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Why Do People Buy 'Imaginary Things'? Understanding Consumer Behavior Behind Non-Fungible Token Purchases

Paul Griffiths

Orientadores: Professor Doutor Carlos Manuel Jorge da Costa

& Professor Doutor Nuno Fernandes Crespo

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Júri

Presidente:

Professor Maria Rosa Vidigal Tavares da Cruz Quartin Borges, Full Professor and President of the Scientific Council of the Lisbon School of Economics and Management, University of Lisbon.

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Doutora Alcina Teresa Gaspar Ferreira, Professora Associada da Escola Superior de Tecnologia e Gestão do Politécnico de Leiria;

Doutor Nuno Joel Fernandes Crespo, Professor Associado no Instituto Superior de Economia e Gestão da Universidade de Lisboa

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To my wife, for her endless encouragement, love, and support.

To my sons, to inspire you to take big swings.

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ABSTRACT

Non-fungible tokens (NFTs) have rapidly transitioned from a niche technological innovation to a mainstream phenomenon, attracting the attention of creators, brands, investors, and consumers. Their market expansion has been accompanied by competing narratives: NFTs are alternatively portrayed as speculative assets, luxury collectibles, or marketing tools for community engagement. Despite growing academic interest, research on NFT consumer motivations remains fragmented, lacking an integrative theoretical framework.

This dissertation addresses that gap by asking*: Why do people buy NFTs?* It provides three studies in response. Study 1 is a systematic literature review; Study 2 is a survey of NFT buyers; and Study 3 is a survey of buyers and non-buyers. Results show that intrinsic motivation outweighs extrinsic drivers, expectations of future value moderate purchase intention, and prior ownership experience is the strongest predictor of continued adoption.

Study 1 (Chapter 2) applies the SPAR-4-SLR protocol to synthesize 53 peer-reviewed studies, using the ADO (Antecedent Decision Outcome) and TCM (Theory Context Method) frameworks to map theoretical coverage, identify the most studied constructs, and reveal underexplored relationships. Purchase intention emerges as the most common outcome, with motivation, perceived value, and NFT attributes as recurring antecedents.

Study 2 (Chapter 3), grounded in Self-Determination Theory (SDT), analyzes survey data from 482 NFT buyers to evaluate the roles of intrinsic motivation, extrinsic motivation, and amotivation in shaping purchase intention. Findings show that intrinsic enjoyment exerts the strongest positive effect, while amotivation significantly reduces buying likelihood. Perceived future value acts both as a direct predictor and as a moderator, amplifying the effects of intrinsic motivation and attenuating the negative impact of amotivation.

Study 3 (Chapter 4) applies Goal Contents Theory (GCT) to compare 1,075 buyers and non-buyers using the Aspirations Index. While wealth and community aspirations influence purchase intention, prior NFT ownership emerges as the most powerful predictor of future purchases, indicating that NFT buyers are best characterized as technically adept early adopters rather than passive fans or pure speculators.

The findings contribute theoretically by extending Self-Determination Theory and Goal Contents Theory to the purchase behavior of blockchain-enabled digital assets and by integrating motivational psychology with cultural economics. Practically, the research offers guidance for creators, marketers, and investors: focus on delivering intrinsically rewarding experiences, ensure credible long-term value propositions, and target existing NFT owners while lowering entry barriers for newcomers.

Overall, the dissertation reframes NFT consumption as a multidimensional behavior driven by a combination of intrinsic enjoyment, perceived value, and prior experience. It challenges reductive accounts of NFTs as speculative bubbles, offering a more nuanced understanding of consumer engagement in digital asset markets. These findings position NFTs not as a speculative fad but as culturally embedded digital goods, advancing the study of consumer motivation in emerging virtual marketplaces.

Keywords: NFTs, non-fungible tokens, self-determination theory, goal contents theory, motivation, aspiration index

RESUMO

Os tokens não fungíveis (NFTs) transitaram rapidamente de uma inovação tecnológica de nicho para um fenómeno generalizado, atraindo a atenção de criadores, marcas, investidores e consumidores. A sua expansão de mercado tem sido acompanhada por narrativas concorrentes: os NFTs são alternadamente retratados como ativos de natureza especulativa, bens de luxo colecionáveis ou ferramentas de marketing para o envolvimento comunitário. Apesar do crescente interesse académico, a investigação sobre as motivações dos consumidores de NFTs permanece fragmentada, carecendo de um enquadramento teórico integrador.

Esta tese procura colmatar essa lacuna ao questionar: Porque é que as pessoas compram NFTs? Em resposta, apresenta três estudos. O Estudo 1 consiste numa revisão sistemática da literatura; o Estudo 2 é um inquérito a compradores de NFTs; e o Estudo 3 compara compradores e não compradores. Os resultados demonstram que a motivação intrínseca supera os fatores extrínsecos, que as expectativas de valor futuro moderam a intenção de aquisição e que a experiência prévia de propriedade constitui o preditor mais forte da continuidade da adoção.

O Estudo 1 (Capítulo 2) aplica o protocolo SPAR-4-SLR para sintetizar 53 artigos revistos por pares, utilizando os quadros ADO (Antecedente–Decisão–Resultado) e TCM (Teoria–Contexto–Método) para mapear a cobertura teórica, identificar os construtos mais estudados e revelar relações pouco exploradas. A intenção de aquisição emerge como o resultado mais analisado, com motivação, valor percebido e atributos dos NFTs como antecedentes recorrentes.

O Estudo 2 (Capítulo 3), sustentado na Teoria da Autodeterminação (SDT), analisa dados de inquéritos a 482 compradores de NFTs para examinar os papéis da motivação intrínseca, extrínseca e da amotivação na formação da intenção de aquisição. Os resultados evidenciam que o prazer intrínseco exerce o efeito positivo mais forte, enquanto a amotivação reduz significativamente a probabilidade de compra. O valor futuro percebido atua quer como preditor direto quer como moderador, reforçando os efeitos da motivação intrínseca e atenuando o impacto negativo da amotivação.

O Estudo 3 (Capítulo 4) aplica a Teoria do Conteúdo das Metas (GCT) para comparar 1.075 compradores e não compradores através do Aspirations Index. Embora aspirações de riqueza e de comunidade influenciem a intenção de aquisição, a experiência prévia de propriedade de NFTs revela-se o preditor mais poderoso de compras futuras, indicando que os compradores de NFTs são melhor

caracterizados como adotantes iniciais tecnicamente competentes, em vez de fãs passivos ou especuladores puros.

As conclusões contribuem teoricamente ao estender a Teoria da Autodeterminação e a Teoria do Conteúdo das Metas ao comportamento de aquisição de ativos digitais suportados por blockchain e ao integrar a psicologia motivacional com a economia cultural. Do ponto de vista prático, a investigação apresenta orientações para criadores, marketeers e investidores: privilegiar experiências intrinsecamente gratificantes, garantir propostas de valor de longo prazo credíveis e dirigir-se a atuais proprietários de NFTs, ao mesmo tempo que se reduzem os obstáculos à entrada para novos participantes.

De forma geral, a tese reconceptualiza o consumo de NFTs como um comportamento multidimensional impulsionado por uma combinação de prazer intrínseco, valor percebido e experiência prévia. Desafia leituras reducionistas dos NFTs como meras bolhas especulativas, oferecendo uma compreensão mais matizada do envolvimento dos consumidores em mercados de ativos digitais. Estes resultados posicionam os NFTs não como uma moda especulativa, mas como bens digitais culturalmente enraizados, contribuindo para o avanço do estudo da motivação do consumidor em mercados digitais emergentes.

Palavras-chave: NFTs, tokens não fungíveis, teoria da autodeterminação, teoria do conteúdo dos objetivos, motivação, índice de aspiração

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1 INTRODUCTION

1.1 Motivation

Over the past decade, digital transformation has profoundly reshaped the ways in which consumers experience culture, commerce, and ownership (Paul et al., 2024). Streaming platforms, social media, and digital marketplaces have blurred the boundaries between consumption and production, offering unprecedented access to creative works while introducing new challenges for creators and consumers alike. Social media platforms (SMPs), such as Facebook, Snapchat, or YouTube, thrive not by disseminating marketing content, but by curating spaces where users connect, share information, and pass the time (Voorveld et. al, 2018). As SMPs matured, their users have demanded more professionally generated content, spurring a new class of digital creators. The global pandemic of 2020 accelerated this trend by increasing Internet usage by up to 100% worldwide (De' R., 2020). Many artists, cut off from traditional venues, were forced to rely upon these platforms as a primary source of income. New models of creator compensation emerged rapidly, altering digital markets and deepening reliance on online communities.

Like many others, the global pandemic changed how I viewed social media and online communities. Within this shifting digital environment, an innovation appeared that was novel and disruptive: the non-fungible token (NFT). Introduced in 2017 through the Ethereum ERC-721 protocol (Entriken et al., 2018), NFTs are blockchain-based digital assets that represent ownership of unique items ranging from digital art and collectibles to gaming items and parcels of virtual land. Though early projects emerged in 2019, it was during 2020 and 2021 that the NFT market expanded dramatically, fueled by cryptocurrency adoption, pandemic-related increases in online engagement, and users' quest for digital forms of belonging.

What I observed was a novel market for digital goods whose value was rapidly increasing, both in terms of economic benefits and perceived social status. NFTs seemed like a contradiction from the start. They were not like cryptocurrency but offered benefits to early adopters of outsized financial gains. They were not like art but were being discussed as a potential replacement for traditional patronage. They were not an easily accessible technology, yet numerous conceptual papers were written about their potential to upend fields as diverse as medicine, logistics, and video games. NFTs were heralded as a financial tool, an artistic salve, and a utopian technology that could somehow also make early buyers fabulously, breathtakingly wealthy. Of course, none of this happened.

In 2021, NFT sales surpassed USD $12 billion globally, positioning NFTs as a visible and polarizing phenomenon. Yet in 2022, the market contracted sharply, prices fell, and many projects collapsed, leaving participants with worthless digital items. Critics derided NFTs, calling them the “dumbest thing to happen in the history of humanity,” and ridiculed buyers for wasting real money on “imaginary things” (Robinson, 2021). Despite public losses, NFTs did not disappear. They remain a multi-billion-dollar market with active communities and continued investment. This persistence raises interesting questions: Why do people continue to buy NFTs in the face of volatility, fraud, and widespread loss? Are buyers motivated purely by speculation, or do NFTs fulfill deeper cultural, social, or psychological needs? What explains continued engagement despite apparent market inefficiency and capital risk?

Answering these questions requires an integrated investigation of consumer motivations, market structures, and cultural meanings. The first step was to carry out a systematic literature review, which was followed by two empirical studies based on an original questionnaire that comprised, at that time, the largest dataset of NFT buyers. This introduction outlines the research paradigm behind this work as well as the research scope, objectives, proposed contributions, and dissertation structure. The three studies referenced above comprise the second, third, and fourth chapters of this work. The final chapter provides overarching conclusions, including an ending reflection.

