Factors Affecting NFT Investors' Decision to Invest in NFT Games

Karndit Witthayaanumas[1] and Pornlapas Suwannarat[2]

Abstract

In recent years, NFT gaming has been increasingly discussed in financial investors groups as a new way to earn money. The gaming industry has suddenly undergone a transformative change with the integration of Games and Non-Fungible Tokens (NFTs) system. However, the NFT investors still lack information to consider and decide how to select NFT games for investment. This study aims to explore the current state of NFT game investments and identify key factors that influence investors' decisions. This research is quantitative and uses online questionnaire surveys to collect data from 400 NFT game investors from three social media platforms. Three major factors; cryptocurrency adoption factors, social factors, and personal factors are examined by using regression analysis with a significant level at 0.05. The results of cryptocurrency adoption category reveal that system security and blockchain technology significantly influence investment decisions while control over the system and anonymity do not. The results of social factors find that subjective norms, global attention, and influencer involvement are impactful for decisions. For personal factors: perceived value, privacy, technological curiosity, and investment experience have also been emerged as significantly influence investment decisions. The conclusions suggest that making strategic pathways for NFT investors will harness the potential of NFT games investment in creating a robust investment ecosystem. This study not only advances our understanding of investor behavior in the burgeoning field of NFT gaming but also sets the stage for current and future research into the socio-economic impacts of new financial investment.

Keywords: NFT games, investors, Cryptocurrency Adoption Factors, Social Factors, Personal Factors

---

[1] Student, Kasetsart International MBA (KIMBA), [2] Associate Professor Faculty of Business Administration, Kasetsart University.

Email: Kandit.w@ku.th

Introduction

The integration of blockchain technology and NFTs into the gaming industry has introduced significant opportunities for digital investment in Thailand; however, it also presents several challenges that hinder informed investor participation. Key issues include a lack of regulatory clarity, limited blockchain literacy, and inadequate investor protections, all of which contribute to uncertainty and increased risk in the NFT game market. Many investors struggle with understanding NFT game mechanics, tokenomics, and the security implications of decentralized platforms, making them susceptible to fraud and poor investment decisions. Compounding this issue is the absence of structured frameworks that analyze the critical factors—cryptocurrency adoption, social influence, and personal behavior—that drive investment decisions. Without clear guidance and localized resources, investors remain ill-equipped to evaluate opportunities effectively. Therefore, it is essential to investigate these influencing factors to establish a more secure, informed, and sustainable environment for NFT game investments.

The emergence of Non-Fungible Token (NFT) gaming, referred to as GameFi, has significantly transformed the gaming industry, offering a new investment avenue that transcends traditional stocks and cryptocurrencies. NFT games integrate blockchain technology with interactive gameplay, allowing players to own, trade, and monetize digital assets such as skins, characters, weapons, and virtual territories (Nadini, M. et al., 2021). These assets, known as NFTs, are unique and cannot be replicated, providing a sense of real ownership within a virtual environment. The value of these digital assets fluctuates based on factors such as player engagement and market demand, making NFT games not only a source of entertainment but also a potential financial opportunity (Game-ace, 2023).

Unlike conventional gaming, where in-game items are controlled by developers, NFT games enable players to have true ownership over their digital assets. This new form of gaming economy has led to the rise of the Play-to-Earn (P2E) model, where players can earn cryptocurrency-based rewards by participating in in-game activities, trading, or completing challenges (Felix, R. 2020). The P2E model is particularly transformative as it bridges the gap between gaming and finance, creating a digital economy where gameplay can directly generate real-world income. Major companies such as Microsoft, Zynga, and Coinbase have recognized the potential of NFT gaming,

integrating blockchain-based features into their ecosystems and developing marketplaces for trading NFTs (Industry Insights Guru, 2024).

The global NFT gaming market has experienced exponential growth, valued at USD 3,292.73 million in 2022 and projected to reach USD 8,856.95 million by 2028, with a compound annual growth rate (CAGR) of 17.93% (Industry Insights Guru, 2024). This surge reflects the increasing popularity of NFT games as both a recreational activity and an investment strategy. However, despite their financial potential, NFT games come with inherent risks. The value of NFTs is highly volatile, often influenced by market speculation, user interest, and broader economic conditions (Olatunji, T. 2022). Additionally, while blockchain technology ensures transparency and security, the lack of comprehensive regulation poses challenges related to fraud and asset protection.

Given these complexities, it is crucial to understand the factors that influence NFT investors' decisions. This research aims to explore the determinants of investment choices in NFT games, focusing on cryptocurrency adoption factors, social factors, and personal factors. By employing the Hierarchical Decision Model (HDM), the study seeks to provide a structured analysis of how these variables impact investment behavior in the evolving NFT gaming ecosystem.

Research Objectives

1. To explore current state of NFT game investment.
2. To examine key factors influencing NFT investors' decision-making to invest in NFT games.

Research Hypothesis

H_1: Cryptocurrency adoption factors have a significant impact on NFT investors' decision to invest in NFT games.

H_2: Social factors have a significant effect on NFT investors' decision to invest in NFT games.

H_3: Personal factors have a significant impact on NFT investors' decision to invest in NFT games.

Research Scope

1. Population Scope: Samples are 400 NFT game investors from top three social media platforms.

2. Variables Scope: Variables consist of independent and dependent variables.

2.1 Independent variables consist of three major factors and specific factors as follows:

1) Cryptocurrency Adoption Factors: system security, blockchain technology, control over the system, and anonymity.

