Investigating the Determinants of NFT Purchase Intention: An Integrated Model Combining the Theory of Planned Behavior and Technology Acceptance Model

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ABSTRACT

This study investigated the determinants of Non-Fungible Token (NFT) purchase intention (PI) by integrating the Theory of Planned Behavior (TPB) and the Technology Acceptance Model (TAM). The research aimed to identify key factors influencing PI), including Attitude Toward NFTs (AT), Perceived Usefulness (PU), Perceived Ease of Use (PEU), Subjective Norms (SN), Perceived Behavioral Control (PBC), and Perceived Risk (PR). A quantitative research design was employed, with data collected through an online survey distributed via Google Forms in February 2024. Out of the 345 questionnaires initially distributed, 336 were validated and included in the analysis after filtering for participants with actual NFT usage experience. The findings revealed that PU and PEU positively influenced AT, which in turn significantly enhanced PI. PBC and SN were also found to have direct positive effects on PI, highlighting the importance of consumer confidence and social influence in driving behavior. Conversely, PR demonstrated a negative impact on PI, underscoring the deterrent effects of concerns related to security, privacy, and financial uncertainty. The study further confirmed the mediating role of attitude, showing that positive evaluations of NFTs play a crucial role in translating perceived benefits and usability into actionable PI. The integrated model combining TPB and TAM effectively explained the complexities of NFT PI, offering valuable insights for both theoretical understanding and practical applications in the NFT market. These results provide actionable recommendations for NFT platforms and marketers to enhance user engagement, mitigate PR, and foster positive consumer AT.

Keywords NFT purchase intention; Theory of Planned Behavior; Technology Acceptance Model; perceived usefulness; perceived risk

INTRODUCTION

The emergence of NFT has significantly transformed various sectors, particularly art, gaming, and education, by redefining digital ownership and asset management. Initially conceptualized in 2017, NFTs gained mainstream traction in 2021 with high-profile auctions such as Christie's sale of an NFT artwork, highlighting their potential to create digital scarcity and ownership [1]. This evolution has been fuelled by advancements in blockchain technology, which enable NFTs to serve as unique digital assets that can be bought, sold, and traded, revolutionizing the digital economy [2], [3]. In the gaming industry, NFTs have enhanced user engagement and monetization strategies by allowing players to trade in-game items as unique assets [4], [5]. Educational institutions are also exploring NFTs to incentivize student achievements, demonstrating their versatility beyond traditional markets [6], [7]. As NFTs continue to evolve, they present both opportunities and challenges in market dynamics and

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technological integration [8], [9]. Unlike traditional digital files, NFTs provide verifiable ownership and authenticity, making them unique and indivisible. This innovation has enabled the tokenization of art, music, collectibles, and other digital assets, creating new economic opportunities and reshaping creative industries. The NFT market has grown exponentially, driven by high-profile sales and the broader adoption of blockchain technology, positioning NFTs at the forefront of discussions in digital finance, art, and technology sectors. The rapid expansion of the NFT market has introduced both significant opportunities and challenges across various sectors. On the one hand, NFTs have empowered artists and content creators by providing new revenue streams and direct access to global markets, circumventing traditional intermediaries [10] This democratization of the art world allows creators to engage directly with buyers, enhancing their financial independence and market reach. However, this expansion has also raised critical issues related to market volatility, the speculative nature of NFT investments, and the environmental impact of energy-intensive blockchain operations [11].

Additionally, the complexities of NFT valuation and legal frameworks pose significant challenges, particularly around ownership rights and the financial reporting requirements under standards like IFRS [12]. As NFTs continue to integrate into digital marketplaces, security concerns and the need for robust regulatory measures to protect stakeholders have become increasingly prominent [13]. Understanding the factors that drive NFT PI is thus critical, as it informs market dynamics and policy decisions that will shape the future of this evolving landscape. Exploring these motivations helps address the challenges and optimize the potential of NFTs, ensuring that the market grows sustainably while balancing innovation with responsible practices [14]. Despite the growing interest and rapid adoption of NFTs, the specific factors influencing individuals' intentions to purchase these digital assets have remained underexplored in academic research. Existing studies have often focused on broader technological adoption models without delving deeply into the unique characteristics that differentiate NFTs from other digital products. As a result, there is a limited understanding of how traditional factors such as PU, ease of use, and PR interact with novel elements like digital scarcity and social influences in the context of NFTs. The complexity of NFTs, which blend elements of technology, finance, and culture, necessitates a more nuanced examination that goes beyond traditional consumer behaviour models.

The need for deeper insights into NFT PI is underscored by the market's ongoing evolution and the diverse profiles of NFT buyers, ranging from seasoned crypto investors to casual digital art enthusiasts. While the potential financial returns draw some users, others are motivated by a sense of community, ownership of digital art, or the novelty of participating in a cutting-edge technological trend. Understanding these varied motivations requires an integrated approach that combines established theories, such as the TPB and the TAM. By examining how factors like AT, SN, PBC, and PR influence PI, this research aims to fill the existing knowledge gap and provide a comprehensive framework for understanding consumer behaviour in the emerging NFT market. Previous research on the factors influencing technology adoption has largely focused on individual elements such as PU, PEU, and PBC. These studies have primarily used models like the TAM and the TPB to explain user intentions in various digital contexts, including online shopping, mobile banking, and digital

payment systems. However, while these models provided valuable insights into user behaviour, they often examined variables in isolation or limited combinations. This fragmented approach could have captured the complexity of decision-making processes in more intricate digital ecosystems, such as the NFT market. Consequently, existing literature needs to sufficiently address how these traditional factors interact within a unified framework to influence NFT PI. Moreover, the uniqueness of NFTs, characterized by their digital scarcity, ownership verification through blockchain, and the blending of cultural and financial value, sets them apart from other digital products. This uniqueness necessitates an integrated model that considers multiple psychological, social, and technological factors simultaneously. Despite the rapidly growing interest in NFTs, there is limited empirical evidence on how these variables collectively influence consumer intentions. The lack of comprehensive studies integrating key determinants into a cohesive model represents a critical gap in understanding the driving forces behind NFT adoption. Addressing this gap is crucial for both academic and practical purposes, as it can guide strategies for enhancing user engagement and market participation in the NFT space.

The primary objective of this research was to develop and validate an integrated model that comprehensively examines the factors influencing NFT PI. This study aimed to combine constructs from the TPB and the TAM to provide a holistic understanding of the determinants that drive consumers' decisions to purchase NFTs. Specifically, the research focused on exploring the interrelationships between key variables: AT, SN, PBC, PU, PEU, PR, and PI. The study sought to uncover how these variables interacted within the integrated framework, providing a more complete picture of the psychological, social, and PR factors influencing consumer behaviour in the context of NFTs. By validating this model, the research intended to offer insights that could help NFT platforms, marketers, and policymakers better understand and influence consumer intentions, ultimately contributing to the broader discourse on digital asset adoption and behavioural economics. This study aimed to answer the central question: What are the effects of PU, PEU, AT, PBC, SN, and PR on the intention to purchase NFTs? To address this question, six hypotheses were developed based on the integrated model combining TAM and TPB:

H1: PU → AT

PU influences AT, suggesting that the more consumers perceive NFTs as beneficial, the more favourable their attitude toward them becomes.

H2: PEU → AT

PEU influences AT, indicating that ease of interacting with NFT platforms positively shapes user AT.

H3: AT → PI

AT influences PI, proposing that a positive AT directly enhances the likelihood of purchase.