1.2 Research Paradigm

This dissertation adopts a post-positivist paradigm, which recognizes that while consumer behavior is complex and context-dependent, it can nonetheless be systematically observed, measured, and theorized (Saunders et al., 2016). A hypothetico-deductive approach guides the inquiry: established theories of motivation, consumption, and cultural economics are applied to the NFT context, with hypotheses derived and tested empirically using primary data (Jary, 2006). This philosophical stance is appropriate given the recency and novelty of NFTs, which requires both openness to emergent behaviors and rigor in theoretical generalization.

In line with this paradigm, a quantitative methodology was employed. Quantitative approaches enable the operationalization of behavioral variables into measurable constructs and facilitate comparison across standardized instruments (Creswell & Creswell, 2018). By translating behavioral observations into numerical data, quantitative methods reduce subjectivity and support replicable, generalizable conclusions (Creswell & Miller, 2000). Quantitative studies also allow for the advancement of hypotheses and subsequent testing of those hypotheses, which was done in the empirical studies represented in this work. Quantitative methodologies were employed to translate behavioral observations from these hypotheses into provably reliable measures to support the validity of the findings (Creswell & Miller, 2000).

The dissertation combines a systematic literature review using the SPAR-4-SLR protocol (Paul et al., 2021) with two large-scale quantitative studies. This multi-method design balances conceptual rigor with empirical depth, ensuring that theoretical claims are tested with robust data. Specifically, the SPAR-4-SLR protocol was selected given its ability to control for quality, something which stymied the original SLR approach. The two additional studies relied on a survey methodology which provided multivariate analysis

and scaling methods through self-administered, closed-question questionnaire distributed online, using a Likert scale, in line with recommendations by Creswell & Creswell (2018).

1.3 Research Scope

The scope of the research is behavioral rather than technical. While NFTs are inherently cryptographic artifacts recorded on blockchain systems such as Ethereum, the focus here lies not in their technical architecture but on the consumer behaviors they enable. Specifically, this dissertation examines: the motivational drivers that lead consumers to buy, hold, or sell NFTs; the market structures that influence outcomes, including concentration of value, risk, and volatility; and the cultural meanings that NFTs carry, as objects of art, identity, and social status. By treating NFTs as both cultural and economic goods, the dissertation situates them within broader literatures on digital consumption, creative industries, and luxury markets.

NFTs were created to allow digital creators to capture more value for their work, both through primary sales and secondarily royalties via unique, blockchain-verified digital items (Umar et al., 2022a; Duguleană et al., 2024; Kim et al., 2025). They have rapidly evolved from a technical novelty enjoyed by a few to a global consumer phenomenon (Aharon & Demir, 2022), attracting significant investment and community engagement (Lee et al., 2023).

Their rise has also sparked debate and speculation. The expansion of 2021 was met with extreme optimism by enthusiasts; when the equally dramatic contraction happened in 2022, critics likened NFTs to tulip mania, dot-com stocks, or other forms of speculative overreach (Robinson, 2021). Popular and academic narratives described NFTs as financial assets trapped in speculative bubbles driven by herd behavior (Bennke & Schaub, 2025), as novel technology that will upend the status quo across numerous fields (Lianidis et al., 2024), or as marketing innovations enabling new forms of engagement and loyalty

(Colicev, 2023). This theoretical fragmentation reflects the field’s early stage of development and underscores the need for systematic, empirically grounded investigation into NFT consumer behavior.

The paradox of NFTs is sharper than other examples of financial bubbles. Many buyers lose money almost immediately after a purchase, long before any systemic crash occurs (Huang et al., 2023). Despite these consistent and public losses, participants continue to purchase NFTs, join project communities, and re-enter the market. This suggests that motivations for NFT ownership extend beyond short-term speculation and financial return (Berghueser & Spann, 2024). For some, NFTs may represent the original intent of artistic patronage; for others, they may signify social belonging or technological curiosity. The persistence of demand, even in the face of losses, invites closer examination.

This paradox raises a central research problem for scholars: why do people buy NFTs? Understanding consumer motivations in NFT markets is not only academically vital but also socially and economically significant as NFTs exist at the intersection of technology, finance, and culture. They challenge established theories of consumer behavior by combining features of luxury goods, speculative assets, and creative products within a single transaction for a non-material asset. Moreover, they illuminate broader questions about how digital consumers assign value, manage risk, and construct identity in emerging technological contexts. Finally, they are a pure embodiment of marketing in that their desirability is re-assessed constantly in the market through frictionless, immediate secondary sales. By re-pricing continued consumer interest, NFTs are unique in their near-continuous real-time feedback.

This dissertation responds to these needs by integrating multiple theoretical perspectives to examine the motivations behind NFT purchases. In doing so, it aims to shed light on what factors and conditions stimulate NFT purchase intention. Thus, taken together, this dissertation returns to its central research question: why do people buy NFTs?

1.4 Research Objectives

While the phenomenon of NFTs has been discussed widely in both popular and academic settings, little consensus exists regarding the motivations that underlie consumer adoption. To address this gap, the dissertation pursues five objectives over three interconnected studies, each designed to contribute a complementary perspective to the central question.

The five general research objectives (GRO) are:

(GRO1) Develop a comprehensive analysis of existing studies on NFT consumer behavior.

(GRO2) Determine which variables are used to explain NFT consumer behavior.

(GRO3) Test existing motivational theories on NFT buyers to assess their validity.

(GRO4) Compare and test motivational factors between NFT buyers and non-buyers.

(GRO5) Develop explanatory models of NFT consumer motivations.

These research objectives directed the approach of the studies prepared in the rest of this work. Originally, a systematic literature review (SLR) was pursued in 2022 but paused as there was insufficient body of research. (Indeed, the original SLR methodology eliminated all but 16 papers on matters of quality, which was deemed inadequate.) However, this work was returned to in 2024, culminating in the first study included here which consists of a SLR that surveys contemporary academic research on consumer NFT behavior. As the second chapter in this dissertation, this SLR serves to establish definitional clarity, identify theoretical entry points, and map existing findings. This review further provides the conceptual foundation for the dissertation, highlighting unresolved questions about how NFTs should be understood as both technological and consumer goods. This study addresses both GRO1 and GRO2.

The second study is a large-scale empirical survey of NFT buyers, which applies established motivational frameworks to test how intrinsic and extrinsic drivers, as well as amotivation, shape consumer purchase intention. This study advances the literature by moving beyond speculative or anecdotal accounts, offering empirical evidence of motivational heterogeneity among NFT buyers. It comprises chapter three and addresses GRO3 and GRO5, further breaking down these general objectives into more specific objectives within this study, namely:

- SO1) to identify specific motivations that may support and explain the purchase intention of NFT buyers;
- SO2) to explore the differences between intrinsic and extrinsic motivations for the purchase intention of NFT buyers; and
- SO3) to examine the influence of expectations regarding the future value of NFTs on the relationships between the specific motivations and the purchase intention of NFT buyers.

The third and final study builds on these insights through a second empirical survey that compares buyers and non-buyers of NFTs, with a larger sample size to test the robustness of motivational factors across populations. This study extends the analysis by examining the role of prior ownership experience, consumer aspirations, and contextual factors in explaining variation in adoption. This study also addresses two general research objectives, namely GRO4 and GRO5, and refines them further into the following specific objectives:

- SO1) to identify which motivational factors influence purchase intention amongst NFT buyers;
- SO2) to examine the differences between the intrinsic and extrinsic goal-seeking of NFT buyers;
- SO3) to evaluate the role of prior NFT ownership in shaping future purchase intention;

- SO4) to determine which motivations may increase or decrease future purchase intention of NFTs; and
- SO5) to derive implications for researchers and practitioners engaged in NFT marketing.

Taken together, these three studies combine to answer the dissertation's central research question: why do people buy NFTs? Study 1 (the systematic literature review in Chapter 2) establishes the baseline of knowledge, clarifying definitions, mapping antecedents and outcomes, and identifying theoretical gaps. Study 2 (the empirical survey of NFT buyers in Chapter 3) directly addresses those gaps by applying Self-Determination Theory to test the role of intrinsic, extrinsic, and amotivation dimensions, while also examining the moderating role of expected future value. Study 3 (the comparative survey of buyers and non-buyers in Chapter 4) extends the analysis by employing Goal Contents Theory to assess aspirations and by demonstrating the pivotal influence of prior ownership experience. These studies advance theory and practice in complementary ways: the review defines the landscape, the first empirical study tests motivational mechanisms, and the second empirical study compares populations to explain adoption dynamics.

1.5 Research methodology and findings

The dissertation combines a systematic literature review using the SPAR-4-SLR protocol (Paul et al., 2021) with two large-scale empirical studies. The review synthesizes 53 peer-reviewed articles through the ADO (Antecedent Decision Outcome) framework (Paul & Benito, 2018; Paul & Rosado-Serrano, 2019) and TCM (Theory Context Method) framework (Paul et al., 2017), mapping the theoretical landscape and identifying research gaps. The first empirical study applies self-determination theory (SDT) (Deci & Ryan, 1985; 2000) to analyze intrinsic, extrinsic, and amotivation dimensions among 482 NFT buyers. The second extends this approach by incorporating goal contents theory (GCT) (Kasser & Ryan, 1993; 1996) and

comparing 1,075 buyers and non-buyers using the Aspirations Index (Kasser & Ryan, 2011), revealing both shared and divergent motivational profiles.

Across these studies, the dissertation finds that NFT purchase intention is shaped by a complex interplay of intrinsic enjoyment, perceived future value, and prior ownership experience, which challenges the view that the market is driven solely by financial speculation or rabid fandom. This integrated perspective advances theoretical understanding of digital goods consumption, refines the application of motivational frameworks to emerging technologies, and provides actionable insights for marketers seeking to design more effective NFT strategies.

Table 1-1 summarizes the research objectives, methodology, instruments, findings, and publications.

Table 1-1. Dissertation Objectives, Findings, and Methodology

Study / Chapter	General Research Objectives	Methodology	Instruments	Findings
Study 1 Chapter 2	(GRO1) Develop a comprehensive analysis of existing studies on NFT consumer behavior. (GRO2) Determine which variables may help explain NFT consumer behavior.	Scientific Procedures and Rationales for Systematic Literature Reviews (SPAR-4-SLR)	Journal databases (Scopus, Web of Science)	• Many explanations of motivations were simplistic and implied an extrinsic motivation as primary driver. • Purchase intention is the most important indicator of NFT buying motivation. • Limited direct research has investigated primary motivational behaviors.
Study 2 Chapter 3	(GRO3) Propose a new conceptual model and test existing motivational explanation of NFT buyers. (GRO5) Propose explanations on NFT consumers' motivations.	Proposed new theoretical model and tested quantitative value via structural equation modeling using partial least squares (SEM/PLS)	Questionnaires & structural equation modeling software (SmartPLS) n=482	• NFT buyers displayed multi-faceted motivations. • Expectation of future value displayed significant moderating effects. • NFT purchases are as motivationally complex as traditional luxury goods.
Study 3 Chapter 4	(GRO4) Contrast aspirations of NFT buyers and non-buyers to more deeply understand motivational interplay. (GRO5) Develop explanatory models of NFT consumer motivations.	Proposed new theoretical model and tested quantitative value via structural equation modeling using partial least squares (SEM/PLS)	Questionnaires & structural equation modeling software (SmartPLS) n=1075	• Some Individual aspirations had positive effects on NFT purchase intention. • There is more nuance in motivational interplay than previously understood. • A large effect was seen in prior ownership, suggesting experience is a greater contributor than aspirations.