2) Social Factors: subjective norms, global attention, and influencer involvement.

3) Personal Factors: perceived value, privacy, technological curiosity, and investment experience.

2.2 Dependent variable is the investors' decision to invest in NFT games.

3 Conceptual Scope: The study is framed using the Hierarchical Decision Model (HDM), which allows for structured prioritization and analysis of multiple decision-making criteria. This model supports understanding how various investor-related factors influence decision-making in a layered, comparative manner.

Literature Review and concept

1. Current State of NFT game investment: The NFT game investment sector has rapidly evolved, transforming digital gaming into a lucrative financial market driven by blockchain technology, decentralized finance (DeFi), and digital ownership (Nadini, M. et al., 2021). The emergence of Play-to-Earn (P2E) models has attracted a diverse range of investors, including retail traders, institutional firms, and venture capitalists, due to the potential for financial returns through in-game asset trading, staking, and token appreciation (Perez, W.D. et al., 2023). The global NFT gaming market is projected to reach USD 8.85 billion by 2028, with major corporations like Microsoft, Zynga, and Coinbase expanding into blockchain gaming (Industry Insights Guru, 2024). However, the market remains highly speculative and volatile, with NFT asset values influenced by market hype, influencer endorsements, and speculative trading (Teplova, T. et al., 2023). Regulatory uncertainty, security risks, and fraudulent schemes continue to challenge the sector, making risk management and legal frameworks essential for long-term stability (Razi, O. et al., 2023). Furthermore, blockchain scalability issues and high transaction costs hinder widespread adoption, though advancements in Layer-2 solutions and eco-friendly NFT models aim to address these barriers. As NFT gaming continues to evolve, technological innovations, regulatory clarity,

and sustainable economic models will determine its long-term viability as a mainstream investment option (Sun, C. 2023).

2. Hierarchical Decision Model (HDM): The Hierarchical Decision Model (HDM) is a structured analytical tool designed for evaluating complex decision-making scenarios involving multiple criteria. It enables systematic decomposition of decisions into hierarchical levels, allowing researchers and practitioners to assess the relative importance of each influencing factor through pairwise comparisons and priority rankings (Saaty, T.L. 1980). This model is particularly effective in high-risk, speculative markets such as NFT gaming, where investor motivations are multifaceted and influenced by both tangible and intangible elements.

In the context of NFT game investments, HDM facilitates an organized evaluation of three primary dimensions that shape investor behavior: cryptocurrency adoption factors, social factors, and personal factors. Prior studies demonstrate that system security and blockchain technology—components of cryptocurrency adoption—are central to building investor trust (Perez, W.D. et al., 2023). Meanwhile, subjective norms, influencer involvement, and global attention have been found to significantly influence decision-making through social validation mechanisms (Ng et al., 2025). On the personal side, perceived value, privacy concerns, and technological curiosity have also been shown to contribute meaningfully to investment decisions, especially in environments where digital ownership and innovation intersect.

By applying HDM, this research aims to prioritize and quantify these factors to better understand what drives investment in NFT games. The model not only provides clarity in distinguishing the weight of each variable but also offers actionable insights for game developers and policymakers. This framework is crucial for aligning strategic decisions with investor behavior, ultimately contributing to a more transparent, sustainable, and data-driven NFT gaming ecosystem.

3. Cryptocurrency Adoption Factors: The cryptocurrency adoption factors are a crucial element shaping NFT game investments, as it provides a secure, transparent, and decentralized framework that enhances investor confidence (Nadini, M. et al., 2021). Among the key cryptocurrency adoption factors have the most significant influence, ensuring tamper-proof asset ownership, fraud resistance, and seamless transactions within NFT gaming ecosystems (Gryglewicz et al., 2021). The factors enable investors to engage in NFT gaming with reduced risks, as

blockchain's immutability and cryptographic protection guarantee that digital assets remain verifiable and secure (Razi et al., 2023). As a result, NFT investors prioritize security and technological reliability over other adoption concerns, making blockchain integration a key driver of investment decisions in NFT gaming. In conclusion, cryptocurrency adoption in NFT gaming is primarily driven by security, transparency, and financial opportunities, rather than concerns about decentralization or anonymity. As blockchain technology evolves, advancements in scalability, regulation, and investor protection will further strengthen cryptocurrency adoption in NFT gaming, ensuring greater accessibility, efficiency, and long-term sustainability for investors.

4. Social Factors: Social factors play a critical role in shaping NFT investment decisions, particularly in the gaming sector, where community engagement, influencer marketing, and global market trends drive investor behavior (Ng et al., 2025). Among these factors, subjective norms, global attention, and influencer involvement have been identified as key determinants of investment in NFT games (Perez, W.D. et al., 2023). Subjective norms, which refer to social pressure from peers, family, and colleagues, influence investors' decisions by creating a sense of legitimacy and shared investment confidence (Eckhardt et al., 2009). When investors see their networks engaging with NFTs, they are more likely to perceive NFT gaming as a credible and rewarding investment opportunity (Setiawan, Andrianto and Safira, 2019). Furthermore, global attention on NFT gaming has significantly increased, with media coverage, international regulations, and market trends expanding the adoption of NFT game investments (Vladislav, M.2022). Countries such as India, Hong Kong, and the UAE have seen particularly high engagement levels, reinforcing the idea that NFT gaming is becoming a mainstream digital investment opportunity. Additionally, influencer involvement plays a vital role in attracting investors, as gaming personalities, social media figures, and celebrities drive interest in NFT projects (Henry, J. 2021). Influencer-backed endorsements increase market visibility, build trust, and create network effects, leading to higher adoption rates and speculative interest (Viral, S. 2022). In conclusion, social factors significantly impact NFT investment decisions, as peer influence, media hype, and influencer marketing contribute to the growth and expansion of the NFT gaming market (Teplova, T. et al., 2023). As NFT gaming ecosystems continue to develop, the role of social engagement, market perception, and influencer-driven narratives will remain essential in shaping investor behavior. With the increasing integration of blockchain and gaming communities, NFT investments will continue to be