H4: PBC → PI

PBC influences PI, reflecting the impact of consumers’ perceived ability to engage in NFT transactions.

H5: SN → PI

SN influence PI, highlighting the role of social pressures and influences on consumer decisions to buy NFTs.

H6: PR → PI

PR influences PI, acknowledging that higher PR, such as financial or security concerns, may deter potential buyers.

Literature Review

Exploring Attitudes in the NFT Marketplace

Attitude toward NFTs (AT) refers to an individual's overall evaluation or predisposition towards engaging with NFT, which can be either positive or negative. This construct is rooted in the broader theory of attitudes, which suggests that attitudes significantly influence behavioural intentions and actual behaviours. In the context of NFTs, AT are shaped by a variety of factors, including perceived utility, personal experience, risk perception, and socio-economic influences. Positive AT often manifest when individuals perceive NFTs as valuable, innovative, and capable of offering unique ownership opportunities that are not available through traditional digital or physical assets. Conversely, negative AT may arise due to concerns about market volatility, legal uncertainties, or a lack of understanding of the underlying technology. The relationship between AT and behavioural intentions, particularly in the context of digital assets, is multifaceted and influenced by various psychological and economic factors. AT towards digital assets, such as cryptocurrencies and NFTs, significantly shaped investors' behavioural intentions and decision-making processes. For instance, [15] found that financial literacy enhances individuals' ability to navigate complex financial landscapes, which is crucial in the volatile realm of digital assets. Specific attitudes towards financial decisions, rather than general attitudes, were pivotal in influencing behaviour, highlighting the importance of nuanced perceptions in shaping investment intentions. This specificity was essential in the context of digital assets, where the complexity and volatility can lead to overconfidence and misjudgement. Study by [16] discussed how overconfidence could result in underestimating risks in investment decisions, further complicating the relationship between AT and behaviour.

Moreover, financial and digital literacy played a critical role in forming informed AT, which in turn affected behavioural intentions. Research by [17] emphasized that both financial and digital literacy positively impacted digital investment decisions, mediated by perceived socio-economic status. This finding underscored the importance of informed AT in shaping behavioural intentions, as individuals with higher literacy levels were more likely to perceive NFTs as viable investment opportunities rather than speculative gambles. Additionally, [18] argued that the speculative nature of cryptocurrencies, characterized by high volatility, positioned them as investments that could lead to either heightened caution or reckless behaviour, depending on an individual's risk tolerance. These dynamics suggest that AT are not static but are influenced by broader economic conditions and personal experiences with digital assets. Legal and ethical considerations surrounding digital assets also played a significant role in shaping AT. The complexities of ownership, transferability, and inheritance of digital assets, as discussed by [19] and [20], highlighted the challenges users faced in managing their digital legacies. These legal

ambiguities fostered negative attitudes toward digital assets, as potential investors feared complications related to ownership rights and the transfer of assets upon death. Such concerns were especially pertinent in the context of NFTs, where questions about intellectual property, copyright, and the permanence of digital ownership remain unresolved. Consequently, these legal uncertainties influenced how individuals perceived the risks associated with NFTs, potentially deterring them from engaging in this emerging market. Additionally, inequality in digital skills influenced the adoption of online safety behaviours, which in turn shaped attitudes towards engaging with digital assets. Study by [21] noted that those with lower digital skills often developed negative attitudes towards investing in digital assets due to PR, including the fear of cyberattacks, fraud, and loss of digital property. This finding highlighted the broader impact of digital literacy on consumer attitudes, suggesting that enhancing digital skills could be a pathway to fostering more positive AT.

Perceived Usefulness of NFT

Perceived usefulness (PU) refers to the degree to which an individual believes that using a particular technology will enhance their performance or provide significant benefits. Within the TAM, PU has been established as one of the primary determinants of user AT and behavioural intentions toward adopting new technologies. The core premise of TAM suggests that when users perceive technology as useful, they are more likely to develop positive AT toward its use, thereby increasing the likelihood of adoption. This concept has been widely applied across various digital platforms, highlighting the importance of PU in shaping user acceptance. Research has consistently demonstrated that PU significantly impacts AT toward adopting digital platforms. Study by [22] emphasized that PU directly influenced user AT towards digital libraries, showing that users who recognized the tangible benefits of these platforms developed favourable AT towards their usage. Similar findings were reported in the context of digital banking, where [23] found that PU positively predicted user AT. Users who perceived clear benefits from using digital banking services were more inclined to adopt and engage with these platforms. The role of PU was further highlighted by [24], who asserted that the perceived benefits of technology significantly shaped user AT and willingness to engage with technology-based systems, reinforcing the critical role of perceived utility in technology adoption.

Moreover, PU not only influences initial acceptance but also plays a pivotal role in determining continued usage intentions. Study by [25] illustrated that PU of digital banking services enhanced users' confidence and willingness to continue adopting these technologies. This finding underscored the notion that positive AT and ongoing engagement were closely tied to the perceived utility of the service. Research by [26] further supported this view, indicating that enhancing users' awareness of the benefits associated with digital banking led to more favourable AT and increased usage intentions. These studies collectively underscored that PU acted as a key motivator for sustained interaction with digital platforms. In educational settings, the impact of PU extended beyond initial adoption, influencing ongoing AT towards technology usage. Study by [27] found that PU mediated the relationship between PEU and AT toward using technology in educational environments. This mediation effect highlighted the critical role of perceived benefits in shaping positive AT among students and

educators towards digital tools. Research by [28] also demonstrated that PU was a crucial factor influencing students' intentions to use digital Islamic banking, emphasizing the broader relevance of PU across diverse digital contexts. These findings collectively illustrate that PU serves as a foundational element driving user AT and behavioural intentions across a range of digital platforms.

Perceived Ease of Use of NFT Adoption

Perceived Ease of Use (PEU) refers to the degree to which an individual believes that using a particular technology will be free of effort. Within the TAM, PEU plays a crucial role in shaping user AT and behavioural intentions toward technology adoption. A technology perceived as easy to use is more likely to be embraced by users, as the perceived effortlessness reduces the cognitive and emotional barriers to adoption. PEU directly influences user AT by enhancing the overall user experience, which in turn increases the likelihood of technology acceptance. This effect has been observed in various digital and financial technology contexts, highlighting the universal importance of PEU in driving user engagement. Numerous studies have demonstrated the impact of PEU on user AT and intentions, particularly in the realm of financial technology. Study by [29] found that PEU significantly influenced users' behavioural intentions toward mobile banking, with the relationship being mediated by factors such as e-trust and religiosity. This finding aligned with earlier research by [30], which confirmed that PEU positively affected users' AT and intentions to adopt mobile banking services. The ease of navigating mobile banking applications was directly linked to increased user engagement, underscoring the importance of intuitive, user-friendly interfaces in financial technology platforms. These findings suggested that simplifying the user experience could substantially enhance user acceptance and drive higher adoption rates.

Furthermore, PEU has been shown to influence not only direct AT but also perceptions of usefulness, which subsequently affects behavioural intentions. Research by [31] illustrated that PEU had a direct effect on behavioural intention and an indirect effect via PU, indicating a mediating role. Users who found a technology easy to use were more likely to perceive it as beneficial, which reinforced their intention to adopt it. This interrelationship between PEU and PU highlighted the cascading effects of positive user experiences in fostering technology adoption. The impact of PEU extended beyond mobile banking to other financial technology contexts, such as peer-to-peer lending and e-business platforms. Study by [32] emphasized that a higher perception of PEU led to increased user interest in utilizing peer-to-peer lending services, demonstrating the broader applicability of PEU across different technological domains. Similarly, [33] found that PEU significantly affected behavioural intentions to use e-business applications, reaffirming that user-friendly designs were pivotal in encouraging technology adoption. These findings collectively suggested that PEU was a critical driver of user acceptance in digital finance and beyond.

