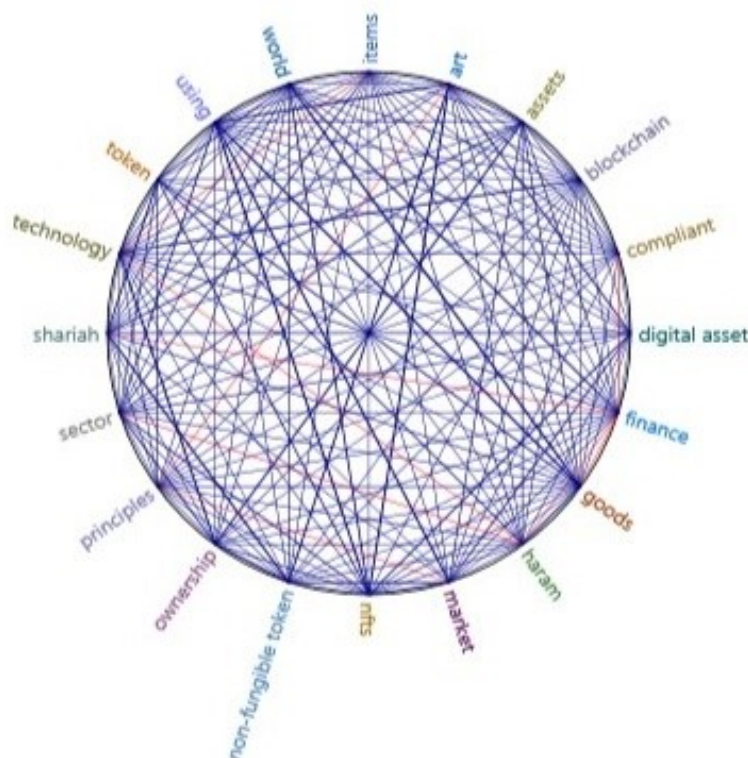


Figure 5. Clustered by word similarity
Source: Analyzed by the authors (2024)

Value (goods and items) is another area of interest. NFTs gain value through the demand for digital art, collectibles, or gaming assets, driven largely by speculation (Inamdar & Zhao, 2023; Pinto-Gutiérrez et al., 2022). Islamic finance, however, is based on tangible, productive services or real assets that ensure fairness and lawful profits. This raises critical questions regarding the speculative value of NFTs and whether they align with Islamic guidelines, especially concerning ethical pricing and speculation (*maysir*), which are prohibited in Islamic finance. Trade practices in both realms have also diverged. NFT transactions conducted in decentralized digital markets often involve volatile pricing and can resemble speculative betting (Sifat et al., 2024), which is contrary to Islamic finance's prohibition on gambling (*maysir*). In Islamic finance, trade and investment are based on fairness, transparency, and risk-sharing, with contracts such as *mudharabah* and *musharakah* promoting ethical profit sharing (Normasyhuri et al., 2023; Sundari et al., 2022). The speculative nature of NFT trading poses a challenge for these principles.

A significant point of divergence arose around the risk topic. Islamic finance seeks to minimize excessive risk and uncertainty, whereas the NFT market is often seen as speculative. The frequency of the word "risk" in both discourses underscores its importance, but it is viewed more critically in Islamic finance, which stresses mitigating the potential harm from uncertainty and speculation.

Technology serves as a point of intersection, particularly in discussions of the blockchain's role in bringing transparency and innovation (Akkus & Dogan, 2023; Apostu et al., 2022; Kusumaningtyas et al., 2022). Both NFT proponents and Islamic finance scholars have explored blockchain as a tool for enhancing accountability and trust. However, there is an ongoing debate on whether the speculative nature of NFTs can ever be fully reconciled with Shariah principles, especially considering the ethical guidelines of Islamic finance. Overall, the discourse on NFTs and Islamic finance reveals both common ground in terms of innovation and profound challenges regarding the speculative aspects of NFT ownership, value, and trade when viewed from an Islamic perspective. The ethical implications of NFTs, particularly their alignment with the principles of risk-sharing and transparency, remain a key point of contention in ongoing conversations.