influenced by social and psychological factors, reinforcing the importance of network effects and trust-building mechanisms in driving long-term adoption (Sun, C. 2023).

5. Personal Factors: Personal factors play a critical role in influencing NFT investment decisions, as they shape individual perceptions, motivations, and risk tolerance (Putsom W., et al., 2019, Suwannarat 2023ab) especially in the highly speculative NFT gaming market (Ng et al., 2025). Among the most influential personal factors drive investment decisions (Phumphuang, 2022). Perceived value is the strongest determinant, as investors are motivated by the potential financial returns and the exclusivity of owning digital assets, which contribute to market confidence and speculative interest (Spadea, S. & Seneviratne, O. 2024). The ability to trade, resell, and profit from NFTs further enhances their appeal, making perceived value a key driver of investment attraction and long-term engagement (Coles, J. L., et. al. (2006). Privacy also plays a role in NFT investments, as blockchain technology offers decentralized ownership and financial anonymity, allowing investors to protect their assets and transaction histories (Balaban, D. 2023). While privacy remains a concern for some investors, the transparent nature of NFT marketplaces means that many prioritize visibility and credibility over anonymity, particularly when engaging in social-driven trading platforms (Gotterbarn, D., et.al., 2018). Additionally, technological curiosity influences NFT adoption, as investors are drawn to the novelty of blockchain technology, smart contracts, and decentralized finance (DeFi) (Chandankar, S. 2021). Many investors view NFT gaming as an opportunity to explore emerging digital economies and participate in technological innovation (Sancho, L. et.al. 2021). In conclusion, personal factors significantly shape NFT investment decisions. As the NFT gaming industry matures, understanding these personal factors will be essential for game developers, investors, and blockchain platforms in designing sustainable and attractive investment models (Perez, W.D. et al., 2023).

Research Conceptual Framework

The research conceptual framework was designed from the Hierarchical Decision Model (HDM) by processing methodology that dependent variable was decision to invest in NFT games while independent variables were cryptocurrency adoption factors, social factors, and personal factors.