However, the influence of PEU was not uniform across all contexts, highlighting the complexity of its role in technology adoption. Study by [34] provided a nuanced perspective, indicating that while PEU generally influenced AT towards blockchain technology, this effect was not as straightforward among small and medium enterprises (SMEs). The study suggested that contextual factors, such

as organizational size and specific user needs, could moderate the impact of PEU on AT, illustrating that its effects could vary significantly depending on the target demographic and technology type. Overall, PEU remained a foundational element in understanding user behaviour within financial technology contexts. Research by [35] reinforced the relevance of TAM by asserting that both PEU and PU were critical determinants of behavioural intention across various digital platforms. The broader literature consistently demonstrated that simplifying the user experience and minimizing perceived effort were essential strategies for enhancing technology adoption, making PEU a key variable in the study of user acceptance in the digital age.

Subjective Norms Impact on NFT Adoption

Subjective norms (SN) refer to the perceived social pressure individuals feel to perform or refrain from a specific behaviour. In the context of behavioural intentions, SN capture the influence that family, friends, peers, and societal expectations have on an individual's decision-making process. According to the TPB, SN are a key predictor of behavioural intentions, as individuals often look to their social environment when forming AT and making decisions. This concept is particularly significant in the digital age, where social influence is amplified through online interactions, social media, and other digital platforms. The impact of social influence on purchase decisions, especially in online environments, has been well-documented. Social media, online reviews, and peer recommendations have become critical channels through which social influence manifests, shaping consumer AT and behaviours. Harun and Husin (2019) found that social media marketing significantly affected Millennials' online purchasing behaviour, particularly for low-involvement products. Their research highlighted the role of perceived trust and entertainment in shaping consumer AT, suggesting that social media platforms serve as powerful tools for influencing PI. This finding was consistent with the work of [36], who argued that trust developed within a social context was crucial for fostering positive consumer AT and purchasing intentions in social commerce. The integration of social elements such as community engagement and trust-building strategies enhanced the effectiveness of marketing efforts, illustrating the profound impact of social norms on consumer decision-making.

Moreover, electronic word-of-mouth (eWOM) emerged as a significant driver of PI, particularly in the context of digital transactions. Study by [37] demonstrated that consumers who engaged with eWOM were more likely to make purchase decisions based on online recommendations from peers. Research by [38] further supported this view, noting that eWOM information shared on social media platforms was perceived as authentic and reliable, which exerted a strong influence on online purchase behaviour. The validation provided by eWOM served to reduce PR associated with online purchases, thereby encouraging consumers to proceed with their buying decisions. This phenomenon underscored the importance of SN, as the perceived credibility of peer recommendations often outweighed traditional marketing messages in influencing consumer behaviour. The concept of social proof, where individuals look to the actions and opinions of others to guide their behaviour, also played a crucial role in shaping online purchase decisions. Study by [39] highlighted that reliance on shared information within social communities significantly enhanced consumer trust and influenced purchasing choices. In online

environments, where consumers frequently seek reassurance from others before making purchases, social proof acted as a powerful mechanism for building confidence and driving sales. This reliance on peer validation reflected the broader influence of SN, as consumers often aligned their behaviour with perceived social expectations.

Social values also played a critical role in influencing online PI. Study by [40] argued that social values fulfilled consumers' motivations for social interaction and community engagement, which significantly affected their purchasing behaviour. The desire to conform to social norms and align with community standards often guided consumer decisions, particularly in online settings where social connectivity and peer influence were evident. These findings indicated that SN were not only about external pressures but also involved internalized social values that shaped consumer intentions, emphasizing the multidimensional nature of social influence in digital contexts.

Perceived Behavioral Control to Navigate Control in Digital Market

Perceived Behavioural Control (PBC) refers to an individual's perception of the ease or difficulty of performing a specific behaviour, reflecting the level of control they believe they have over that behaviour. As a fundamental component of the TPB, PBC plays a significant role in shaping behavioural intentions and actual behaviours. PBC encompasses both internal factors, such as self-efficacy and skills, and external factors, such as available resources and opportunities, which collectively influence decision-making processes. Individuals with high perceived control are more likely to form strong intentions to engage in a behaviour, as they feel confident in their ability to execute the actions required. Empirical studies have consistently linked PBC with intentions to engage in various online behaviours, highlighting its importance across different digital contexts. In the area of digital piracy, [41] found that higher levels of PBC correlated with increased intentions to commit digital piracy. This relationship suggested that individuals who felt more capable of circumventing legal barriers or technical protections were more likely to engage in piracy. Study by [42] further reinforced this notion, demonstrating that PBC significantly predicted intentions to engage in software and music piracy. Their findings underscored the role of self-efficacy and perceived control in determining whether individuals would participate in behaviours that are often viewed as unethical or illegal, suggesting that higher perceived control over such actions directly influences the likelihood of engaging in them.

The influence of PBC extended beyond unethical behaviours to include consumer actions, such as online shopping. Study by [43] found that PBC positively impacted consumers' purchasing intentions, particularly when they felt confident in their ability to navigate online shopping platforms. Familiarity with digital technologies, ease of transaction processes, and trust in the security of online payment systems were all factors that contributed to enhanced PBC among consumers. Research by [44] echoed these findings, emphasizing that PBC was a direct predictor of online purchasing behaviour. This research indicated that when consumers believed they had the necessary skills and resources to make online purchases, they were more inclined to follow through with their buying intentions, highlighting the significant influence of PBC on consumer decision-making in digital marketplaces. PBC also played a critical role in privacy protection behaviours, particularly among adolescents navigating

complex digital environments. Study by [45] explored how PBC affected intentions to engage in privacy protection measures, finding that individuals who felt they had control over their privacy-related actions were more likely to adopt protective behaviours. This was particularly relevant in contexts where personal information security was at stake, demonstrating the broader impact of PBC on digital decision-making. The study highlighted the importance of equipping individuals with the knowledge and skills needed to exercise control over their online privacy, as increased PBC could lead to more proactive and protective behaviours. Additionally, PBC was found to influence entrepreneurial intentions within digital and platform economies. Research by [46] examined how PBC shaped entrepreneurial intentions among college students, showing that enhancing students' perceptions of their control over entrepreneurial activities led to increased intentions to engage in such behaviours. This research illustrated the applicability of PBC beyond traditional consumer contexts, emphasizing its role in fostering proactive engagement and innovation in the digital economy. The findings suggested that interventions aimed at boosting perceived control, such as skills training and resource access, could significantly enhance individuals' intentions to participate in various online activities.

Balancing Risks Concerns in NFT Transactions

Perceived risk (PR) refers to the potential negative outcomes that consumers associate with a purchase, encompassing various dimensions such as financial, security, and privacy concerns. In the context of online transactions, PR plays a critical role in shaping consumer behaviour, often acting as a significant barrier to PI. Financial risk pertains to the possibility of monetary loss, while security risk involves concerns about data breaches or unauthorized access to personal information. Privacy risk relates to fears that personal data may be misused or inadequately protected by the service provider. These risks collectively influence consumers' willingness to engage in online purchases, as the fear of negative outcomes can deter them from proceeding with transactions. The negative impact of PR on purchasing intentions has been extensively documented in consumer behaviour research. Study by [47] confirmed that PR negatively affected purchasing intentions, aligning with the TPB, which posits that negative AT towards PR decrease the likelihood of purchase. This study highlighted that as consumers' awareness of potential risks increases, their confidence in making online purchases declines, leading to reduced PI. Similarly, [48] explored the multidimensional aspects of product performance risk in online apparel shopping, demonstrating that higher levels of perceived product performance risk adversely affected consumers' AT and intentions to purchase online. These findings underscored the critical role of specific types of risk, such as performance and financial risks, in shaping overall purchasing behaviour.