By analyzing the role of NFTs in Islamic finance using discourse analysis, this study observes distinct categories that shape the conversation, as indicated in Figure 6: Challenges, Compliance, Goods, and Technology. Among these, the Shariah Compliance emerged as the dominant theme, reflecting the highest degree of concern and focus in the discussions. The prominence of Shariah compliance indicates the centrality of aligning NFT usage with Islamic legal principles, particularly prohibition of interest (*riba*), uncertainty (*gharar*), and gambling (*maysir*). Scholars and financial experts actively debate how to ensure that NFT transactions conform to Islamic law, especially given the speculative nature of NFT trading. This reflects a growing concern about making digital assets and technologies compatible with Shariah, while retaining their innovative potential.

The next significant topic is the Potential Challenge posed by NFTs, which encapsulates discussions on the Cybercrime Challenge and broader market risks (Bibi et al., 2019; Taherdoost et al., 2024; Zulkepli et al., 2024). Thus, given the highly decentralized and often opaque nature of blockchain technology, fraud, security breaches, and speculative volatility of NFTs are common concerns. This makes it a very serious undertaking for Islamic finance, which emphasizes fair treatment and transparency in all transactions. These potential risks are analyzed against the backdrop of ensuring ethical practices within the NFT market and minimizing harm to participants, which is a key objective of Shariah.

Goods, especially the distinction between *halal* (permissible) and *haram* (forbidden), also play a critical role in Islamic financial discussions on NFTs. A significant portion of the discourse revolves around whether the digital assets being traded, such as art or collectibles, fall under *halal* categories. Some scholars question the permissibility of certain types of digital content or goods associated with NFTs, particularly when they have no inherent value or promote unethical behavior (Kociemska, 2020; Zaman et al., 2023). This highlights the tension between an evolving digital economy and Islamic ethical principles.

Technology, particularly Digital and Technological Innovations, forms a crucial part of the conversation, but with a more secondary focus than compliance and challenges (Tlemsani & Matthews, 2023; Vasishtha & Singla, 2024). Islamic finance is not averse to innovation; in contrast, blockchain technology's potential to enhance transparency and fairness aligns with Islamic principles. However, the integration of these technologies must occur in a manner that respects Shariah laws, which explains the relatively small but still important role of this category.

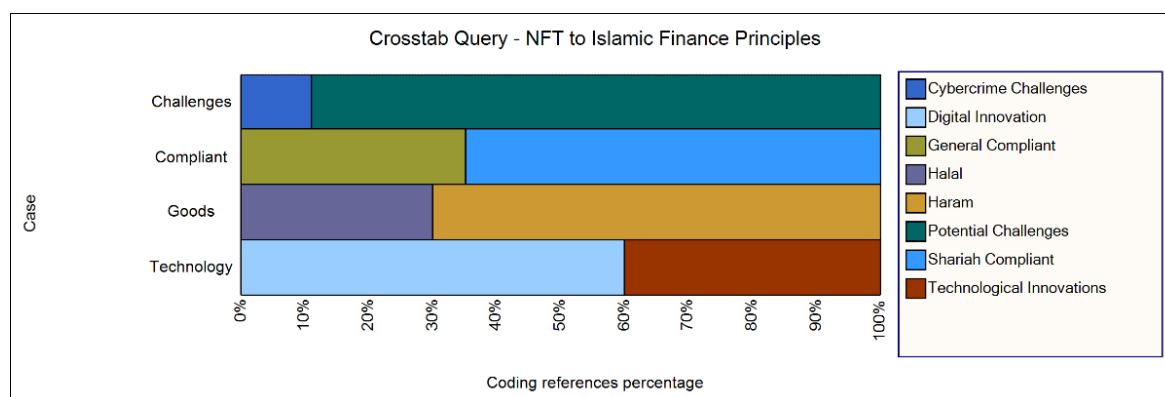


Figure 6. Role percentage of NFT to Islamic finance principles

Source: Analyzed by the authors (2024)