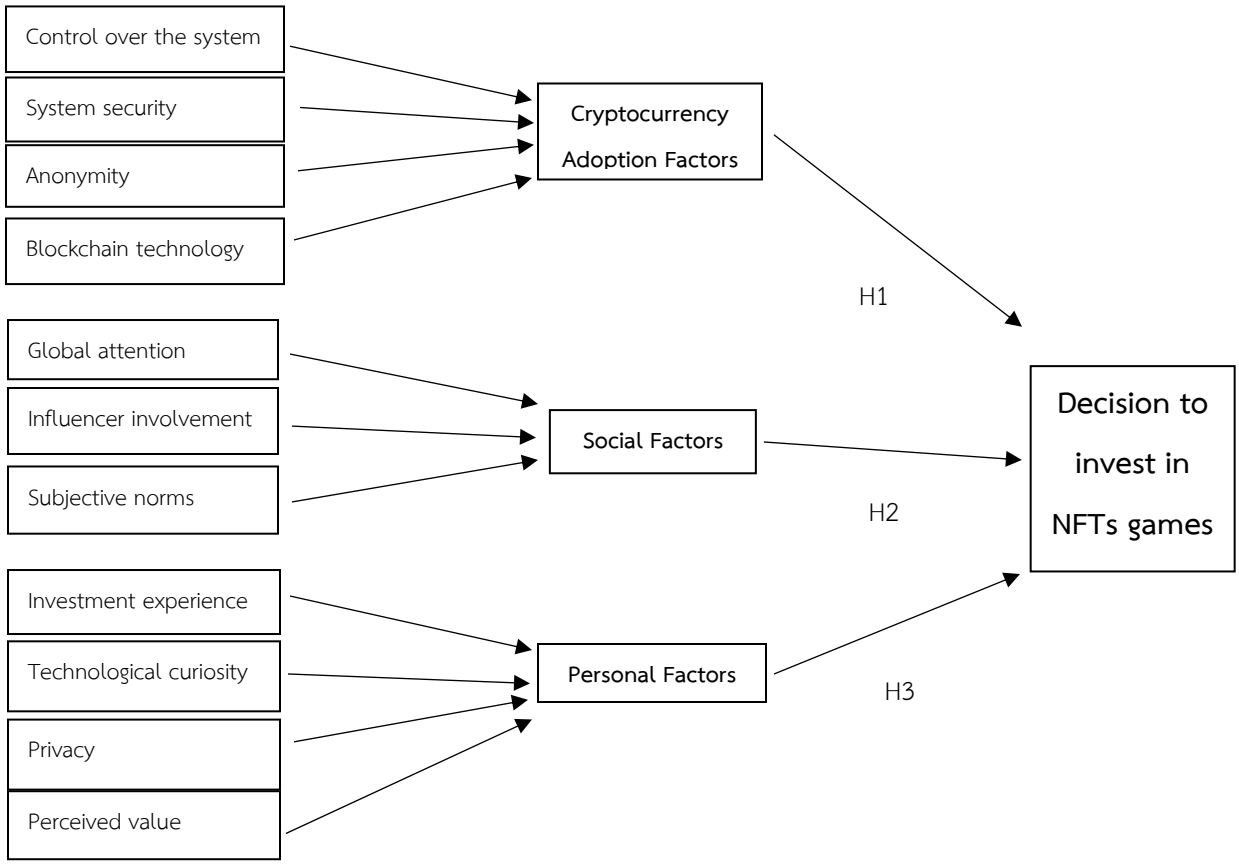

Figure 1 Research Conceptual Framework

Research Methodology

This study is quantitative research using questionnaires as a tool to collect data. The scope of the study is to collect data from NFT investors from social media platforms. Statistics will be used for data analysis.

1. Population and Samples: The population are all NFT investors who have experience in investing in NFT games from social media platforms such as Facebook pages, Telegrams, and Line open chat groups. Following the W.G. Cochran's method of probability sample technique (Cochran, 1983), the number of samples in this study was 400 samples. The samples were selected by using simple random sampling technique.

2. Data Collection:

2.1 Primary Data Collection: The online survey is used to collect data for statistical analysis. The 400 questionnaires will be collected from NFT investors from the mentioned social media platforms. Statistical methods used for data analysis include mean, correlations analysis, multicollinearity analysis, and regression analysis.

2.2 Secondary Data Collection: Secondary data involves a review of existing literature, including research papers and relevant theories to outline the current state of NFT investment.

3. Data Analysis: This study utilized descriptive statistical analysis to examine the characteristics of responses from the survey, and inferential statistical analysis to investigate relationships between variables and to perform regression analysis.

4. Instrument:

4.1 Questionnaire: questionnaires consist of 2 parts as follows:

1) The first part has 7 questions to collect personal information; in this part the questions are check lists for the respondents to tick the answer that best matches their personal information.

2) The second part has 45 questions to collect opinion of respondents for regression analysis, in this part rating scales (Likert's rating scales) are divided into 5 scales; 1=Strongly Disagree, 2 = Disagree, 3= Neutral, 4 = Agree and 5=Strongly Agree.

4.2 Questionnaire Development: questionnaires were developed through the following processes:

1) The questionnaire was developed after reviewing research papers from various texts such as Academic Databases, Journal Websites, Library's University Websites, and ResearchGate.

2) The questionnaire was reviewed by the research advisor for its validity.

3) Collinearity analysis (VIF and tolerance value) is used to test the multicollinearity and correlation of the independent variables. The result showed each factor have VIF value more than 0.5 but less than 10 (Daoud, 2017) and Tolerance value is more than 0.2 (Adeboye, Fagoyinbo and Olatayo, 2014) that Indicated low level of multicollinearity.

4) Pearson's correlation analysis is used to test value correlation of each independent variable. The result showed each variable are less 0.7 that indicated variable are no correlation (Noor, S., et. al., 2022).

5) Cronbach's Alpha Co-efficient with the standard at least 0.7. (Cronbach, 1951) is used to test the reliability of the questionnaire in every part such as cryptocurrency adoption factors, social factors, personal factors, and decision to invest. The results found that each part of the questionnaires was more than 0.7 that Indicated every part are standardized and acceptable to be used to do the survey.

Research Results

1. Personal Information: Frequency and percentage are statistics used to explain the general characteristics of 400 respondents. As 9 respondents never invested in NFT games, which is out of research objective, therefore, 391 respondents are counted for this study. Most of the respondents is sex female (53.45%), age of between 21 to 30 years old (34.78%), education of master's degree (44.76%), occupation of private employee (27.11%), income of between 45,001 to 60,000 baht (29.16%) and experiences of 4 years (28.90%).

2. Hypothesis Results: Linear regression and Multiple regression analysis are used to test the relation between independent variables and dependent variables with a significance level below 0.05 (95% significance level) which means that if the variables have a significance level exceeding 0.05, it will be accepted (Peduzzi et al., 1996). The result as follow:

2.1 Linear Regression Analysis

Model 1: H_1 = Cryptocurrency adoption factors have a significant impact on NFT investors' decision to invest in NFT games.

Model 2: H_2 = Social factors have a significant effect on NFT investors' decision to invest in NFT games.

Model 3: H_3 = Personal factors have a significant impact on NFT investors' decision to invest in NFT games.

Table 1 Model Summary for Linear Regression Analysis

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of The Estimate
1	0.287[a]	0.082	0.073	0.84502
2	0.389[a]	0.151	0.145	0.81164
3	0.487[a]	0.237	0.229	0.77070

The adjusted R square values of the three models indicate varying levels of explanatory power regarding the decision to invest in NFT games. Model 1 has an adjusted R square value of 0.073, suggesting that the independent variables in this study can explain 7.3% of the variation in investment decisions, while the remaining 92.7% is influenced by other variables not included in the research. Model 2 shows an adjusted R square value of 0.145, indicating that the independent variables account for 14.5% of the investment decision variance, with 85.5% attributable to external factors. Model 3, with an adjusted R square value of 0.229, demonstrates that the independent variables explain 22.9% of the decision to invest in NFT games, leaving 77.1% of the variation influenced by factors outside the scope of this study.