Further evidence of the detrimental effect of PR on purchasing decisions was provided by [49], who conducted a meta-analysis revealing a significant negative correlation between risk perception and customer purchase behaviour. Their research indicated that consumers in developed countries exhibited stronger negative reactions to PR, which significantly influenced their purchasing decisions. This suggests that as consumers become more aware of the potential pitfalls associated with online transactions, their likelihood of

engaging in such activities diminishes, reinforcing the importance of addressing risk concerns to foster consumer confidence.

The role of PR extends beyond general purchasing contexts and is particularly pronounced during periods of heightened uncertainty. Research by [50] identified financial, social, time, and psychological risks as significant factors negatively impacting purchasing intentions among millennials during the COVID-19 pandemic. Their study highlighted how different dimensions of PR could collectively deter consumers from engaging in online purchases, especially in volatile environments where external factors exacerbate existing concerns. Similarly, [51] found that PR associated with purchasing perishable goods online, such as spoilage or delivery delays, acted as substantial barriers for consumers, particularly in uncertain environments like the pandemic. These studies emphasized the nuanced ways in which PR could undermine consumer confidence and hinder purchasing intentions. Moreover, the relationship between PR and online purchasing behaviour was further examined by [52], who demonstrated that PR had an inverse relationship with consumers' AT towards online purchasing. As PR increased, consumers' willingness to continue purchasing online decreased, highlighting the critical role of trust in mitigating PR. Their findings suggested that building trust through secure and transparent business practices could effectively reduce PR, thereby enhancing consumer willingness to engage in online transactions. This body of research collectively underscores the pervasive impact of PR on consumer behaviour, illustrating those efforts to address and alleviate risk concerns are essential for fostering a positive online shopping experience and enhancing PI.

Purchase Intention as Drives of NFT Buyers

Purchase intention (PI) refers to the likelihood that a consumer will engage in a purchase based on their AT, beliefs, and perceived ability to perform the behaviour. In consumer behaviour studies, PI serves as a critical predictor of actual buying behaviour, as it encapsulates the motivational factors that drive individuals towards making a purchase decision. This construct is particularly relevant in the context of online and digital marketplaces, where consumers' decisions are influenced by a combination of psychological, social, and technological factors. Understanding PI allows researchers and marketers to predict how likely consumers are to engage with a product or service, providing insights into how AT, SN, and PBC influence the buying process. The TPB integrates PI as a central component, explaining how AT, SN, and PBC collectively shape consumer intentions to engage in specific behaviours, including online purchases. In the context of NFTs, TPB provides a comprehensive framework for understanding how these psychological and social factors influence consumers' willingness to buy NFTs. Study by [53] emphasized that AT, shaped by perceived value and social norms, significantly impacted purchasing intentions. Positive AT and confidence in understanding the technology led to higher intentions to purchase. This finding was consistent with [54], who highlighted that favourable AT towards social norms and behaviours on social networking platforms substantially influenced purchasing decisions. Their research underscored that consumers who perceived NFTs positively, especially within their social circles, were more inclined to consider buying them.

SN, or the perceived social pressure to engage in a behaviour, also played a

pivotal role in shaping NFT PI. Study by [55] explored how social influences within the NFT Metaverse impacted engagement decisions, revealing that community sentiment and social validation were significant drivers of purchasing intentions. These findings aligned with [56], who noted the increasing importance of social validation in the rapidly growing NFT market. As NFTs often represent unique and socially desirable digital assets, the influence of peers and community approval can strongly motivate individuals to purchase, illustrating the critical role of SN in the decision-making process. PBC, reflecting consumers' confidence in their ability to perform the purchase, also significantly influenced NFT PI. Study by [57] found that consumer trust in blockchain technology and active engagement within the NFT community were crucial factors that boosted PBC. When consumers felt knowledgeable and skilled in navigating the complexities of NFT transactions, their confidence in making purchases increased, directly enhancing their PI. This relationship highlighted that PEU and control over the purchasing process were essential in mitigating the perceived challenges associated with NFTs, such as technological barriers and market uncertainties. The interplay between PR and the factors within TPB further complicated the understanding of PI. Study by [58] noted that PR, including market volatility and concerns about authenticity, moderated the relationship between PBC and PI. Higher PR tended to diminish consumers' confidence, reducing their likelihood of purchasing NFTs even when they had positive AT and strong social support. This finding underscored the importance of addressing risk perceptions to enhance consumers' willingness to engage in NFT transactions, emphasizing that reducing PR could significantly bolster PI.

Method

Research Design and Data Collection

A quantitative research design was employed to examine the hypothesized relationships between the factors influencing NFT PI. This approach was chosen to systematically analyse the data and provide empirical evidence supporting the theoretical framework. The study aimed to quantify the relationships between variables derived from the TPB and the TAM, integrating constructs such as AT, PU, PEU, SN, PBC, and PR. This quantitative design enabled the testing of hypotheses through statistical analysis, ensuring the reliability and validity of the findings. Convenience sampling was employed to select participants who were potential and current NFT users, reflecting a practical approach given the specificity of the target population. Initially, 345 questionnaires were distributed, of which 336 were deemed valid after the validation process. The validation step included a filter question, "Has the user ever used NFTs?", to ensure that only relevant participants were included in the final analysis. This validation helped refine the sample to accurately represent the target demographic of NFT users. The final sample size of 336 respondents was deemed sufficient based on prior research indicating that this number would provide adequate statistical power to detect significant effects. The sample size calculation was guided by recommendations for structural equation modelling (SEM), which suggest that a sample size of at least 200 is generally adequate for model estimation. Data collection was conducted via Google Forms in February 2024, facilitating efficient and broad distribution of the survey. Respondents were recruited through various online platforms, including social media groups and NFT communities, to ensure a diverse range of

experiences and perspectives within the NFT user base. The data collection process included detailed settings of the research design, specifying the inner and outer model settings within the SEM framework. Indicator data were collected in both original and standardized forms to facilitate accurate measurement and analysis of the latent constructs. Each construct was measured using a set of indicators based on validated scales from previous studies, adapted to fit the context of NFTs. The use of standardized measures ensured comparability of results and allowed for the assessment of construct reliability and validity. The collected data were then subjected to rigorous statistical analysis to evaluate the hypothesized relationships, providing a comprehensive examination of the factors influencing NFT PI.

Research Model and Hypothesis Development

The research model was developed to integrate constructs from the TPB and the TAM, providing a comprehensive framework for examining the determinants of NFT PI. The model aimed to capture the interplay between psychological, social, and technological factors that influence consumer behaviour in the context of NFTs. Each hypothesized relationship within the model was grounded in established theoretical foundations, drawing on previous studies that explored similar constructs in digital and financial technology settings. The integration of these models allowed for a nuanced understanding of how AT, perceived norms, PBC, and risk perceptions collectively shape PI. The hypothesized relationships were developed to test the effects of PU, PEU, AT, SN, PBC, and PR on the intention to purchase NFTs. Specifically, the following hypotheses were proposed:

H1: PU → AT

This hypothesis posited that PU would positively influence AT. It was grounded in the core principle of the TAM, which asserts that when users perceive a technology as useful, they are more likely to develop favourable AT toward it. In the context of NFTs, this suggested that users who recognized the potential benefits of NFTs, such as digital ownership and financial returns, would have a more positive attitude toward engaging with them.