1.6 Research Path Design

This dissertation includes, besides this introductory chapter and a conclusion chapter, a set of papers organized as three main chapters. Of these three journal articles, two are published and one of which is currently under peer review at a Q1 journal. The primary research was conducted via a new survey questionnaire based on previously validated constructs. The new survey tested a variety of dimensions related to respondents' purchase intention toward NFTs. Participants included both buyers and non-buyers of NFTs, totaling 1,075 responses. These results were analyzed using PLS-SEM to ensure further validity.

A systematic literature review (SLR) was undertaken in parallel with the two empirical studies. This SLR formed the basis of the peer-reviewed article, "Non-Fungible Tokens and Consumer Behavior: A Systematic Literature Review and Research Agenda," which was published in the Q1 journal*, International Journal of Consumer Studies*. (Griffiths, Crespo & Costa, 2025). It appears as chapter 2.

An analysis of NFT buyers resulted in the empirical paper, "Behind the bubble: Exploring the motivations of NFT buyers," which was published in the peer-reviewed Q1 journal, *Computers in Human Behavior* (Griffiths, Costa & Crespo, 2024). This article can be found in Chapter 3.

Further analysis of the differences between NFT buyers and non-buyers led to the empirical paper, "Who Buys NFTs: Speculators, Fans, or Early Adopters? Understanding Buyer Motivations Using Self-Determination Theory." This paper is under peer review; the full text of this study forms Chapter 4.

1.7 Dissertation Structure

This dissertation consists of five chapters. The first chapter provides the research questions, objectives, and methodology. The second chapter contains an SLR of consumer behavior towards NFTs. The third chapter presents new research on what motivates consumers to purchase NFTs. The fourth chapter examines the differences between NFT buyers and non-buyers to reconcile a seeming contradiction in the literature. The fifth chapter concludes with an integrated discussion of findings, implications, and limitations.

2 NON-FUNGIBLE TOKENS AND CONSUMER BEHAVIOR: A SYSTEMATIC LITERATURE REVIEW AND RESEARCH AGENDA

This chapter is entirely published in the International Journal of Consumer Studies (Griffiths, Crespo, & Costa, 2025).

Abstract

Non-fungible tokens (NFTs) are digital artifacts built on blockchain technology that have achieved notoriety for their rapid consumer adoption, technical sophistication, and dramatic price swings. This paper synthesizes contemporary academic research on NFT consumer behavior to better understand the current state of the field, to explore its focus and quality, and to identify the authors and subjects that are driving the research. Applying the Scientific Procedures and Rationales for Systematic Literature Reviews (SPAR-4-SLR) protocol and using an ADO-TCM framework systematic review of literature, this study of 53 curated articles organizes the existing body of research on NFT consumer behavior to identify current themes and gaps in the academic literature, finding ample opportunities for further research. Finally, this paper proposes areas for further study based on the emerging opportunities in research streams, both in depth and in breadth, concerning NFT consumer behavior.

2.1 Introduction

In recent years, digital transformation and its associated technologies (e.g., Internet-of-Things, virtual reality, blockchain, artificial intelligence, metaverse, mobile apps and industry 4.0) have significantly impacted a wide range of sectors and supply chains, reshaping how businesses operate, how services are delivered, and how information flows across systems. Its effects extend beyond

organizational processes and industrial innovation, they also influence people's interests, values and behaviors (Alzoubi et al., 2025; Kurdi et al., 2025; Paul et al., 2024; Shwedeh, 2024a, 2024b; Sharma et al., 2025). Of particular interest is the profound shift in consumer behavior towards digital goods and the rising consumer adoption of cryptocurrency, which has generated a *de novo* digital economy via non-fungible tokens (NFTs). NFTs represent a novel digital asset stored on a public blockchain, where every transaction is verifiable, secure, and instantaneous (Alavi et al., 2024). Today, NFTs power consumer digital collectibles like sports trading cards (Kim & Lee, 2024), social avatar pictures (Tian et al., 2023), and gaming assets (Duguleană et al., 2024). While this list may appear fanciful, it is hardly a niche market; in 2021, the consumer NFT market generated more than twenty-three billion dollars (Bambysheva, 2021). NFTs are bought and sold 24/7 in a technically complex, peer-to-peer market where today's buyers become tomorrow's sellers. Having no underlying fundamentals of a typical financial instrument, they are prone to dramatic price swings. Indeed, the NFT market has been so frequented by intermittent periods of herd-driven price volatility that it has been compared to the Dutch tulip mania in the popular media as well as the academic literature (Bennke & Schaub, 2025).

Despite their volatility, there has been considerable excitement over the potential application of NFTs across a wide range of fields, for example, a tool for creator payments (Liu et al., 2023; Liu & Cui, 2025; Yu et al., 2025), an ownership verification scheme (Alshamsi et al., 2024; Lianidis et al., 2024; Sheldon, 2022), to ensure the veracity of materials in a supply chain (Ahuja et al., 2024; Bang et al., 2024; Chiacchio et al., 2022), or to power the metaverse economy (Ahn et al., 2024; Ante et al., 2023; Paul et al., 2024), to name but a few. The academic literature on NFTs reflects a similar enthusiasm as it consists mostly of conceptual articles applying NFT technology to new, specific applications. This conceptual focus has led to NFT research branching into several distinct research directions, each considering NFTs from its own theoretical application. Such a fragmentation is perhaps understandable as NFTs have generated

more excitement and expectation than actual utility. However, the present, existing utility is often overlooked because these initial consumer applications appear trivial by contrast.

Previous systematic literature reviews have addressed this issue by focusing on a particular dimension of NFT research or by excluding conceptual articles, as they did not produce conclusive research (Table 2-1). Even so, the largest SLR to date employed a bibliographic review of 150 articles but was limited to publications through 2022 (Nobanee & Ellili, 2023). As the volume of academic productivity has increased considerably since then, a new study is necessary.

Table 2-1. Existing Literature Reviews Compared to this Study

Study	Focus	Method	Databases	Articles Reviewed	Time Span	Contribution
Bao & Roubaud (2022)	Asset pricing of NFTs	Systematic review	Web of Science, Science Direct	13	2020 - April 2022	Content Analysis Focus of the Reviewed Studies
Ali et al (2023)	Key challenges of NFTs	Systematic review	ACM digital library, Scopus, Web of Science, Emerald, IEEE, Science Direct	42	2014 - 2021	Content Analysis Key Challenges of NFTs Direction for Future Research
Mulligan et al., (2023)	Broadening the scope of NFT research beyond financial analysis	Systematic review	IEEE Xplore Database	121	2018 - February 2023	Content Analysis Top Publication Sources Future Utility of NFTs Direction for Future Research
Nobanee & Ellili (2023)	Evolution and growth of NFT research over time	Bibliometric Review Systematic Review	Scopus	150	2020 - August 8 2022	Content Analysis Top Publication Sources Most Cited Articles Top Cited Authors Most Cited Countries Direction for Future Research
Taherdoost (2023)	Current state of NFT studies	Systematic review	Scopus	34	2020 - November 2022	Content Analysis Top Publication Sources Most Cited Articles Most Cited Countries Identification of Common Challenges
This present study	Consumer behavior & NFTs	SLR (TCM and ADO Frameworks)	Web of Science, Scopus	53	2020 - December 31 2024	Review of Widely Used Theories, Data Collection Methodology, and Analysis Methods Categorization of Antecedent Variables Positive or Negative Impact of Antecedents on Consumer Behavior Top Cited and Most Influential Articles and Their Publication Sources Directions for Future Research

This study aims to address these various issues by employing a framework-based, systematic approach to understanding consumer decision-making in buying, selling, and trading NFTs. Drawing on a combined Theory, Context, and Method (TCM) framework (Paul et al., 2017) and the ADO (Antecedent, Decision, and Outcome) framework (Paul & Benito, 2018), the authors aim to provide a comprehensive view of what we know about NFT consumer behavior today. Thus, the research questions animating this paper include:

RQ1: What studies exist that focus on NFT consumers?

RQ2: What methods have been employed to study NFT consumers?

RQ3: What theories, context, and methods are used to explain NFT consumer behavior?

RQ4: What are the dominant antecedents, decisions, and outcome variables used to explain NFT consumer behavior?

RQ5: Where should consumer behavior research on NFTs be heading?

This paper differs from previous SLRs in its aims and its methodology. First, we exclude theoretical articles in favor of applied research. As discussed above, many NFT-oriented articles are about what *could* happen if NFTs were deployed in a particular way rather than seeking a better understanding of how they are used right now. Our focus on utility ensures that the papers considered have studied existing or simulated consumer behavior, which include articles published from 2022 to 2025. Second, by applying a quality metric to considered papers, we ensure that only peer-reviewed studies with reputable sources are included. While this reduced the number of items for consideration, it increased their coherence and thus, relevance. Third, we utilized the Scientific Procedures and Rationales for Systematic Literature Reviews (SPAR-4 SLR) as developed by Paul et al. (2021), which was selected for its rigorous and comprehensive nature, especially in consumer studies. Previous SLRs have utilized PRISMA and

bibliographic analysis, but this is the first SLR to approach NFTs using SPAR-4 and ACO-TCM framework, ensuring additional rigor and clarity.

This paper contributes to the research on NFT consumer behavior in three ways. It provides the first, as far as we know, original SLR focused on NFT consumer behavior, answering calls from researchers to study this aspect of NFTs (Park & Lee, 2024; Wu et al., 2024; Vega & Camarero, 2024). Second, this review will help researchers better understand the current direction of consumer NFT research and identify opportunities for future research. Of interest is the research agenda that was developed, which outlines a roadmap for future research. Third, our approach integrates consumer NFT research by combining ACO and TCM frameworks and visualizes the output in an ADO Relationship Map. By analyzing all the articles in this dual approach, we are delving deeper into the subject matter than in previous reviews.

Regarding the structure of the paper, following this introductory section, we present the methodology (Section 2) and the results of the bibliometric analysis (Section 3). Next, we introduce the findings from the SLR, conducted using Paul et al.'s (2021) SPAR-4-SLR protocol. These findings include an analysis based on the TCM framework (Section 4) and a review organized around the ADO framework (Section 5). The study's implications are then discussed (Section 6), followed by a proposed research agenda (Section 7), and concluding remarks (Section 8).