Table 2 ANOVA Analysis for Linear Regression Analysis

ANOVA[a]						
	Model	Sum of Square	df	Mean Square	F	Sig
1	Regression	24.746	4	6.186	8.664	0.000[b]
	Residual	275.630	386	0.714		
	Total	300.376	390			
2	Regression	45.439	3	15.146	22.992	0.000[b]
	Residual	254.937	387	0.659		
	Total	300.376	390			
3	Regression	71.098	4	17.774	29.924	0.000[b]
	Residual	229.278	386	0.594		
	Total	300.376	390			

The test results at a significance level of 0.05 for all three models indicate that the Sig. value is 0.000, demonstrating that at least one factor from each model can significantly influence the decision to invest in NFT games. Specifically, in model 1, the result shows that at least one cryptocurrency adoption factor has a significant impact on investment decisions. In model 2, the test result indicates that at least one social factor can significantly influence investment decisions. Similarly, in model 3, the test result confirms that at least one personal factor plays a significant role in influencing the decision to invest in NFT games.

Table 3 Linear Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(constant)	1.654	0.223		7.418	0.000
Control over the system	0.045	0.042	0.052	1.057	0.291
System Security	0.181	0.050	0.180	3.589	0.000
Anonymity	0.058	0.045	0.066	1.302	0.194
Blockchain Technology	0.134	0.043	0.156	3.129	0.002
(constant)	1.381	0.184		7.510	0.000
Global attention	0.172	0.045	0.185	3.807	0.000
Influencer involvement	0.161	0.048	0.169	3.367	0.001
Subjective norms	0.184	0.047	0.194	3.866	0.000
(constant)	0.895	0.193		4.632	0.000
Investment experience	0.109	0.046	0.114	2.389	0.017
Technological curiosity	0.121	0.039	0.139	3.072	0.002
Privacy	0.159	0.046	0.163	3.475	0.001
Perceived value	0.304	0.046	0.317	6.674	0.000

The Sig. value in the table indicates that at a significance level of 0.05 (Peduzzi et al., 1996), there are two cryptocurrency adoption factors—system security and blockchain technology—that significantly influence the decision to invest in NFT games. The Beta Coefficient value, which reflects the expected change in the dependent variable for a one-unit change in the independent variables (Bobbitt, 2019), confirms that these two factors are influential. Additionally, the results show that all three social factors significantly affect investment decisions to invest in NFT games, with subjective norms having the strongest impact, followed by global attention and influencer involvement. Similarly, all four personal factors are found to significantly influence the decision to invest in NFT games, with perceived value having the highest level of influence, followed by privacy, technological curiosity, and investment experience, respectively.

Multiple Regression Analysis

Table 4 Model Summary for Multiple Regression Analysis

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of The Estimate
1	0.502[a]	0.252	0.247	0.76174

The adjusted R square value 4 is 0.247 which means that each independent variable in this study can influence the decision to invest in NFT games about 24.7% which suggests that the influence from other variables has not been identified in this research.

Table 5 ANOVA Analysis for Multiple Regression Analysis

ANOVA[a]						
	Model	Sum of Square	df	Mean Square	F	Sig
1	Regression	75.822	3	25.274	43.558	0.000[b]
	Residual	224.554	386	0.580		
	Total	300.376	390			

The test result at a significant level at 0.05 shows that Sig. value is 0.000. This means that at least one factor can influence on decision to invest in NFT games.

Table 6 Multiple Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(constant)	0.384	0.240		1.599	0.111
Cryptocurrency Adoption Factors	0.093	0.075	0.061	1.236	0.217
Social Factors	0.257	0.069	0.193	3.696	0.000
Personal Factors	0.517	0.077	0.347	6.673	0.000

The Sig. value at a significant level at 0.05 (Peduzzi et al., 1996) indicated that there are two factors that significantly influence the decision to invest in NFT games. The Beta Coefficient value which indicated expected change in the dependent variable for a one-unit change in the independent variables (Bobbitt, 2019) shows that social factors and personal factors are the two factors that have influence on decision to invest in NFT games respectively.

summarize Discussion and recommendations

summarize

1) Cryptocurrency Adoption Factors: The multiple regression analysis indicates that cryptocurrency adoption factors do not have influence on decision to invest in NFT games. However, the linear regression analysis indicates that two factors; system security and blockchain technology have an impact on NFT investors' decision to invest in NFT games respectively, while control over the system and anonymity have not.

2) Social Factors: The multiple regression analysis indicates that social factors have a significant influence on decisions to invest in NFT games. This is confirmed by linear regression analysis which also indicated that all three factors; subjective norms, global attention, and influencer involvement have impact on NFT investors' decision to invest in NFT games

respectively.

3) Personal Factors: The multiple regression analysis indicates that personal factors have the most influence on decisions to invest in NFT games. This is confirmed by linear regression analysis which also indicated that all four factors; perceived value, privacy, technological curiosity, and investment experience have impact on NFT investors' decision to invest in NFT games respectively.

Discussion

The findings of this study reveal that both social factors and personal factors significantly influence the decision to invest in NFT games, while cryptocurrency adoption factors do not demonstrate a significant impact. These results align partially with previous literature, which often highlights the importance of social influences and perceived value in investment decisions. For instance, Ng et al. (2024) found that subjective norms and influencer involvement are critical in shaping investment intentions within the NFT ecosystem. Similarly, our findings confirm that social factors, including global attention and social endorsement, are crucial motivators for NFT investment. This consistency with existing studies highlights the significant role of social validation and collective behavior in the rapidly evolving NFT gaming market.