H2: PEU → AT

This hypothesis suggested that PEU would positively impact AT. According to TAM, technologies that are easy to understand and navigate are more likely to generate positive user AT. For NFTs, the ease of using platforms, understanding blockchain functionalities, and navigating the buying process were expected to enhance users' overall AT, making them more receptive to engaging with NFTs.

H3: AT → PI

This hypothesis asserted that AT would directly influence PI. It aligned with TPB, which emphasizes that positive AT significantly drive behavioural intentions. The hypothesis suggested that individuals who held favourable views of NFTs, influenced by perceived benefits and PEU, would be more likely to intend to purchase these digital assets.

H4: PBC → PI

This hypothesis proposed that PBC would positively influence PI, reflecting the

TPB assertion that perceived control over a behaviour strengthens the intention to perform it. In the NFT context, this implied that consumers who felt confident in their ability to navigate the NFT market, understand the technology, and manage transactions would exhibit higher intentions to purchase.

H5: SN → PI

This hypothesis posited that SN, or perceived social pressure, would positively impact PI. It was based on the idea that social influences, such as peer opinions, community engagement, and perceived social acceptance of NFTs, play a critical role in shaping consumer intentions. The hypothesis suggested that individuals who perceived a strong social endorsement of NFTs would be more inclined to consider purchasing them.

H6: PR → PI

This hypothesis suggested that PR would negatively impact PI. The rationale was that higher PR related to security, privacy, market volatility, and potential financial loss could deter consumers from engaging in NFT purchases, despite positive AT and social influences. This hypothesis underscored the importance of mitigating PR to enhance consumer confidence and willingness to participate in the NFT market.

The research model, illustrated in Figure 1, visually represented the hypothesized relationships among all variables. The diagram depicted the direct and indirect paths between PU, PEU, AT, SN, PBC, PR, and PI, providing a clear visualization of how these constructs were expected to interact within the integrated framework. This model served as the basis for testing the proposed hypotheses using structural equation modelling, enabling the assessment of each path's significance and contribution to understanding NFT purchase behaviour. Figure 1 was displayed at the end of this section to show the paths among all variables, offering a comprehensive overview of the hypothesized relationships and their theoretical underpinnings. The inclusion of the diagram facilitated a deeper understanding of the complex dynamics at play in the NFT market, emphasizing the interconnected nature of psychological, social, and technological factors in shaping consumer intentions.

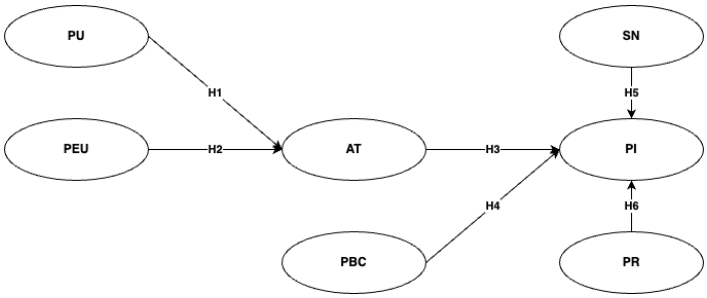

Figure 1 Research Framework

Measurement Instruments

The measurement instruments used in this study were developed to ensure reliable and valid assessments of the constructs central to the research model, namely AT, SN, PBC, PU, PEU, PR, and PI. Each construct was measured using multiple items adapted from established scales in the literature, with modifications made to fit the specific context of NFTs. The adaptation process

involved refining the wording of items to reflect the characteristics of NFTs and digital transactions while maintaining the core elements of the original scales. This approach ensured that the measures were contextually appropriate and capable of capturing the unique aspects of NFT PI. The development of scales followed a systematic approach, beginning with a comprehensive review of existing literature to identify validated measures relevant to each construct. Items were selected based on their proven reliability and validity in prior studies, particularly those related to technology adoption, online purchasing behaviour, and digital asset engagement. For instance, items measuring PU and PEU were adapted from the TAM, ensuring alignment with the theoretical foundations of the study. Similarly, items for attitude, SN, and PBC were drawn from the TPB, with modifications to address the nuances of the NFT market. PR items were designed to capture concerns specific to financial, security, and privacy risks associated with NFTs, while PI items were tailored to gauge the likelihood of engaging in NFT transactions.

The questionnaire consisted of multiple items for each construct, allowing for a robust assessment of each variable. Respondents rated their agreement with each item using a five-point Likert scale, ranging from “strongly disagree” to “strongly agree.” This format facilitated the quantification of AT, perceptions, and intentions, providing the data necessary for statistical analysis. The use of multiple items per construct also enabled the evaluation of internal consistency and construct validity, ensuring that the scales reliably measured the intended dimensions of each variable. Table 1 presents the specific items used to measure each construct in the study. The table includes the construct name, item description, and the scale from which the item was adapted. This detailed presentation of the measurement instruments highlights the rigorous process undertaken to ensure the reliability and validity of the data collected, supporting the overall robustness of the research findings.

Table 1. Questionnaire Items

Construct	Item	Item Description	Adapted Scale Source
AT	AT1	I find purchasing NFTs to be a good idea.	Adapted from TAM-based studies
	AT2	I have a positive attitude toward purchasing NFTs.	Adapted from TPB
	AT3	I believe buying NFTs is beneficial.	Adapted from TAM
SN	SN1	People important to me think I should purchase NFTs.	Adapted from TPB
	SN2	My friends and family support my decision to buy NFTs.	Adapted from TPB-based studies
	SN3	My social circle encourages NFT purchases.	Adapted from TPB
PBC	PBC1	I feel confident in my ability to purchase NFTs.	Adapted from TPB
	PBC2	I have the resources necessary to buy NFTs.	Adapted from TPB
	PBC3	I can easily navigate NFT purchasing platforms.	Adapted from TPB-based studies

Construct	Item	Item Description	Adapted Scale Source
PU	PU1	NFTs provide value to me.	Adapted from TAM
	PU2	I find NFTs useful for my needs.	Adapted from TAM-based studies
	PU3	NFTs enhance my digital ownership experience.	Adapted from TAM
PEU	PEU1	NFTs are easy to purchase and manage.	Adapted from TAM
	PEU2	Learning to purchase NFTs is straightforward for me.	Adapted from TAM
	PEU3	I find NFT transactions easy to conduct.	Adapted from TAM-based studies
PR	PR1	I am concerned about the financial risks of purchasing NFTs.	Adapted from risk-related studies
	PR2	I worry about the security of my data when buying NFTs.	Adapted from risk perception literature
	PR3	The privacy risks of NFTs concern me.	Adapted from risk assessment studies
PI	PI1	I intend to purchase NFTs in the future.	Adapted from TPB
	PI2	I plan to buy NFTs in the next few months.	Adapted from TPB
	PI3	I will likely engage in NFT purchases soon.	Adapted from digital purchasing behavior

This comprehensive approach to developing and validating measurement instruments ensured that the scales were tailored to the unique context of NFTs while maintaining high levels of reliability and construct validity, providing a solid foundation for the analysis of the hypothesized relationships in the study.