2.2 Methodology

Systematic literature reviews (SLR) are a useful form of secondary research and are generally accepted across numerous fields, as evidenced by the number of published SLR articles each year. When done correctly, SLRs allow for the breadth and scope of an emerging field of research to be distilled into a single, focused article and often provide opportunities for future research (Paul & Feliciano-Cestero, 2021). However, SLRs can vary greatly in quality, with many recycling old approaches and relying on rote

formal approaches instead of applying novel approaches to novel ideas (Paul & Criado, 2020). Emerging best practices have been codified to ensure more rigorous, useful, and meaningful contributions of systematic literature reviews (Paul, 2024).

In this paper, the authors undertook a systematic literature review of the existing relevant literature on NFT consumer behavior. The procedure employed was the Scientific Procedures and Rationales for Systematic Literature Review (SPAR-4-SLR), developed by Paul et al. (2021) to provide a more rigorous, consistent approach to SLRs. SPAR-4-SLR is particularly useful for our purposes in that the scope, focus, and quality of NFT literature vary greatly, and the SPAR-4-SLR protocol was developed to ensure high-quality results. In addition, SPAR-4-SLR was developed for consumer studies, which comprise the focus of our review and has evolved into a new standard for high-quality reviews (Paul & Menzies, 2023).

2.2.1 Organizing Framework

Organizing frameworks are central to reporting out findings of systematic literature reviews and have evolved, much the way SLR protocols have evolved. For our study, we selected two complementary organizing frameworks, the ADO (Paul & Benito, 2018; Paul & Rosado-Serrano, 2019) and TCM (Paul et al., 2017) frameworks, to thoroughly explore consumer behavior towards NFTs.

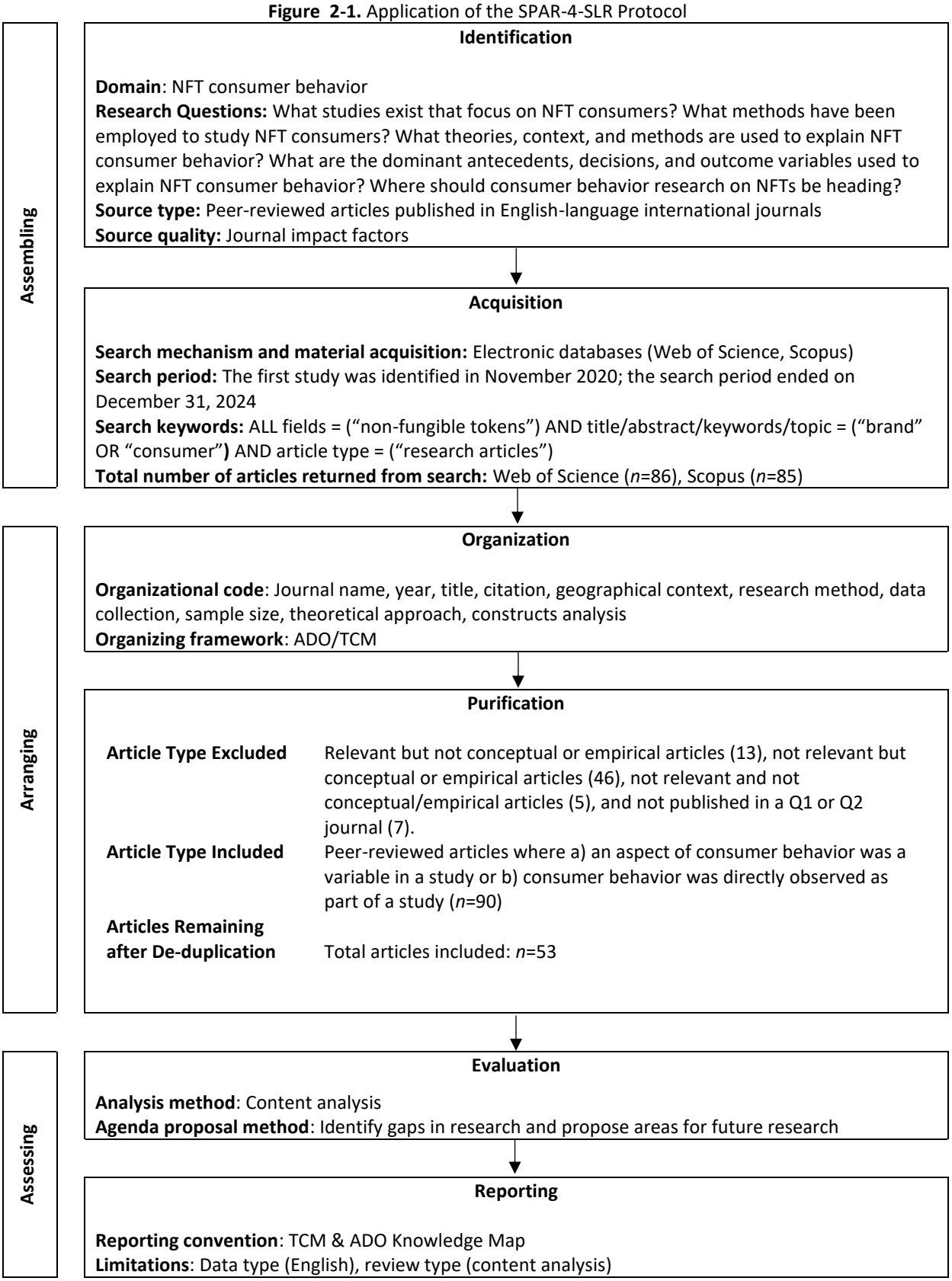
As developed by Paul & Benito (2018) and Paul & Rosado-Serrano (2019) ADO considers three elements of a study: Antecedents, which are the factors or constructs that may explain a behavior; Decisions, which consider a behavioral action or non-action; and Outcomes, which capture the performance effect of the behavior. ADO allows for triangulation of common constructs across papers, highlighting common themes among studies and outlining research gaps. By contrast, the TCM framework explores the Theories employed, the Contexts in which the research was conducted, and the research Methods utilized in the articles (Paul et al., 2017). Combining the two frameworks is an emerging best

practice since the ADO framework provides a systematic approach to organizing research findings, while the TCM framework provides future scholars with new opportunities by organizing research foci. Taken together, they summarize the theoretical (TCM) and practical (ADO) body of research on any given subject.

2.2.2 *Procedure*

The SPAR-4-SLR protocol, developed by Paul et al. (2021), was used in preparing this SLR. In applying the protocol, we moved through three phases of work – assembling, arranging, and assessing – over six substages: identification, acquisition, organization, purification, evaluation, and reporting. Our study commenced in January 2025, allowing all relevant studies from the first published academic works through December 31, 2024, to be considered. Figure 2-1 presents the steps taken in performing this research.

Figure 2-1. Application of the SPAR-4-SLR Protocol



2.2.2.1 Assembling

During the assembling phase, we identified literature questions to focus our research on the domain of consumer NFT research. We limited our sources to peer-reviewed articles published in English-language international journals and planned to score even these articles in accordance with journal impact factors. As NFTs are an emerging field of study, there are many articles published outside of peer-reviewed journals.

To acquire these studies, we built queries to systematically locate articles in both Scopus and Web of Science databases. From the first mention of NFTs in 2019 to December 31, 2024, this review period encompassed the known literature on the subject available via these databases. Thus, we are confident of its significance. Given the relative newness of the academic research on the topic, we elected not to limit our results to journals at this point, but we limited our focus to Scopus and Web of Science to ensure the articles selected were peer-reviewed (Podsakoff, 2003).

The SPAR-4-SLR protocols outlined by Paul et al. (2021) contributed to our keyword selections. We intentionally selected the term "non-fungible token" and not the abbreviation "NFT" as initial queries with the keyword "non-fungible token" returned all records associated with the NFT technology. In contrast, the term "NFT" returned research in other fields, such as medicine, where the acronym stands for something else entirely. Thus, "non-fungible token" is regarded as the main terminology in the discourse (e.g., Ali et al., 2023; Alkhudary et al., 2023; Ante, 2022)

We selected "consumer" or "brand" as additional keywords for the database searches to ensure that cross-disciplinary research articles were included. Broadly, we found that articles concerned with consumer decision-making could take the perspective of the consumer – for example, why do I buy a non-fungible token? (see Prasad et al., 2023) – or of the seller – for example, how might your brand sell a non-fungible token better? (Aalders, 2024).

We conducted a keyword search across all fields for "non-fungible tokens" and for "brand" or "consumer" across titles, abstracts, and keyword fields. Across both databases, these queries returned 171 articles to consider.

2.2.2.2 Arranging

In the Arranging phase, we began to organize the articles and prepare them for analysis. We collected the journal name, year, title, citation, geographical context, research method, data collection, sample size, theoretical approach, and analyzed constructs. This was done in preparation for the ADO/TCM organizing framework.

Next, we purified the list of articles through a manual content assessment. Our focus was on research articles only; we excluded several relevant but not conceptual or empirical articles (n=13). We also found, given the abstract nature of NFTs, that we needed to exclude articles that were not relevant to our research questions, yet were conceptual or empirical articles (n=46). Finally, there were articles that were neither relevant nor conceptual/empirical articles (n=5).

A quality assessment was performed on the remaining articles. Only articles that were published in "A*" or "A" ranked journals, according to the 2024 Australian Business Deans Council (ABDC) journal list, were retained. ABDC was selected thanks to its recognition and prior relevance to academic research (Paul & Criado, 2020). This quality assessment led to the discarding of additional articles on a quality basis (n=7). The remaining peer-reviewed articles (n=90) that were selected for further analysis were limited to those where consumer behavior was a variable in a study, or where consumer behavior was directly observed as part of a study. Finally, duplicate items were removed (n=47), leaving a total of 53 articles for continued consideration; per Paul & Criado (2020), this is a number suitable for review.

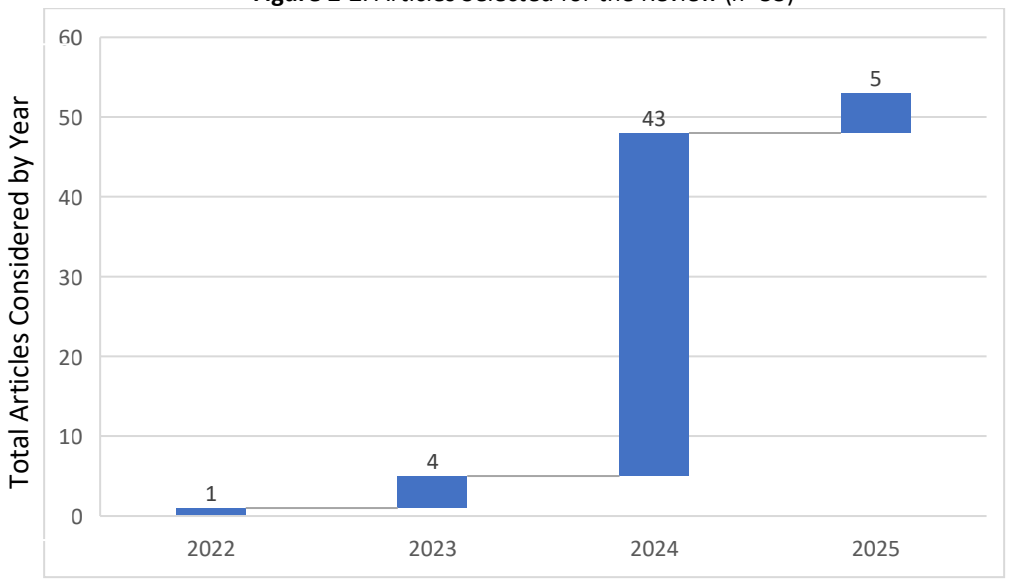
2.2.2.3 Assessing

These 53 articles were evaluated via a content analysis to identify gaps in the existing research and propose areas for future research. A TCO-ADO map was created to assess the existing streams of research and present a full picture of the emerging nature of NFT research. The remaining sections of this study are devoted to exploring the results.