Contrasting with previous research, this study indicates that cryptocurrency adoption factors, specifically control over the system and anonymity, do not significantly impact NFT game investment decisions. Earlier studies, such as Razi et al. (2023), emphasized the role of blockchain technology and system security as fundamental determinants of investment decisions. However, our analysis shows that NFT game investors prioritize usability, community engagement, and financial potential over technical aspects like system decentralization or anonymity. This divergence could be attributed to the nature of NFT gaming, where social interaction and personal engagement are more valued compared to the purely financial incentives seen in other blockchain investments.

Personal factors also play a crucial role, with investment experience, perceived value, privacy, and technological curiosity identified as significant influencers. The impact of investment experience aligns with the findings of Aslam, M. et al. (2020), who noted that financial literacy and prior investment knowledge positively correlate with decision-making effectiveness. In the context

of NFT gaming, experienced investors are likely to apply their knowledge to assess market dynamics, evaluate risks, and make strategic investment choices. Moreover, the significant influence of perceived value resonates with the work of Spadea & Seneviratne (2024), who emphasized that the potential for financial returns and unique asset ownership are vital motivators for NFT game investment.

However, the non-significant impact of control over the system and anonymity challenges the assumption that decentralization and privacy are universally critical to blockchain-related investments. This finding suggests that NFT game investors are more pragmatic, focusing on tangible benefits such as asset liquidity and market engagement rather than the ideological appeal of blockchain autonomy. This nuanced understanding calls for further exploration into how different investor profiles perceive risk and value within the NFT gaming space.

Overall, the study's findings suggest that developers and stakeholders should prioritize enhancing social engagement, community-driven content, and features that add perceived value to the game ecosystem. Addressing personal factors such as investment experience can also improve investor confidence and foster a more robust NFT gaming economy. Future research should continue examining how shifts in technology and market dynamics influence the evolving investment behaviors of NFT game participants.

Theoretical Implications

This study significantly contributes to the theoretical understanding of NFT investment behavior by demonstrating that social and personal factors play a more pivotal role than cryptocurrency adoption factors when making investment decisions in NFT games. Unlike traditional blockchain investments that often prioritize decentralization, system control, and anonymity, NFT game investors value social validation and personal experience. This finding challenges conventional perspectives that technical attributes are the primary drivers of blockchain investment choices. Instead, it highlights how the unique social dynamics and experiential aspects of NFT games shape investor behavior differently.

Additionally, the study identifies investment experience as a crucial factor, suggesting that experienced investors make more calculated and strategic decisions, leveraging their knowledge to navigate the NFT gaming market effectively. These insights extend the application of the

Hierarchical Decision Model (HDM) by demonstrating its relevance in non-traditional investment contexts, particularly in the fast-evolving landscape of blockchain-based gaming and digital assets.

Recommendations

1 Recommendations for NFT investors

1) In summary, demographic factors such as age, gender, geography, experience, and income significantly influence investment strategies in NFT gaming. By aligning investment choices with these factors, investors can mitigate risks, maximize returns, and enhance their overall gaming and investment experience in this rapidly evolving digital ecosystem.

2) For NFT game investors deciding to invest, prioritizing cryptocurrency adoption factors like system security and blockchain technology is essential to ensuring a secure and profitable investment experience. Robust system security is paramount, as it protects digital assets from hacking, fraud, and unauthorized access. By evaluating these technological factors, investors can mitigate risks, build confidence in their investments, and strategically participate in the rapidly growing NFT gaming market.

3) When considering social factors such as subjective norms, global attention, and influencer involvement, NFT game investors looking to invest should leverage these dynamics to make informed decisions. By actively participating in social discussions and analyzing the broader cultural and community dynamics surrounding NFT games, investors can better assess the market's sentiment and opportunities, ultimately enhancing their investment outcomes.

4) Personal factors like perceived value, privacy, and technological curiosity play a vital role in guiding strategic decisions. By focusing on these personal factors, investors can align their investments with their individual goals and preferences, enhancing both their gaming experience and financial success.

2 Recommendations for game developers

1) For NFT game developers looking to create compelling and successful games, leveraging demographic data is essential to design experiences that resonate with diverse investor segments and maximize market reach. By incorporating these insights into game development, developers can create tailored experiences that meet the diverse needs of their audience, driving higher engagement, loyalty, and market success in the NFT gaming industry. Through this approach, developers not only cater to the evolving demands of investors but also position their

games for sustained growth in this competitive digital landscape.

2) For NFT game developers planning to create successful games, prioritizing cryptocurrency adoption factors such as system security and blockchain technology is critical to building trust and ensuring a robust ecosystem for investors and investors. By focusing on these technological advancements, developers can create NFT games that not only appeal to a wide audience but also set a standard for trust and reliability in the competitive NFT gaming market. This approach not only safeguards the ecosystem but also attracts investors and investors who value security and innovation.

3) Social factors such as subjective norms, global attention, and influencer involvement are essential to creating games that resonate with communities and attract widespread adoption. By integrating these social factors strategies, developers can build games that thrive on community support and global visibility, ensuring sustained growth and a loyal investor base.

4) Personal factors such as perceived value, privacy, and technological curiosity are essential for creating games that attract and retain investors while driving meaningful engagement. By addressing these personal factors, developers can create NFT games that not only resonate with a wide range of investors but also stand out in a competitive and rapidly evolving market.