Data Analysis

The data analysis process involved the use of SmartPLS, a structural equation modelling (SEM) software that allows for the examination of complex relationships between latent variables. SmartPLS was chosen for its ability to handle smaller sample sizes, its flexibility in working with non-normally distributed data, and its proficiency in analysing reflective and formative measurement models. The analysis was conducted in two main stages: evaluating the measurement model to ensure reliability and validity, and evaluating the structural model to test the hypothesized relationships. The first stage focused on evaluating the measurement model, which involved assessing the reliability and validity of the constructs used in the study. Reliability was measured using Cronbach's alpha and composite reliability (CR), both of which are indicators of internal consistency. Cronbach's alpha values above 0.7 were considered acceptable, indicating that the items within each construct reliably measured the intended variable. Composite reliability further confirmed the consistency of the constructs, with values exceeding the recommended threshold of 0.7, demonstrating that the constructs were reliably assessed. Validity was evaluated through convergent and discriminant validity. Convergent validity was assessed using the Average Variance Extracted (AVE),

which measures the amount of variance captured by a construct in relation to the variance due to measurement error. AVE values above 0.5 indicated that the constructs captured a sufficient amount of variance from their indicators, supporting convergent validity. Discriminant validity was assessed using the Fornell-Larcker criterion and cross-loadings, ensuring that each construct was distinct and not overly correlated with other constructs in the model. The results confirmed that all constructs met the required criteria for reliability and validity, providing a solid foundation for the subsequent structural model evaluation.

The second stage involved evaluating the structural model, which tested the hypothesized relationships between the variables. This evaluation was conducted through the analysis of path coefficients, hypothesis testing, and model fit indices. Path coefficients were used to determine the strength and direction of the relationships between variables, with higher coefficients indicating stronger influences. Bootstrapping procedures with 5,000 resamples were employed to assess the significance of the path coefficients, with t-values and p-values indicating whether the hypotheses were supported. Hypothesis testing involved examining the significance of each path in the model. Significant path coefficients, indicated by t-values greater than 1.96 and p-values below 0.05, provided evidence to support the proposed hypotheses. The results were analysed to determine the direct effects of PU, PEU, AT, SN, PBC, and PR on PI. Model fit indices, such as the Standardized Root Mean Square Residual (SRMR), were used to assess the overall fit of the model. An SRMR value below 0.08 was considered indicative of a good model fit, confirming that the structural model adequately represented the data. The evaluation of the structural model provided insights into the relative importance of each factor in influencing NFT PI, highlighting the key determinants driving consumer behaviour in the digital asset market. The analysis of path coefficients and model fit indices demonstrated that the integrated model combining the TPB and the TAM was effective in explaining the complexities of NFT PI, validating the theoretical foundations of the study and offering valuable implications for researchers and practitioners in the field of digital finance and consumer behaviour.

Result and Discussion

Descriptive Statistics

The demographic analysis provided an overview of the respondents who participated in the study, highlighting key characteristics such as age, gender, education level, and internet usage, shown in Table 2. The sample consisted of 336 respondents, with a diverse age distribution. The majority of respondents were aged between 18-24 years (38.39%), followed by those aged 25-34 years (30.95%), 35-44 years (26.49%), and a smaller proportion aged 45 years and above (4.17%). This distribution indicated a youthful demographic, reflecting the growing interest in NFTs among younger adults who are typically more engaged with digital technologies. Gender representation in the sample was slightly skewed, with 58.63% male respondents and 41.37% female respondents. This gender distribution was consistent with previous studies suggesting higher male participation in NFT and cryptocurrency markets. Regarding educational background, 54.17% of respondents held a master's degree or higher, while 45.83% had a bachelor's degree. This high level of education among participants suggested that the sample was well-informed, which could

influence their perceptions and behaviors toward NFTs. Internet usage data showed that a significant portion of respondents (49.70%) spent 4-6 hours online daily, followed by 32.74% who used the internet for more than 7 hours per day. This high level of internet engagement underscored the digital-savvy nature of the respondents, aligning with the profile of potential and current NFT users.

Table 2. Demographic Data

Demographic Factor	Category	Count	Percentage (%)
Age	18-24 years	129	38.39
	25-34 years	104	30.95
	35-44 years	89	26.49
	45+ years	14	4.17
Gender	Female	139	41.37
	Male	197	58.63
Education Level	Bachelor's Degree	154	45.83
	Master's Degree or higher	182	54.17
Internet Usage (hours/day)	Less than 1 hour	24	7.14
	1-3 hours	35	10.42
	4-6 hours	167	49.70
	7+ hours	110	32.74

The evaluation of multicollinearity was conducted using Variance Inflation Factor (VIF) values to ensure the independent variables were not highly correlated, which could undermine the reliability of the regression analysis, shown in Table 3. The VIF results for each hypothesized path indicated that all values were below the critical threshold of 5, suggesting that multicollinearity was not a significant issue in the model. Specifically, the VIF values ranged from 3.871 to 4.721, demonstrating acceptable levels of collinearity among the predictor variables.

Table 3. VIF Results

Hypothesis	Path	VIF
H1	PU → AT	3.871
H2	PEU → AT	3.871
H3	AT → PI	4.135
H4	PBC → PI	4.721
H5	SN → PI	4.416
H6	PR → PI	4.267

The VIF analysis provided confidence in the integrity of the regression results, confirming that the independent variables did not exhibit problematic levels of multicollinearity. This evaluation was crucial for ensuring that the path coefficients obtained from the structural model were reliable and that each predictor's effect on PI could be accurately interpreted. The findings supported

the robustness of the model, allowing for further analysis of the hypothesized relationships between the constructs driving NFT PI.

Measurement Model Evaluation

The measurement model evaluation focused on assessing the reliability and validity of the constructs used in the study to ensure that the measurement instruments accurately captured the intended theoretical constructs. Reliability was evaluated through Cronbach's alpha and composite reliability (CR), while convergent validity was assessed using the Average Variance Extracted (AVE). These analyses provided a comprehensive examination of the measurement properties, confirming that the constructs were consistently measured and that the indicators adequately reflected the underlying theoretical constructs. The reliability analysis revealed that all constructs met the acceptable thresholds for Cronbach's alpha and composite reliability, indicating high internal consistency. Cronbach's alpha values ranged from 0.748 to 0.982, surpassing the minimum recommended level of 0.7, which demonstrated that the items within each construct were reliably measuring the same underlying concept. Composite reliability values ranged from 0.81 to 0.988, further supporting the internal consistency of the constructs. These results confirmed that the scales used in the study were robust and capable of reliably capturing the variables of interest. Convergent validity was assessed using AVE, which measures the amount of variance captured by a construct in relation to the variance due to measurement error. The AVE values for the constructs ranged from 0.588 to 0.966, all exceeding the acceptable threshold of 0.5, indicating that the constructs had sufficient convergent validity. The high AVE values suggested that the indicators were well correlated with their respective constructs, reinforcing the reliability of the measurement model.