2.3 Bibliometric Analysis

The papers considered in this study reflect the recency of the field. The first was published in 2022. Four articles were published in 2023, while 2024 had the rest, with 43 published that year, plus four early access articles were accepted for 2025. As Figure 2-2 notes, this is a four-fold increase from 2022 to 2023, and a 10 fold increase from 2023 to 2024. This recent increase indicates consumer NFT research is in its first wave of production.

Figure 2-2. Articles Selected for the Review (*n*=53)



Note: Early access publications represent in 2025.

The articles selected for this study totaled 535 citations, 357 of which were attributed to the top 10 articles. Table 2-2 further illustrates this distribution – the top 10 articles earned 66% of the citations, reflecting the recency of the research. The most cited article was "Building brand engagement in metaverse commerce: The role of branded non-fungible tokens (BNFTs)" (Lee et al., 2023) with 99 citations. It was also the most cited article per year (49.5 citations). The second most cited article was Yilmaz et al. (2023), with 62 citations, followed by Bao et al. (2024), with 33 citations. Considering average citations per year, the second most cited article was Bao et al. (2024), then Yilmaz et al. (2023).

Table 2-2. Ten Most Cited Articles

Rank	Authors	Total Citations	Rank	Authors	Citations Per Year (n=253)	Weighted Average (n=31.82)
1	Lee et al. (2023)	99	1	Lee et al. (2023)	49.5	6.25
2	Yilmaz et al. (2023)	62	2	Bao et al. (2024)	33	4.17
3	Bao et al. (2024)	33	3	Yilmaz et al. (2023)	31	3.91
4	Kim & Chaktaborty (2024)	30	4	Kim & Chakraborty (2024)	30	3.79
5	Pelechrinis et al. (2023)	27	5	Fortagne & Lis (2024)	26	3.28
6	Fortagne & Lis (2024)	26	6	Hofstetter et al. (2024)	20	2.52
7	Hurst et al. (2023)	24	7	Xie et al. (2024)	19	2.4
8	Hofstetter et al. (2024)	20	8	Ali et al. (2024)	17	2.15
9	Xie et al. (2024)	19	9	Pelechrinis et al. (2023)	13.5	1.71
10	Yang (2024)	17	10	Cho et al. (2024)	13	1.64

Note: Citations per year = total citations / current year (2025) minus year of publication. Weighted Average = (total citations X citations per year) / ∑ (total citations)

Table 2-3 lists the 36 journals where all 53 articles were published. Most of these journals (22 = 61%) published a single paper, while the *International Journal of Research in Marketing*, *Journal of Consumer Behaviour*, and *Journal of Retailing and Consumer Services* each published three papers. In terms of total citations, the top three publications were Electronic Commerce Research and Applications (99 = 18.5%), Journal of Business Research (69 = 13%), and International Journal of Research in Marketing (40 = 7.5%).

Table 2-3. Journals Considered in the Review

Rank	Journal Name	No of Articles	Rank	Journal Name	Citation (n=535)
= 1	*International Journal of Research in Marketing*	3	1	*Electronic Commerce Research and Applications*	99
= 1	*Journal of Consumer Behaviour*	3	2	*Journal of Business Research*	69
= 1	*Journal Of Retailing and Consumer Services*	3	3	*International Journal of Research in Marketing*	40
= 5	*Applied Economics*	2	4	*Journal of Consumer Behaviour*	39
= 5	*Asia Pacific Journal of Marketing and Logistics*	2	5	*Journal of Consumer Research*	37
= 5	*Computers in Human Behavior*	2	6	*Internet Research*	34
= 5	*Decision Support Systems*	2	7	*PLoS ONE*	27
= 5	*International Journal of Sports Marketing and Sponsorship*	2	8	*Future Internet*	24
= 5	*Internet Research*	2	9	*Computers in Human Behavior*	23
= 5	*Journal of Business Research*	2	10	*International Journal of Advertising*	19
= 5	*Journal of Consumer Research*	2	11	*Asia Pacific Journal of Marketing and Logistics*	14
= 5	*Journal of Global Fashion Marketing*	2	= 12	*Cyberpsychology, Behavior, and Social Networking*	12
= 5	*Journal of Research in Interactive Marketing*	2	= 12	*International Journal of Consumer Studies*	12
= 5	*Journal of Theoretical and Applied Electronic Commerce Research*	2	14	*Journal of Research in Interactive Marketing*	11
= 16	*Acta Psychologica*	1	15	*Journal of Theoretical and Applied Electronic Commerce Research*	9
= 16	*Annals of Tourism Research*	1	16	*Journal of Retailing and Consumer Services*	8
= 16	*Australian Journal of Social Issues*	1	=17	*Decision Support Systems*	7
= 16	*Cyberpsychology, Behavior, and Social Networking*	1	= 17	*International Gambling Studies*	7
= 16	*Digital Policy, Regulation and Governance*	1	= 17	*International Journal of Sports Marketing and Sponsorship*	7
= 16	*Electronic Commerce Research and Applications*	1	20	*Journal of Global Fashion Marketing*	6
= 16	*Electronic Markets*	1	= 21	*Acta Psychologica*	4
= 16	*Future Internet*	1	= 21	*Qualitative Market Research*	4
= 16	*IEEE Transactions on Engineering Management*	1	= 23	*Applied Economics*	3
= 16	*Informatics*	1	= 23	*Digital Policy, Regulation and Governance*	3
= 16	*International Food and Agribusiness Management Review*	1	= 23	*Informatics*	3
= 16	*International Gambling Studies*	1	= 23	*Marketing Intelligence and Planning*	3
= 16	*International Journal of Advertising*	1	= 27	*Australian Journal of Social Issues*	2

= 16	*International Journal of Consumer Studies*	1		= 27	*Electronic Markets*	2
= 16	*International Journal of Human-Computer Interaction*	1		= 27	*International Food and Agribusiness Management Review*	2
= 16	*International Journal of Retail and Distribution Management*	1		= 27	*Paper Asia*	2
= 16	*International Review of Economics and Finance*	1		= 31	*Annals of Tourism Research*	1
= 16	*Journal of Fashion Marketing and Management*	1		= 31	*International Journal of Retail and Distribution Management*	1
= 16	*Marketing Intelligence and Planning*	1		= 31	*International Review of Economics and Finance*	1
= 16	*Paper Asia*	1		= 34	*IEEE Transactions on Engineering Management*	0
= 16	*PLoS ONE*	1		= 34	*International Journal of Human-Computer Interaction*	0
= 16	*Qualitative Market Research*	1		= 34	*Journal of Fashion Marketing and Management*	0

2.4 TCM Framework Review

The TCM framework was used to assess the articles for this review (Paul et al., 2017), resulting in Figure 2-3, which outlines the theories, contexts, and methods deployed in the considered articles. Additionally, since Figure 2-3 also contains the application of the ADO framework in considering NFT consumer behavior, this combined TCM-ACO framework illustrates the current topography of this research.

Figure 2-3. Consumer NFT Research TCM-ADO

Theories

- Consumer Need For Uniqueness (CNFU)
- Consumer-Based Value Theory
- Consumption Value Theory (CVT)
- Cue Utilization Theory (CUT)
- Cust. Segmentation Theory (CST)
- Cust. Value Framework (CVF)
- Diffusion of Innovation (DOI)
- Extended Valence Framework
- Game Theory
- Herding & Auction Theory
- Lovemark Theory
- Motivated Avoidance Theory
- Network Theory
- Optimal Distinctiveness Theory
- Perceived Value Theory
- Reinforcement-Uncertainty Effect
- Self-Determination Theory (SDT)
- Self-Efficacy Theory
- Self-Enhancement Theory
- Self-Perception Theory
- Social Comparison Theory
- Social Identity Theory
- Social Proof Theory
- Sociological Perspectives of Vulnerabilities
- SOR (Stimulus-Organism-Response)
- Technology Acceptance Model (TAM/TAM2)
- Theory Of Brand Congruence
- Theory Of Consumption Value (TCV)
- Theory Of Planned Behavior (TPB)
- Theory Of Reasoned Action (TRA)
- Trust Transfer Theory
- Two-Step Flow Communication
- Uncertainty Reduction Theory
- United Theory of Acceptance of Use Technology (UTAUT/UTAUT2)
- Uses and Gratifications (U&G)
- Valence Theory

Context

Geography:
- Asia
- Australia
- Austria
- China
- Europe
- Germany
- Italy
- North America
- Romania
- South Korea
- Taiwan
- United Kingdom
- United States

Participants:
- NFT Buyers
- NFT Creators
- NFT Non-Buyers
- NFT Project Data
- Technical Experts

Methods

Qualitative
- Thematic analysis
- Inductive analysis
- Content analysis

Quantitative
- Regression analysis
- Structural equation modeling
- Other quantitative models

Experimental
- Two experiments
- Mixed Method
- Scenario-based experiment
- Three-subject experiment

Primary Data
- Focus group interview
- In-depth interview
- Observation
- Offline survey
- Online survey

Secondary Data
- Prices
- Social Media Content
- Transactions

Antecedents

Perceived Value
- Artistic Value
- Attitude
- Attitude toward Asset
- Bids on NFTs (Perceived Value)
- Consumer Perception
- Economic Value (EV)
- Emotional Value
- Financial Rewards
- Financial Value
- Functional Value
- Monetary Value
- NFT Royalties Rate
- Perceived Authenticity
- Perceived exclusivity
- Perceived financial benefits
- Perceived Hedonic Value
- Perceived Value
- Profit Expectations
- Psychological Ownership
- Scarcity
- Social Value
- Value Perception
- Virtual Reputation

Motivations
- Amotivation
- Brand Love
- Brand Respect
- Experiential evaluation
- Experiential Needs or Wants (ENW)
- External Regulation
- Extrinsic Rewards
- FoMO
- Functional Needs or Wants (FNW)
- Functional Quality (FQ)
- Functional Uniqueness (FR)
- Functional Usability (FU)
- Gambling Severity
- Hedonic Attitude
- Hedonic Motivation
- Identified Regulation
- Intrinsic Motivation
- Intrinsic Rewards
- Monetary Gains
- Motivations
- Novelty
- Recognition
- Reward/Content gratification
- Satisfaction
- Self-Directed Pleasure (HP)
- Self-Expression (SE)
- Self-image Expression
- Self-Presentation (SP)
- Sense of Belonging
- Social Needs or Wants (SNW)
- Utilitarian Attitude