The discourse surrounding NFTs in Islamic finance is dominated by concerns about Shariah compliance, highlighting the need for clear ethical guidelines. This is followed by the potential risks posed by NFTs, particularly in terms of market volatility and cyber threats, and a debate over what constitutes halal goods. While technological innovation is recognized as important, its role is contingent on alignment with Islamic legal and ethical frameworks (Koeswandana & Sugino, 2023).

Figure 7 shows the author's proposed model to bridge the public perspective of NFTs and Islamic finance principles based on the findings of this study. It aims to align the growing interest in Non-Fungible Tokens (NFTs) with the ethical and financial guidelines of Islamic finance. The model addresses the gap between the public perception of NFTs, which are often considered speculative assets, and the core principles of Islamic finance, which emphasize risk-sharing, ethical investment, and the prohibition of excessive uncertainty (*gharar*) and interest (*riba*). By integrating sentiment analysis to gauge public opinion and discourse analysis to understand prevailing narratives, the model provides a structured approach to aligning NFT transactions with Shariah-compliant principles.

The proposed model begins with the global nature of NFTs, necessitating a dialogue between Islamic finance and blockchain experts to create universally accepted guidelines. NFTs facilitate cross-border transactions, which can be complicated in Islamic finance because of differing interpretations of Shariah compliance. Collaboration between technology developers and Islamic financial institutions is critical for bridging the gap and driving innovation in compliant NFT solutions. Regulatory bodies are also exploring frameworks for integrating NFTs into Islamic finance, with a focus on compliance and ethical standards. Several organizations are forming Shariah advisory boards to evaluate NFT projects, ensuring that they meet the Islamic finance criteria. Countries with a significant Muslim population consider legal frameworks to regulate NFT transactions following Islamic principles.

The next step is to explore ways to integrate NFTs into Islamic finance, which can open new avenues for investment and innovation. Raising awareness and educating stakeholders about the compatibility of NFTs with Islamic finance principles is critical for acceptance. Developing blockchain solutions that align with Islamic finance principles can increase the credibility and adoption in Muslim markets. The NFT market can evolve to accommodate Islamic finance principles, potentially leading to Shariah-compliant NFT platforms. Building a marketplace that prioritizes ethical standards and transparency can attract Muslim investors seeking suitable

investment opportunities. Engaging the Muslim community in understanding their perspectives on NFTs can guide the development of appropriate financial products.