Table 4. Reliability Analysis and Convergent Validity

Construct	Item	Factor Loading	Cronbach's Alpha	Composite Reliability	AVE
AT	AT1	0.891	0.76	0.863	0.678
	AT2	0.749			
	AT3	0.823			
PBC	PBC1	0.916	0.797	0.882	0.715
	PBC2	0.739			
	PBC3	0.872			
PEU	PEU1	0.816	0.758	0.814	0.594
	PEU2	0.714			
	PEU3	0.779			
PI	PI1	0.925	0.852	0.91	0.772
	PI2	0.822			
	PI3	0.887			
PR	PR1	0.992	0.982	0.988	0.966
	PR2	0.974			

Construct	Item	Factor Loading	Cronbach's Alpha	Composite Reliability	AVE
	PR3	0.982			
PU	PU1	0.819	0.748	0.81	0.588
	PU2	0.77			
	PU3	0.803			
SN	SN1	0.891	0.817	0.892	0.733
	SN2	0.816			
	SN3	0.86			

The discriminant validity of the constructs was evaluated using the AVE and the correlation matrix, ensuring that each construct was distinct and not overly correlated with others in the model, shown in Table 5. Discriminant validity was confirmed when the square root of each construct's AVE was greater than its correlations with other constructs, indicating that the constructs were measuring unique aspects of the theoretical model. The analysis showed that the constructs met the criteria for discriminant validity, with the diagonal elements (square root of AVE) exceeding the off-diagonal correlations in the matrix. For example, the AVE for AT was 0.678, and the square root of this value (0.823) was greater than its correlations with all other constructs, confirming discriminant validity. Similar patterns were observed across all constructs, demonstrating that each variable was distinct and that the measurement model adequately captured the unique characteristics of each construct.

Table 5. Discriminant Validity

Construct	AT	PBC	PEU	PI	PR	PU	SN
AT	0.623						
PBC	0.59	0.646					
PEU	0.521	0.608	0.771				
PI	0.547	0.55	0.661	0.679			
PR	-0.588	-0.528	-0.641	-0.551	0.583		
PU	0.523	0.55	0.661	0.698	-0.572	0.767	
SN	0.566	0.568	0.594	0.523	-0.483	0.653	0.656

These results provided strong evidence of the validity and reliability of the measurement model, confirming that the constructs were well-defined and distinct from one another. The comprehensive evaluation of reliability, convergent validity, and discriminant validity supported the use of the measurement instruments in the structural model analysis, ensuring that the subsequent findings on the determinants of PI were grounded in robust measurement practices.

Summary of Inner Model Results

The hypothesis testing results provided insights into the relationships between

the variables in the research model, confirming the significance of the hypothesized paths. Each hypothesis was evaluated based on path coefficients, T-statistics, and P-values derived from the structural equation modeling analysis. The analysis used bootstrapping procedures with 5,000 resamples to assess the stability and significance of the estimated coefficients. A T-statistic greater than 1.96 and a P-value less than 0.05 indicated statistical significance, supporting the hypothesized relationships. The results showed that all hypothesized paths were statistically significant, aligning with the theoretical expectations of the integrated model combining the TPB and the TAM. The path from PU to AT was strongly supported, with a coefficient of 0.502, a T-statistic of 12.384, and a P-value of 0. This finding confirmed that PU positively influenced AT, suggesting that users who found NFTs beneficial were more likely to develop favorable AT toward purchasing them. Similarly, the path from PEU to AT was significant, with a coefficient of 0.489, a T-statistic of 11.911, and a P-value of 0, indicating that the ease of using NFT platforms enhanced positive AT. The influence of AT on PI was also significant, with a path coefficient of 0.328, a T-statistic of 9.259, and a P-value of 0. This result supported the hypothesis that positive AT would lead to higher PI, in line with the core premise of the TPB. PBC was found to have a significant positive effect on PI, with a coefficient of 0.258, a T-statistic of 5.318, and a P-value of 0, suggesting that individuals who felt confident in their ability to navigate the NFT market were more inclined to purchase NFTs. SN also significantly influenced PI, with a path coefficient of 0.203, a T-statistic of 4.267, and a P-value of 0. This result indicated that social influences, such as peer opinions and community engagement, played a crucial role in shaping consumers' intentions to buy NFTs. Finally, PR negatively impacted PI, as evidenced by a path coefficient of -0.24, a T-statistic of 7.043, and a P-value of 0. This finding highlighted that higher PR, such as concerns about security, privacy, and financial loss, deterred consumers from purchasing NFTs, emphasizing the need to address risk perceptions to foster market engagement.

Table 6. Inner Model Results (Summary)

Hypothesis	Path	Path Coefficient	T Statistics	P Values	Supported
H1	PU → AT	0.502	12.384	0	Yes
H2	PEU → AT	0.489	11.911	0	Yes
H3	AT → PI	0.328	9.259	0	Yes
H4	PBC → PI	0.258	5.318	0	Yes
H5	SN → PI	0.203	4.267	0	Yes
H6	PR → PI	-0.24	7.043	0	Yes

The inner model results provided a clear depiction of the validated paths and the strength of the relationships between variables, reinforcing the theoretical framework underpinning the study. The significant coefficients indicated that PU and PEU were critical in shaping AT, while AT, perceived control, SN, and PR played direct roles in influencing PI. Figure 2 illustrated the validated paths and coefficients between variables, visually demonstrating the integrated relationships among PU, PEU, AT, SN, PBC, PR, and PI. The diagram emphasized the complex interplay of psychological, social, and risk factors in determining NFT purchase behaviors, offering valuable insights for researchers

and practitioners aiming to enhance consumer engagement in the NFT market.

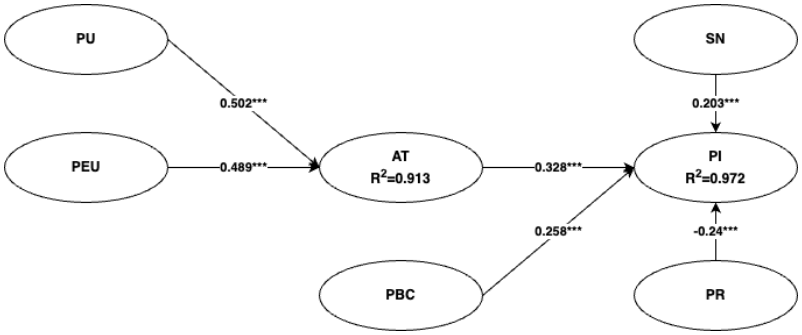

Figure 2 Inner Model Result Framework

Testing for Mediating Effects

The mediating effects within the research model were analyzed using the Sobel test to assess the indirect influence of PU and PEU on PI through AT. Mediation analysis was crucial for understanding the extent to which AT served as a conduit for the effects of PU and PEU on PI. The Sobel test provided a statistical method for evaluating the significance of the mediation effects by examining the indirect paths between the independent variables and the dependent variable through the mediator. The results of the Sobel test indicated that both PU and PEU had significant indirect effects on PI through attitude. The Sobel Z-value for the path PU → AT → PI was approximately 7.44, demonstrating that attitude significantly mediated the relationship between PU and PI. This finding suggested that users who perceived NFTs as useful were likely to develop positive AT, which in turn enhanced their intention to purchase. The mediation effect was statistically significant, confirming that attitude played a pivotal role in translating the perceived benefits of NFTs into purchasing behavior. Similarly, the Sobel Z-value for the path PEU → AT → PI was approximately 7.36, indicating a significant mediating effect of attitude on the relationship between PEU and PI. This result underscored the importance of PEU in shaping AT, which subsequently influenced users' intentions to engage in NFT transactions. The significant mediation effect highlighted that when users found NFT platforms easy to use, their positive AT facilitated a stronger intent to purchase, demonstrating the crucial link between perceived ease, attitude, and behavioral intention.