NFT Attributes
- Aesthetic Incongruity
- Appearance
- Attribute Distinctiveness
- Authenticity
- Conspicuousness (SS)
- Content Richness
- Exclusivity
- Image Complexity
- Image Consistency
- Initial Price
- Originality
- Personalization
- Prestige
- Price
- Resaleability
- Royalty
- Scarcity
- Tokenized Reward Type
- Trendiness
- Uniqueness
- Virtual Gallery Openness

Social Context
- Affiliations (HS)
- Player Race
- Social Capital
- Social Comparison
- Social Enhancement
- Social Gratification
- Social Media Hype
- Social Posts

Technology Acceptance
- Attitude toward Technology
- Communication Consistency
- Context
- Crypto Experience
- Effort Expectancy
- E-WOM
- Low Financial Literacy
- Openness to Digital Ownership
- Perceived Behavioral Control
- Perceived Ease of Use
- Perceived Platform Quality
- Perceived Usefulness
- Platform Commission Strategy
- Tech Savviness
- Technical Experience
- User Experience

Trust & Security
- Anomalous Trades
- Copyright Protection
- Market Uncertainty
- Perceived Risk
- Trust
- Trust in Platform
- Trust in the Marketplace (TNM)
- Uncertainty

Decisions

- Trust, Security, & Risk Considerations
- Social Influence
- Consumer Attitude
- NFT Characteristics
- Brand Decision Making

Outcomes

- NFT Adoption/Usage
- Purchase Intent
- Loyalty
- Financial Performance
- Brand Awareness
- NFT Prices

2.4.1 Theories

Understanding the theories deployed in a research area is critical for advancing knowledge in a systematic literature review such as this one (Paul et al., 2021). Furthermore, by applying both ADO and TCM frameworks, we aim to uncover the foundational context of the literature. Thirty-nine theories were identified in the 53 consumer studies considered for this review of consumer NFT behavior, and Table 2-4 provides a comprehensive list, with representative articles for each.

This distribution of theories indicates not only the originality of the research but perhaps a lack of consensus on how to study the NFT market. The most frequently referenced theory was SOR (Stimulus-Organism-Response), with only six articles (11%). As SOR was developed specifically to address emerging models of consumer behavior, it is not surprising that it was the most common theory used in studying a novel consumer technology (Jacoby, 2002). The next most common theories would be the combination of UTAUT (three articles) and TAM (two articles), which focus on the dissemination of new technology. Taken together (five articles total; 9% total), they represent a technical view of NFTs whose adoption is driven more by expected utility and less by consumer enjoyment. Two other theories were used in three articles: Game Theory and Consumer Need for Uniqueness (CNFU) (three articles each; 5% each). Game theory was utilized in experimental studies, which is helpful when researchers can simplify the variables in a multi-part transaction such as NFT purchases. CNFU theorizes that consumers purchase material goods to signal their social identity (Tian et al., 2001). While NFTs are not strictly material goods, given their rise in popularity during the COVID-19 lockdowns, when relationships were mediated digitally, this lends credibility to the theories that NFTs were digital luxury goods. Of the other 31 theories, four were used in two articles, and the rest were featured in a single article, indicating a vibrant but distributed approach to the research.

Table 2-4. List of Theories

Theories	N Articles	Articles
Consumer Need For Uniqueness (CNFU)	3	Berghueser & Spann, 2024; Liu et al., 2024; Stough & Graham, 2024
Consumer-Based Value Theory	1	Yilmaz et al., 2023
Consumption Value Theory (CVT)	1	Eastman et al., 2024
Cue Utilization Theory (CUT)	1	Zhang & Phang, 2024
Customer Segmentation Theory (CST)	1	Chen et al., 2025
Customer Value Framework (CVF)	1	Lee et al., 2024
Diffusion of Innovation (DOI)	1	Kim & Chakraborty, 2024
Extended Valence Framework	1	Prasad. V et al., 2024
Game Theory	3	Lopez-Gonzalez & Petrotta, 2024; Xin et al., 2025; Zou et al., 2024
Herding & Auction Theory	1	Xie et al., 2024
Lovemark Theory	1	Cho et al., 2025
Motivated Avoidance Theory	1	Prasad. V et al., 2024
Network Theory	1	Pelechrinis et al., 2023
Optimal Distinctiveness Theory	1	Hofstetter et al., 2024
Perceived Value Theory	1	Chen et al., 2024
Reinforcement-Uncertainty Effect	1	Ahsan & Gupta, 2024
Self-Determination Theory (SDT)	1	Griffiths et al., 2024
Self-Efficacy Theory	1	Kim & Chakraborty, 2024
Self-Enhancement Theory	1	Boukis, 2024
Self-Perception Theory	1	Duguleană et al., 2024
Social Comparison Theory	2	Ramadan, 2024; Xie & Muralidharan, 2024
Social Identity Theory	2	Chen et al., 2024; Lee & Shen, 2024
Social Proof Theory	1	Wang et al., 2024
Sociological Perspectives of Vulnerabilities	1	Blue et al., 2024
SOR (Stimulus-Organism-Response)	6	Chen et al., 2024; Fortagne & Lis, 2024; Lee et al., 2023; Mao et al., 2025; Zhang & Phang, 2024a; Zhang & Phang, 2024b
Technology Acceptance Model (TAM/TAM2)	2	Colamartino et al., 2024; Lee & Cha, 2024
Theory of Brand Congruence	1	Ramadan, 2024
Theory of Consumption Value (TCV)	2	Xie et al., 2024; Zhang & Phang, 2024a
Theory of Planned Behavior (TPB)	2	Chang et al., 2024; Wu et al., 2024
Theory of Reasoned Action (TRA)	1	Prasad et al., 2024
Trust Transfer Theory	1	Pragha et al., 2024
Two-Step Flow Communication	1	Kim & Chakraborty, 2024
Uncertainty Reduction Theory	1	Cho et al., 2024
United Theory of Acceptance of Use Technology (UTAUT/UTAUT2)	3	Lee & Cha, 2024; Park & Lee, 2024; Vega & Camarero, 2024
Uses and Gratifications (U &G)	1	Lee & Shen, 2024
Valence Theory	1	Prasad et al., 2024

2.4.2 Contexts

Context provides critical background information about a study, its circumstances, and cultural factors, and helps explain factors influencing the research. Given the variety of the research studies considered, we chose to categorize studies based on the geography considered and participant

knowledge, detailed in Table 2-5. Reviewing Geography, the most significant number of studies (12 articles) were conducted in the United States, followed by China (six articles), and South Korea (five articles). While these are hot spots for NFT purchases, it is important to note that, since NFT transactions occur anonymously online, several studies reported no geographic detail or grouped participants into broader categories such as "Europe" or "Asia." In considering participant knowledge as a context, both NFT Buyers and Observed NFT Project Data tied for the significance of studies (seven articles each), followed by NFT Creators and NFT Non-Buyers (four each). Here, the multi-faceted nature of NFT transactions allowed several studies to be conducted from different points of view. Indeed, many studies were conducted to understand purchase intention by considering the buyer and the seller or observing market data resulting from public transactions. On the other hand, while a few studies have examined non-NFT buyers (four articles), none have specifically focused on individuals who are averse to NFTs as a point of contrast.

Table 2-5. Study Context

Geography:		**Participant Experience:**	
Asia	1	NFT Buyers	7
Australia	1	NFT Creators	4
Austria	2	NFT Non-Buyers	4
China	6	Observed NFT Project Data	7
Europe	1	Technical Experts	2
Germany	2		
India	1		
Italy	1		
North America	1		
Romania	1		
South Korea	5		
Taiwan	1		
United Kingdom	1		
US	12		

2.4.3 Methods

This review examined the data collection and analysis methods used in the 53 articles considered. Table 2-6 outlines these data collection approaches, while

Table 2-7 tabulates the analysis methodologies. In both tables, these studies can be classified as quantitative or qualitative. Given the anonymous, online nature of NFT transactions, self-administered online surveys were the most common data collection approach, with 25 of the 53 studies utilizing this data collection method. In contrast, there was only one offline survey. The most popular data analysis approach for these quantitative studies was regression analysis and structural equation modeling (12 studies each). Again, given the wide range of theories discussed above, this quantitative approach is helpful in establishing common ground.

Table 2-6. Data Sources Used

Data Sources	No. of Articles	Sample Articles
Qualitative (n=13)		
In-depth interview	4	Ahsan & Gupta (2024); Eastman et al. (2024)
In-depth interview and focus group	1	Park & Lee (2024)
In-depth interview and online self-admin survey	5	Lee & Shen (2024); Vega & Camarero (2024)
Observation	6	Duguleană et al. (2024); Yilmaz et al. (2023)
Quantitative (n=40)		
Online Surveys (n =24)		
Self-administered (inc. Mixed Methods)	23	Colamartino et al. (2024); Xie et al. (2024)
Structured	1	Boukis (2024)
Other Sources	10	Berghueser & Spann (2024); Guan et al. (2024)
Offline survey (inc. Mixed Methods)	6	Kim & Chakraborty (2024); Schlimm et al. (2024)

Table 2-7. Research Approach

Approach	No. of Articles	Sample Articles
Qualitative (*n* =10)		
Thematic analysis	6	Kramer et al. (2024); Ramadan (2024)
Inductive analysis	2	Vega & Camarero (2024); Yilmaz et al. (2023)
Content analysis	2	Duguleană et al. (2024); Fernandes & Morais (2022)
Quantitative (*n* = 30)		
Structural equation modeling	12	Chen et al. (2024); Griffiths et al. (2024)
Regression analysis	11	Lopez-Gonzalez & Petrotta (2024); Xin et al. (2025)
Other quantitative models	7	Blue et al. (2024); Chen et al. (2024)
Experimental (*n* = 13)		
Two experiments	5	Stough & Graham (2024); Yang (2024)
Mixed Method	5	Hurst et al. (2023); Ismail et al. (2024)
Scenario-based experiment	2	Kim et al. (2025); Kim et al. (2024)
Three-subject experiment	1	Boukis (2024)

2.5 ADO Review

This review applied the ADO framework to the considered literature to better understand the antecedents, decisions, and outcomes investigated concerning consumer behavior and NFTs. This is summarized in the ADO relationship map found in Table 2-8. Following Kahiya (2018), a voting method was established to create this visual map of the 53 articles' ADO relationships, where every relationship observed in the literature was given one vote. Thus, one paper could generate a single vote or multiple votes depending on the scope of the research and the number of associations found.