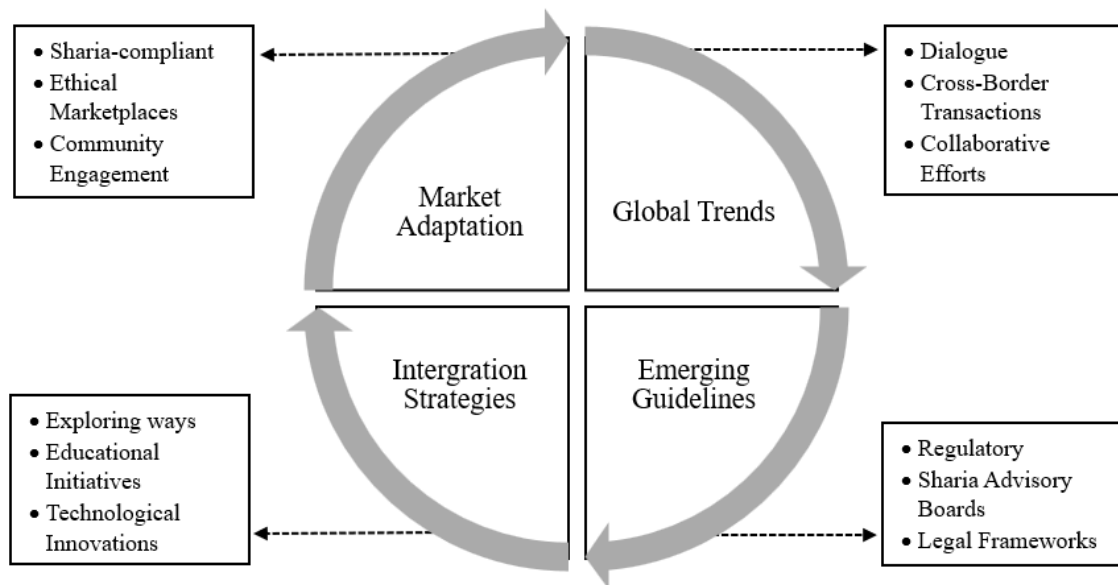


Figure 7. Proposed model to bridge NFT public perspective and Islamic finance principles
Source: Author's own proposed (2024)

The model suggests mechanisms for transparency, fairness, and value-backed transactions that ensure NFTs are traded within a framework that promotes social responsibility, ethical considerations, and the key principles of Islamic finance. This could lead to the development of a regulated NFT market in which Islamic finance principles are respected, making NFTs more accessible and trustworthy for Muslim investors.

Conclusion

This study revealed a significant gap between the public perception of NFTs and the principles of Islamic finance. While NFTs are often viewed as speculative assets, Islamic finance is rooted in ethical investment, risk sharing, and the avoidance of excessive uncertainty (*gharar*), gambling (*maysir*), and interest (*riba*). This disparity highlights the need for a structured approach to aligning NFT transactions with Shariah-compliant principles.

To bridge this gap, this study utilizes both sentiment and discourse analyses, providing insights into public sentiment and the prevailing narratives around NFTs. These tools help ensure that NFTs are ethically integrated into Islamic finance, focusing on compliance with its foundational principles. Emotional responses to NFTs are mixed, with fear emerging as the most dominant emotion largely due to volatility and uncertainty within the NFT space. This indicates a significant level of concern in public discussions, particularly on platforms such as Twitter. This study also identifies several challenges, such as cybercrime and market risks, that complicate the integration of NFTs with Islamic finance. Shariah compliance is emphasized as a critical theme in these discussions, reflecting the importance of adhering to ethical and religious principles. Furthermore, the need for transparency and ethical practices in NFT transactions is underscored as essential for their acceptance in Islamic finance. The development of clear guidelines that minimize harm and align with the objectives of Shariah is vital.

Despite these challenges, this study suggests that NFTs can be structured to comply with Islamic ethics if proper guidelines are followed. This presents an opportunity to bridge the gap between innovative digital assets and the traditional principles of Islamic finance, paving the way for Shariah-compliant NFTs. These findings emphasize the complexity of integrating NFTs into Islamic finance while also highlighting the importance of ongoing dialogue and the development of frameworks that respect both technological innovation and religious values.

However, this study is also limited by relying on Twitter/X as the primary source of information, which may fail to capture the full range of public or scholarly opinions regarding NFTs and Islamic finance. Furthermore, sentiment analysis is limited by the extent to which currently available NLP tools are equipped to accurately understand nuanced religious and moral expressions. Subsequent research should examine larger social media platforms, employ professional interviews or Islamic legal opinions (fatwas), and conduct case studies on existing NFT projects that assume Shariah compliance. Longitudinal analyses would also examine how sentiment and regulation paradigms shift over time along with digital assets in Islamic financial systems.

Author contribution

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Data curation: Arief Dwi Saputra

Formal analysis: Alfina Rahmatia & Arief Dwi Saputra

Investigation: Alfina Rahmatia & Arief Dwi Saputra

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Supervision: Arief Dwi Saputra

Validation: Alfina Rahmatia

Visualization: Alfina Rahmatia

Writing – original draft: Alfina Rahmatia

Writing – review & editing: Alfina Rahmatia & Arief Dwi Saputra

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