Limitations

This research has six main limitations as follows:

1. Sample population in this study is NFT investors are from only three platforms which may not cover all NFT investor population. Therefore, opinions received may not represent for the whole NFT investors.

2. Research conceptual framework investigates only three key factors; cryptocurrency adoption factors, social factors, and personal factors of Hierarchical Decision Model (HDM). This may not encompass all possible factors influencing NFT game investments.

3. Research employed a quantitative survey approach, is that it relies on structured questionnaires that may not fully capture the complex, subjective experiences and motivations of NFT investors. The fixed-response format of the survey limits the depth of insights, as respondents might be unable to fully express their opinions or provide nuanced explanations for their investment decisions.

4. Research employed a quantitative survey approach that the data collected is dependent on the self-reported answers of participants, which may be influenced by biases such as social desirability or misunderstanding of survey questions.

5. The interpretation of cryptocurrency adoption factors does not influence decision to invest in NFT games that the two personal factors—control over the system and anonymity—which did not show a significant influence on NFT investors' decisions to invest in NFT games. This study reflects the current investment climate, where users prioritize usability, asset value, and social factors over systemic governance or personal privacy, they may not fully capture emerging shifts in blockchain gaming preferences.

6. The use of multiple regression analysis, which, while effective in identifying direct relationships between independent variables and the investment decision, does not fully capture the complex and interconnected nature of investor behavior in NFT games. The current model assumes linear and isolated effects of each factor, which may oversimplify the underlying psychological and behavioral processes influencing investor decisions.

Future Research Directions

This study provides valuable insights into the factors influencing NFT investors' decisions to invest in NFT games, highlighting the significant impact of social and personal factors while demonstrating the limited influence of cryptocurrency adoption factors. However, as the NFT gaming ecosystem continues to evolve, future research should address several areas to deepen the understanding of investor behavior and market dynamics.

The study is recommended to examine how shifts in the NFT market influence investment behavior over time. As NFT games gain popularity and the market matures, investors’ preferences and risk perceptions may change. Tracking these changes would provide a more dynamic view of investment decision-making. Future research could explore the role of cultural differences in NFT game investment. Given the global nature of the NFT gaming market, cross-cultural studies would offer insights into how social norms and personal motivations vary among investors from different regions. This approach would help identify whether cultural contexts mediate the relationship between social factors and investment decisions.

For qualitative study could complement the quantitative findings by providing a deeper understanding of investor motivations and experiences. In-depth interviews with both seasoned and novice NFT investors could reveal nuanced perspectives that are not captured through quantitative surveys.

Moreover, exploring the impact of emerging regulatory frameworks on NFT game investments is crucial. As governments introduce more regulations on digital assets and blockchain technologies, understanding how these policies affect investor confidence and market stability will be essential.

By addressing these areas, future research can enhance the theoretical and practical understanding of NFT game investments, providing stakeholders with comprehensive insights into the evolving blockchain-based gaming landscape.

New Knowledge of Research

This study provides insights into NFT game investment behavior, structured into three main areas: Academic Implications, Practical Implications, and Regulatory Implications. These findings offer a deeper understanding of how social, personal, and technical factors influence NFT investment decisions.

Academic Implications: This study contributes to academic literature by demonstrating that social and personal factors play a more significant role in NFT game investment decisions than cryptocurrency adoption factors. Unlike traditional blockchain investments, where decentralization and anonymity are crucial, NFT game investors prioritize social validation and personal experience. Applying the Hierarchical Decision Model (HDM) in this context broadens its use beyond conventional financial environments, enriching the theoretical discourse on digital asset investment.

Practical Implications: For investors and developers, the findings highlight the importance of integrating social elements into NFT games. Features that enhance community engagement, influenced by subjective norms and influencer involvement, can attract investors. Additionally, recognizing the role of perceived value and investment experience helps developers create games that balance entertainment with economic appeal.

Regulatory Implications: From a regulatory perspective, the study suggests that policies should focus on transparency rather than technical autonomy, as cryptocurrency adoption factors have limited influence. Addressing the potential for social manipulation, such as through influencer-driven promotions, can help protect investors from misleading endorsements.

In summary, this research advances the understanding of NFT game investment, guiding stakeholders toward more sustainable and investor-friendly practices.

References

Adeboye, N. O., Fagoyinbo, I. S., and Olatayo, T. O. (2014). Estimation of the effect of multicollinearity on the standard error for regression coefficients. *IOSR Journal of Mathematics, 10(4)*, 16–20.

Aslam, M., et al. (2020). Impact of financial knowledge and investment experience on investment decision making with and without risk tolerance mediation. *Enterprise Risk Management, 6(1)*, 1–13.

Balaban, D. (2023, January 20). *Addressing security concerns in blockchain gaming*. *Forbes*. Retrieved from https://www.forbes.com/sites/davidbalaban/2023/10/10/addressing-security-concerns-in-blockchain-gaming/

Bobbitt, Z. (2019, July 21). *How to interpret regression coefficients*. Statology. https://www.statology.org/how-to-interpret-regression-coefficients/

Chandankar, S. (2021, January 11). *Content marketing manager at Urban Piper & Order mark*. LinkedIn. https://www.linkedin.com/in/sachin-chandankar/

Cochran, W. G. (1983). William Gemmell Cochran: The influence of Rothamsted and designed experiments on his research. *International Statistical Review, 51(3)*, 319–334.