Table 7. Mediation Testing Results

Construct	Construct Relationship	t-value of Path Coefficient	Sobel test
PU → AT → PI	PU → AT	12.384	7.44
	AT → PI	9.259	
PEU → AT → PI	PEU → AT	11.911	7.36
	AT → PI	9.259	

The Sobel test results confirmed the mediating role of attitude in the integrated model, validating the theoretical premise that AT serve as a critical mechanism through which PU and PEU influence PI. These findings reinforced the significance of fostering positive AT by enhancing perceived benefits and usability, which could drive greater consumer engagement in the market. The

mediation effects provided valuable insights into the pathways through which cognitive evaluations of NFTs translated into actual purchasing intentions, offering a deeper understanding of the motivational processes underlying NFT adoption.

Discussion

The findings of this study provided significant insights into the factors influencing NFT PI, aligning with and extending the existing literature on consumer behavior in digital markets. The results demonstrated that PU and PEU positively influenced AT, which subsequently enhanced PI. These findings were consistent with the TAM, which posits that perceived benefits and ease of interaction play critical roles in shaping user AT toward technology. This study confirmed that positive AT were a key determinant of PI, echoing similar results from studies in digital and financial technologies where favorable user AT led to increased adoption and engagement. The mediating role of attitude was particularly notable, emphasizing its importance as a conduit through which PU and PEU influenced PI. The significant mediation effects highlighted that enhancing the perceived value and usability of NFT platforms could foster positive AT, which in turn drive purchase behavior. This aligns with previous research in digital finance, where user-friendly and beneficial technologies were found to significantly enhance user adoption through improved AT. However, the findings also extended existing literature by highlighting the unique application of these principles in the context of NFTs, a market characterized by novelty, digital ownership, and evolving user engagement dynamics. The study underscored that, unlike traditional digital products, NFTs require a specific focus on user education and platform usability to maximize their perceived value and user acceptance.

The implications of these findings for theory and practice were substantial. The integrated model combining the TPB and TAM provided a comprehensive framework for understanding the multifaceted determinants of NFT PI, bridging the gap between psychological, social, and technological factors. The results validated the theoretical integration of TPB and TAM, demonstrating that PBC, SN, and PR significantly influenced PI alongside traditional TAM constructs. In practical terms, these findings suggested that NFT platforms and marketers should prioritize strategies that enhance perceived control, address social influences, and mitigate PR to foster positive user engagement. Emphasizing transparent communication, user-friendly interfaces, and clear demonstrations of value could reduce barriers to adoption and encourage broader market participation. Comparison with existing studies further highlighted the unique contributions of this research. While previous studies on digital assets have often focused on individual constructs such as PR or social influence, this study offered a holistic perspective by examining the interplay between multiple determinants within an integrated model. The identification of PR as a negative predictor of PI, for instance, aligned with past research in e-commerce and digital finance but also provided new insights into how risk perceptions specifically affect NFT adoption. The negative impact of PR underscored the critical need for platforms to address consumer concerns about security, privacy, and market volatility to enhance trust and confidence in NFT transactions. This study's unique contributions lay in its application of established behavioral theories to the emerging NFT market, providing

empirical evidence of how traditional adoption drivers function in a novel digital context. The findings not only validated the theoretical models but also offered actionable recommendations for industry stakeholders looking to optimize user experience and engagement. By highlighting the importance of perceived benefits, PEU, and social validation, the research offered a roadmap for fostering positive consumer AT and driving purchasing behavior in the dynamic landscape of NFTs. These insights contribute to the broader understanding of digital asset adoption, paving the way for future studies to explore additional variables and contexts within this rapidly evolving market.

Conclusion

This study investigated the determinants of NFT PI through an integrated model combining the TPB and the TAM. The findings revealed that PU and PEU positively influenced AT, which in turn significantly enhanced PI. PBC and SN were also found to have direct positive effects on PI, highlighting the importance of confidence and social influences in driving consumer behavior. Conversely, PR demonstrated a negative impact on PI, underscoring the deterrent effect of concerns related to security, privacy, and financial uncertainty. The mediating role of attitude was particularly significant, indicating that positive evaluations of NFTs played a crucial role in translating perceived benefits and usability into actionable PI. Overall, the study validated the integrated theoretical framework, confirming that psychological, social, and technological factors collectively shape consumer decisions in the NFT market. These results provided a comprehensive understanding of the key drivers and barriers to NFT adoption, offering valuable insights for both researchers and practitioners. The study made important contributions to the understanding of NFT purchase behavior by integrating constructs from TPB and TAM into a unified model. This approach allowed for a holistic examination of how AT, perceived control, social norms, PU, and PEU influence purchasing intentions within a novel digital context.

The research extended the application of these well-established behavioral theories to the emerging NFT market, providing empirical evidence that these models are effective in explaining consumer behavior in this new domain. By identifying the significant mediating role of AT, the study highlighted the importance of cognitive evaluations in driving NFT adoption, offering a deeper theoretical insight into how perceived benefits and usability influence consumer decisions. Furthermore, the identification of PR as a significant barrier emphasized the need for incorporating risk perceptions into behavioral models, particularly in the context of digital assets where concerns about security and privacy are prevalent. These contributions enriched the literature on digital finance and technology adoption, paving the way for future research to further explore the dynamics of NFT purchasing behavior. The findings of this study provided actionable recommendations for NFT platforms and marketers aiming to enhance user engagement and drive purchasing behavior. To capitalize on the positive effects of PU and PEU, platforms should prioritize improving the usability of their interfaces and clearly communicating the benefits of NFTs to potential users. Simplifying the user experience and providing educational resources can foster positive AT and increase consumer confidence in engaging with NFTs. Addressing PR is also crucial. Strategies such as enhancing security measures, ensuring transparency in transactions, and building trust through reliable customer support can help mitigate the negative

impact of risk perceptions on PI. Additionally, leveraging social influences through community building and peer recommendations can amplify SN, encouraging potential buyers to engage with NFTs. Marketers should focus on creating a supportive and informative environment that enhances perceived control, reduces risk concerns, and aligns with the social dynamics of the target audience. Despite the valuable insights provided by this study, certain limitations should be acknowledged. The use of convenience sampling may have limited the diversity of the sample, potentially affecting the generalizability of the findings to broader populations. Future research should aim to include more diverse samples that reflect a wider range of demographic and cultural backgrounds to enhance the external validity of the results. Additionally, while this study focused on key constructs from TPB and TAM, there may be other relevant factors influencing NFT PI, such as emotional responses or technological innovations, which were not examined in this model.

Future studies are encouraged to explore these additional variables and to investigate the longitudinal effects of the identified determinants on purchase behavior over time. Further research could also examine the impact of different types of NFTs, market dynamics, and evolving consumer perceptions as the NFT landscape continues to develop. Addressing these gaps will provide a more comprehensive understanding of NFT adoption and help refine strategies to support the growth of this innovative market. This study offered a significant contribution to the field of digital finance and consumer behaviour by examining the determinants of NFT PI through an integrated behavioural model. The findings underscored the importance of perceived benefits, PEU, AT, social influences, and risk perceptions in shaping consumer decisions, providing valuable guidance for both theoretical development and practical application. As the NFT market continues to evolve, the insights gained from this research can inform strategies to enhance user experience, mitigate barriers, and foster greater adoption, ultimately supporting the sustained growth and acceptance of NFTs in the digital economy.

Declarations

Author Contributions

Conceptualization: T.S.; Methodology: T.S.; Software: T.S.; Validation: T.S.; Formal Analysis: T.S.; Investigation: T.S.; Resources: T.S.; Data Curation: T.S.; Writing Original Draft Preparation: T.S.; Writing Review and Editing: T.S.; Visualization: T.S.; All authors have read and agreed to the published version of the manuscript.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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