Table 2-8. ADO Relationship Map

	Antecedents:		Perceived Value	NFT Attributes	Motivations	Technology Acceptance	Social Context	Trust & Security	Totals
Decisions	Trust, Security, & Risk Considerations	+	2	0	0	2	0	0	4
		0	0	0	0	0	0	0	0
		-	0	0	1	0	1	0	2
	Social Influence	+	0	0	2	0	4	0	6
		0	0	0	0	0	0	0	0
		-	0	0	0	0	0	0	0
	Consumer Attitude	+	8	6	8	5	5	7	39
		0	0	0	0	0	0	0	0
		-	1	0	0	0	0	0	1
	NFT Characteristics	+	1	1	0	0	1	1	4
		0	1	1	0	0	0	0	2
		-	0	0	0	0	0	0	0
	Brand Decision Making	+	3	9	0	2	1	1	16
		0	1	0	0	0	0	0	1
		-	0	0	0	0	0	1	1
Outcomes	NFT Adoption/ Usage	+	2	0	3	1	2	2	10
		0	0	0	1	0	0	0	1
		-	0	0	0	1	0	0	1
	Purchase Intent	+	17	9	18	11	5	4	64
		0	1	3	7	0	1	0	12
		-	0	0	2	2	1	3	8
	Loyalty	+	3	2	3	0	0	0	8
		0	0	0	0	0	0	0	0
		-	0	0	0	1	0	0	1
	Financial Performance	+	6	10	0	3	0	3	22
		0	2	2	0	0	0	0	4
		-	1	2	0	0	0	2	5
	Brand Awareness	+	1	3	3	0	0	0	7
		0	0	1	0	0	0	0	1
		-	0	0	0	0	0	0	0
	NFT Prices	+	2	4	0	0	3	1	10
		0	0	2	0	0	0	0	2
		-	3	0	0	0	0	0	3
Total	**Positive**	**+**	**45**	**44**	**37**	**24**	**21**	**19**	**190**
	Insignificant	**0**	**5**	**9**	**8**	**0**	**1**	**0**	**23**
	Negative	**-**	**5**	**2**	**3**	**4**	**2**	**6**	**22**

2.5.1 Antecedents

In total, 107 distinct antecedents were identified across the 53 relevant studies. Given this wide variety, the antecedents were further categorized into six clusters: perceived value, NFT attributes, motivations, technology acceptance, social context, and trust and security. Each of these clusters is explored below.

2.5.1.1 Perceived Value Antecedents

The perceived value cluster includes antecedents of all perceived financial, social, or hedonic benefits a consumer might expect from NFTs or an NFT purchase. Perceived value is especially relevant in studying NFTs since the marketplace is distributed and prices are set by NFT asset owners instead of a centralized clearinghouse. Therefore, every transaction made in the NFT market is a bespoke agreement on price between individual sellers and buyers. Understanding what contributes to value perception directly contributes to NFT prices, which we know can rise and fall quickly. It stands to reason, then, that changes in perceived value are a major factor in the price swings of the NFT market. There is a strong consensus that consumers who purchase NFTs do so from a place of financial optimism. Lee et al. (2024) explicitly found that perceived economic value had a direct effect on both engagement and direct purchase intention of young NFT consumers. Lee & Cha (2024) found that profit expectation improved consumers' attitudes towards NFTs, while Griffiths et al. (2024) found that expectation of future value drove purchase intention, eclipsing other motivations. Eastman et al. (2024) used perceived value to segment the market – those with low perceived value regarded NFTs as fads, while those with high perceived value saw in NFTs a low-risk future of asset ownership.

NFT purchases may also serve as a means of social signaling, imbuing the purchaser with status beyond the financial value of the NFT. If an NFT's value can be social, understanding consumers' perception of the scarcity, exclusivity, authenticity, or social benefits of an NFT purchase may help explain market behavior or preference. Xie & Muralidharan (2024) found that social comparison had a direct and positive effect on perceived exclusivity and perceived financial benefits in an experimental context. While a pair of studies by Zhang & Phang (2024a; 2024b) saw that perceived hedonic value had direct and positive effects on purchase intention. Finally, Cho et al. (2024) explored how brands could utilize NFT marketing to heighten consumers' perception of value by addressing scarcity, liquidity, and trendiness to influence brand interest and willingness to purchase.

Understanding what makes an NFT transaction appealing to consumers was a question asked by many researchers; the ADO relationship map presented above shows 55 associations across this cluster of antecedents, 45 of which are positive.

2.5.1.2 NFT Attributes Antecedents

A second major research cluster concerns which NFT attributes attract or repel consumers. This cluster includes dimensions inherent to the token itself, such as scarcity, uniqueness, or set price. As new NFTs are minted every day, there is a specific advantage for creators in understanding how to design NFTs with desirable attributes and for investors in purchasing NFTs that may increase in price. This cluster also had 55 associations across the cluster, 44 of which were positive.

Today, most NFTs are images stored on the blockchain. Thus, their aesthetic value appears to be a major factor in consumer interest. Lee et al. (2023), Bao et al. (2024), and Berghueser & Spann (2024) found positive effects from the appearance or attractiveness of an NFT on consumer interest. Wang et al. (2024) saw that consistency within a collection, that is, its aesthetic value as an artistic brand, mattered more than complexity, that is, the variance within that project. Meanwhile, Guan et al. (2024) determined that the aesthetic quality moderated the aesthetic incongruity effect on NFT art value. In other words, the overall artistic feel or vision of a collection matters considerably more than the variations within, even though those individual variations ultimately comprise the collection's aesthetic.

With NFTs, scarcity is a complex matter since it is a function of availability and design. In NFT collections, the known occurrence of an NFT trait is disclosed, so any buyer may understand how rare a particular NFT is within a collection of thousands of items, and scarcity is often associated with higher prices even within the same collection. Indeed, Cho et al. (2025), Bao et al. (2024), and Lee et al. (2023) showed that scarcity had positive and direct effects on purchase intention, perceived value, and brand perception, respectively. However, Hofstetter et al. (2024) found that when social commentary of an NFT,

such as likes or posts, was viewable in the purchase process, social signaling had a negative effect. Underscoring the complex nature of NFT purchases, in that study, scarcity's relationship with price turned negative, such that if a rare item received too many social comments, it diminished the item's sale price.

Finally, NFTs are released as "mints" where consumers initially pay for an item sight unseen. The pricing strategy of creators is important to maintain consumer interest. A mint price that is too high may fail to find sufficient buyers to sell out the project; a mint price that is too low may not attract enough high-quality buyers. As NFTs can be perceived as luxury goods (Eastman et al., 2024; Griffiths et al., 2024; Lee et al., 2024), high prices tend to be seen as a desirable trait. Indeed, Ismail et al. (2024) found the price had a direct effect on purchase intention, while Wang et al. (2024) found that the initial price had a positive effect on long-term NFT performance but no significant effect on short-term performance. High prices themselves may signal future value in the minds of some consumers.

2.5.1.3 Motivation Antecedents

Consumer motivations have been studied for online purchases for over two decades (Shang et al., 2005). The range of motivations studied included wider concepts as extrinsic and intrinsic motivations or amotivation, and more specific motivations like fear of missing out (FoMO), brand-love, or addictive behavior. Motivations, as a cluster, secured 48 associations in the ADO Relationship Map (Table 2-8).

Intrinsic motivations found consistent support in several studies (Fortagne & Lis, 2023; Griffiths et al., 2024; Lee & Shen, 2024; Lee et al., 2024; Park & Lee, 2024). These studies suggest that NFT purchases are at least partially motivated by self-expression. Extrinsic motivations, which include financial gain, found less support, with some studies finding positive effects (Fortagne & Lis, 2023; Lee & Shen, 2024) while others were inconclusive (Duguleană et al., 2024; Griffiths et al., 2024). This fuzziness about the role extrinsic motivation plays in NFT purchases is curious, given that the popularity of NFTs rose due to their outsized gains for early adopters. FoMO was moderated in Vega & Camarero (2024) by perceived

risk, suggesting market enthusiasm can be dampened by the fear of fraud or loss. Finally, addiction was seen to have a positive, direct effect in Lopez-Gonzalez & Petrotta (2024), lending credibility to theories about herd investing or perverse risk-taking. Taken together, these studies present the consumer behavior of NFTs as more individually motivated than pure speculative investments, which may help explain NFTs' continued durability, despite falling prices.

2.5.1.4 Technology Acceptance Antecedents

NFTs are also an emerging technology, and several studies have examined the role of technology adoption in their research, with a total of 28 examples in the ADO Relationship Map presented above. Indeed, technology acceptance theories, such as the technology acceptance model (TAM) or the unified theory of acceptance and use of technology (UTAUT), have appeared several times in the literature. The technology acceptance cluster of antecedents considers the consumer's depth of technical experience, their attitude towards technology, and their general level of savviness.

Experience with cryptocurrency is a good indicator of the likelihood of purchasing NFTs, largely because one of the stages of onboarding – that is, loading a financial value into a digital wallet – has already occurred (Chen et al., 2024, 2025). Other studies also showed that comfort with the technology also contributed to purchase intention (Jin, 2024; Lee & Cha, 2024), while Park and Lee (2024) found that as effort expectancy increased, and thus its perceived difficulty, purchase intention fell. Taken together, NFT consumers are early adopters of new technology, and while the steps of an initial purchase today demand more than a traditional online purchase, NFT adoption may accelerate as the process gets easier.

2.5.1.5 Social Context

Consumer interest in NFTs has been strongly correlated with and exacerbated by social media hype (Pinto-Gutiérrez et al., 2022). With 24 associations in the ADO Relationship Map (Table 2-8), this

antecedent cluster concerns itself with the social context in which NFTs are purchased and the influence of the social dimension of NFTs.

NFT buyers form online communities, sometimes informally on social media channels and sometimes in curated chatrooms provided by NFT creators as a benefit to asset holders. These interactions produce social content that can inspire purchase behavior and reinforce post-purchase satisfaction. Studies explored the role of social media activity in generating consumer interest (Kim & Chakraborty, 2024), in how social comparison can be used to drive perceptions (Q. Xie & Muralidharan, 2024), and the ability of creators to utilize this social dimension to stoke that interest (Lee & Shen, 2024). Most studies, including these examples, were constructive in their view, exploring the mechanisms of online social feedback in positively impacting consumer behavior.

Others found a dark side to the social dimension. Even though social media hype drives interest and eventual purchase of NFTs, in Blue et al. (2024), this social media hype becomes undesirable, as it can be exploited to produce gambling-like addiction. Meanwhile, Kim & Lee (2024) found echoes of racism by analyzing price disparities between white and non-white basketball players in NFT collectible cards.

2.5.1.6 Trust and Security

NFT transactions take place online amongst two parties whose identities are obscured, causing researchers to explore issues of trust and security. This antecedent cluster, focused on consumers' trust in the market, marketplace, and perception of transaction risk, appeared in 25 associations in the literature and had the most negative associations of any cluster.