Coles, J. L., et al. (2006). Managerial incentives and risk-taking. *Journal of Financial Economics, 79(3),* 431–468.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16(3*), 297–334.

Daoud, J. I. (2022). "Multicollinearity and regression analysis." *Journal of Physics: Conference Series,* 949, Article 012009. (Online) https://doi.org/10.1088/1742-6596/949/1/012009.

Eckhardt, G. M. (2009). Why don't consumers consume ethically. *Journal of Consumer Behaviour, 9(6)*, 426–436.

Felix, R. (2020, February 21). *Cashing in on Free-to-Play Games. Statista.* https://www.statista.com/chart/20395/worldwide-revenue-generated-with-free-to-play-video-games/

Henry, J. (2021, December 22). *A history of Bitcoin. Capgemini.* https://www.capgemini.com/beyond-the-buzz/cryptocurrency-blockchain

Game-ace. (2023, January 20). *What Are NFT Games? — Meanings, Insights, Forecasts*. Game-ace. https://game-ace.com/blog/what-are-nft-games/?utm_source=chatgpt.com

Gotterbarn, D., et al. (2018). *ACM Code of Ethics and Professional Conduct*. Association for Computing Machinery. https://www.acm.org/code-of-ethics

Gryglewicz, S., et al. (2021). Agency conflicts and short- versus long-termism in corporate policies. *Journal of Financial Economics, 141(1)*, 3–26.

Industry Insights Guru. (2024, April 20). 2024–2031 Play-to-Earn NFT Games Market: Future growth with predictive supply & demand analysis. LinkedIn. https://www.linkedin.com/pulse/2024-2031-play-to-earn-nft-games-market-future-ixlqf/

Nadini, M., et al. (2021, December 23). Mapping the NFT revolution: Market trends, trade networks, and visual features. Scientific Reports, 11, 20902. https://doi.org/10.1038/s41598-021-00053-8

Ng, M., et al. (2024). Drivers of non-fungible token (NFT) investment intention: The roles of innovativeness, knowledge, subjective norms, and perceived value. *Journal of Electronic Business & Digital Economics*.

Noor, S., et al. (2022). Simple random sampling: Sampling method in descriptive research. *International Journal of Education and Learning Studies, 1(2)*, 5–50.

Olatunji, T. (2022, October 9). 5 ways to spot a scam NFT gaming project. MakeUseOf. https://www.makeuseof.com/how-identify-scam-nft-gaming-projects/

Peduzzi, P., et al. (1996). A simulation study of the number of events per variable in logistic regression analysis. *Journal of Clinical Epidemiology, 49(12)*, 1373–1379.

Perez, W. D., et al. (2023). Factors influencing non-fungible tokens (NFT) game engagement during the COVID-19 pandemic: The Theory of Planned Behavior (TPB) and Hedonic Motivation System Adoption Model (HMSAM) approach. *Heliyon, 9(1)*, e19847.

Phumphuang, P. (2022, October 11). Predicting GameFi's daily market direction. Department of Computer Science, Faculty of Science and Technology, Thammasat University. (Online) https://digital.library.tu.ac.th/tu_dc/frontend/Info/item/dc%3A306115.

Putsom, W., et al. (2019). Scale Development for Measuring Entrepreneurial Leadership Competencies. *Human Behavior, Development and Society, 20(3)*, 29-40.

Razi, Q., et al. (2023). Non-fungible tokens (NFTs)—Survey of current applications, evolution, and future directions. *IEEE Open Journal of the Communications Society, 5*, 2765–2791.

Saaty, T. L. (1980). *The analytic hierarchy process: Planning, priority setting, resource allocation*. New York: McGraw-Hill.

Sancho, C., et al. (2021). Multidisciplinary approach to the study of large-format oil paintings. *Scientific Reports, 11*, 2143.

Setiawan, A., et al. (2019). Investment decisions and investor experience in choosing financial technology (Fintech) services: Peer-to-peer lending. *In Proceedings of the 3rd Asia Pacific Management Research Conference (APMRC 2019)* (pp. 149–153). Atlantis Press.

Spadea, S., & Seneviratne, O. (2024, July 11). *Support and scandals in GameFidApps: A network analysis of The Sandbox transactions. Rensselaer Polytechnic Institute.* https://arxiv.org/pdf/2407.07138.

Sun, C. (2023, December 19). *Personal experience effects across markets: Evidence from NFT and cryptocurrency investing*. The Department of Finance at the Kenan-Flagler Business School. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3456789.

Suwannarat, P. (2023). The moderating role of trust in influencing the effectiveness of export incentives of exporters in the ASEAN. *Journal of Asia Business Studies, 17(2)*, 279-307.

Suwannarat, P. (2023). Understanding the difference of values-based motivation of managerial workers in spa businesses in Thailand. *International Journal of Emerging Markets, 18(2)*, 483-504.

Teplova, T., et al. (2023). Investor Sentiment and the NFT Market: Prediction and Interpretation of Daily NFT Sales Volume. Annals of Operations Research. https://link.springer.com/article/10.1007/s10479-023-05693-9

Viral, S. (2022, October 8). What is the impact of blockchains on privacy? Open Data Institute. https://theodi.org/blog/impact-of-blockchains-onprivacy.

Vladislav, M. (2022). GameFi audience report and predictions. 4IRE Labs. https://4irelabs.com/articles/gamefi-audience-report/