Consumer confidence in the security of market transactions is critical to the continued adoption of the technology needed to buy or sell NFTs. As explored in Prasad et al. (2023), where trust in the marketplace and perceived risk are separate constructs, the psychological determinants of NFT purchase intent contain a dual uncertainty of the marketplace (where you buy) and the transaction mechanics (how

you buy). These concerns temper consumer interest in NFTs, and across many studies, participants clearly recognized issues of trust and security with NFT transactions. Both Chang et al. (2024) and Eastman et al. (2024) studied perceived risk to consumers, while researchers like Ismail et al. (2024) and Wu et al. (2024) explored trust as a specific construct. The unique decentralized nature of NFTs, combined with their price movements and notoriety for scams, has created a sensitivity in consumers to perceived security risks.

2.5.2 Decisions

Decisions influencing consumer behavior, in general, are quite complex – perhaps, concerning NFTs, they are even more so. Prior research on online purchasing decisions, attitudes, and brand interactions of consumer behavior has proven how varied these influences can be (Paul & Benito, 2018). For our purposes, these factors serve as decision variables in exploring consumer behavior toward NFTs. The ADO Relationship Map (Table 2-8) cross-tabulates the decisions in the studies considered with the antecedent clusters discussed above.

The most researched decision-making cluster was consumer attitude, with 40 associations. Interestingly, consumer attitude was distributed evenly across all six antecedent clusters, with each cluster displaying between five and nine associations. Given our research questions, this is perhaps not a surprise, but it illustrates why NFTs are a thought-provoking field to study for those with an interest in consumer decision-making.

The next most researched decision cluster was brand decision-making, which may be seen as a linked pair to consumer attitude. These studies tended to explore how brands have or could position themselves to improve engagement with consumers, either via awareness, preference, or purchase intent. In this decision-making cluster, the antecedents of NFT attributes received half of the relationships (9). The other decision clusters – trust, security, and risk considerations; social context; and NFT characteristics – each received six.

2.5.3 Outcomes

Numerous factors can influence the outcomes of consumer behavior (Paul & Benito, 2018). The studies considered here focused on metrics like purchase intention, loyalty, and brand awareness, as well as metrics more aligned to the technical nature of NFTs, namely NFT adoption and usage, and the financial dimension, measuring NFT prices or financial performance. This diversity illustrates why NFTs may continue to hold a fascination for researchers – they are an amalgamation of a consumer good, a new technology, and an emerging financial instrument.

Purchase intention was the leader in the outcome clusters studied, with 84 associations in total (Table 2-8). Motivation-related (27) and perceived-value antecedents (18) were the most cited antecedents in these studies, which highlight the interest of researchers in better understanding what consumers perceive and what motivates them to purchase NFTs. Financial performance was second (31), where almost half of the studies used NFT attributes as antecedents. Next came NFT Prices (15) and NFT adoption and usage (12), while loyalty (9) and brand awareness (8) were last, perhaps reflecting the limited role that traditional brands have played in the development of NFTs and the metaverse.

2.6 Implications

NFTs are an emerging consumer good, technology, and financial instrument that is not widely understood. This systematic literature review provides concrete insights into the current research on consumer behavior towards NFTs. By better understanding the factors that shape consumer behavior, researchers and participants in the NFT space can better understand the various influences on consumer decisions and anticipate potential outcomes.

2.6.1 Theoretical and Methodological Implications

This study offers several meaningful contributions to theory and the development of theoretical frameworks within consumer research on NFTs. First, it enriches the emerging literature by systematically organizing antecedents, decision processes, and outcomes into a coherent framework. The use of the ADO model demonstrates its utility in synthesizing fragmented and interdisciplinary findings in rapidly evolving domains such as NFTs. This result supports Kahiya's (2018) argument regarding the robustness of the ADO framework in structuring research in nascent fields, particularly where psychological, technological, and contextual factors intersect.

Second, the study highlights the theoretical fragmentation currently present in NFT consumer research. As shown in the list of supporting theories presented above, the field draws upon a wide array of theoretical perspectives, from consumer psychology to technology acceptance and behavioral economics, without a clear dominant paradigm. This theoretical pluralism reflects the exploratory nature of a young research domain. By mapping these theoretical contributions within the broader TCM framework, the study offers a clearer view of the current state of the field; it paves the way for future theoretical consolidation.

Third, it identifies actionable avenues for theory development by highlighting research gaps and proposing potential research questions. Primarily, this study shows the need for integrative theoretical

models that bridge psychological and technological perspectives; the application of existing theories across diverse cultural and economic contexts; and the extension of consumer behavior theories to capture unique aspects of NFT usage, such as asset holding behavior, community-driven loyalty, and susceptibility to fraud or hype cycles. By combining the TCM and ADO frameworks, the study provides a comprehensive roadmap for scholars seeking to build or refine theories relevant to the digital ownership economy. Through the application of the SPAR-4-SLR protocol, it provides a new methodological foundation for NFT consumer research and raises the quality of available research today.

2.6.2 Practical Implications

This study also presents several key insights for creators, marketers, and investors. As an SLR, these implications are inherently constrained by the scope of existing research and limited to what has been studied. This SLR identified 55 instances in which NFT attributes functioned as antecedents, of which 44 demonstrated positive relationships, indicating that well-designed NFT projects can meaningfully influence consumer behavior. The outcomes of purchase intent and financial performance, which are of central importance to creators, yielded a total of 19 positive relationships, while seven were neutral or negative. These findings suggest that creators can reasonably expect a well-executed NFT project to generate both immediate consumer interest and longer-term value. However, aesthetic appeal alone does not guarantee success. Studies investigating the impact of trust and security on outcomes found a near balance between positive and negative associations (seven positive, five negative). Importantly, these factors often lie outside the creator's control, being contingent upon platform-level security, consumer confidence, and the timing of technical or fraudulent incidents. Thus, creators must remain attuned to broader ecosystem risks that may affect project performance.

Marketers share similar incentives with creators in crafting quality NFT offerings. Because many NFT campaigns function as brand extensions, the strong and consistent link between perceived value and

purchase intent, as reported in 17 instances across the reviewed studies, is especially encouraging. This evidence strengthens the case for pricing strategies that clearly communicate value to target consumers. Furthermore, marketers should pay close attention to existing NFT user segments. Technology acceptance was positively associated with purchase intention in 11 studies, underscoring that adoption-related barriers remain real challenges. Consequently, marketers entering the NFT space may find more success activating existing customers who are already familiar with NFTs, rather than using NFTs as a channel to attract new customers.

Investors should note that financial performance is positively associated with perceived value, NFT attributes, and technology acceptance. These patterns suggest that successful investment strategies in the NFT market may resemble those used in blue-chip stock investing – prioritizing consensus, stability, and perceived value over speculative hype. Nonetheless, trust and security concerns present potential downside risks. Although less frequently studied, two investigations found negative relationships between trust/security and financial outcomes, and historical evidence points to the damaging impact of high-profile scams on price performance (Huang et al., 2023). Investors would therefore be prudent to consider not just the intrinsic features of NFTs but also the reputational and technical robustness of the platforms on which they transact.

Across all stakeholder groups, a common challenge is the slow and uneven adoption of NFTs. Adoption barriers can dampen price performance, particularly in markets approaching saturation. Ultimately, consumers tend to purchase NFTs that are visually appealing, maintain social desirability, and are perceived to increase in future value, especially when transacted through a secure, trustworthy, and user-friendly process using cryptocurrency they already hold.

2.7 Directions for Future Research

Research on consumer behavior towards NFTs is rapidly maturing. Still, there remain several gaps that provide ample opportunities for future researchers. Borrowing from the insights of the TCM and ADO frameworks, the following sections explore future possibilities.

2.7.1 Theoretical Future Directions (TCM)

This review reveals that consumer-focused NFT research remains highly fragmented and lacks a cohesive, integrative framework. Despite the theoretical dispersion, two dominant clusters emerged from the literature: the Stimulus-Organism-Response (SOR) model and the Technology Acceptance Model (TAM) and its extensions, such as UTAUT. Future research may benefit from reconciling consumer decision-making processes, as conceptualized by SOR, with the technical adoption mechanisms emphasized in TAM/UTAUT and empirically testing unified theoretical models. Several recent studies have adopted this integrative approach, proposing frameworks that merge SOR and TAM/UTAUT in the context of consumer-oriented technologies, such as virtual reality (Wi et al., 2024) mobile-commerce, (Yaqub et al., 2024), and online video subscriptions (Wu et al., 2025). Notably, these studies have also utilized Partial Least Squares Structural Equation Modeling (PLS-SEM), offering validated constructs that may be readily adapted for NFT-related research.

2.7.2 Contextual Future Directions (TCM)

The study contexts were heavily weighted toward the United States, China, and South Korea, and no study was replicated with separate geographical contexts to determine how such contexts influenced behavior, which is an obvious opportunity. Additionally, there is a noticeable gap where no South American or African countries were studied. This oversight is a research opportunity, given that many of these emerging market countries have high rates of cryptocurrency adoption (Bouraoui, 2020). Future

studies would do well by focusing research in one or several of these countries, especially Argentina, Brazil, Chile, Colombia, Kenya, Mexico, Morocco, Nigeria, Peru, South Africa, Tanzania, or Venezuela.

2.7.3 Methodological Future Directions (TCM)

The methods reviewed for this SLR were mainly quantitative, though some augmented surveys by adding experiments or qualitative studies in a mixed-method approach. Others performed content analysis by observing transaction data, often in the form of bids and accepted offers. However, no research attempted to encapsulate these two different data sets. A promising research opportunity, grounded in the Theory of Planned Behavior, involves conducting a survey of NFT buyers about their intended actions and then inviting them to provide their public wallet addresses voluntarily. The inclusion of this data would enable researchers to compare participants' stated intentions with their actual aggregate individual transaction histories. Since NFT wallets serve as permanent records (Ante, 2022), this approach of reviewing public transactions of a volunteer cohort could also be employed in a longitudinal study to examine how NFT buyer behavior evolves.

2.7.4 Antecedent-based Future Directions (ADO)

Future research could explore the contribution of overlooked antecedents to consumer NFT behavior. For example, while purchase intention was the focus of many studies considered in this review (e.g., Chen et al., 2025; Cho et al., 2024; Fortagne & Lis, 2023; Griffiths et al., 2024; Park & Lee, 2024; Vega & Camarero, 2024), no study investigated why NFT buyers might continue to "hold" their NFTs. As intrinsic motivations appear significant in NFT purchase intention (Griffiths et al., 2024; Park & Lee, 2024; Schlimm et al., 2024), a new study could be undertaken to analyze the impact of online communities on retaining NFT buyers. Furthermore, analyzing the dynamics of these communities, following Yildiz et al. (2013), would allow researchers to understand better the impact of online congregators, contrarians, and zealots on NFT project satisfaction and buyer longevity.

Several of these studies have observed that gender plays a role in NFT asset pricing, with NFTs of male subjects demanding higher prices than those of female ones (Nguyen, 2022; Yuan et al., 2024; Zhong & Hamilton, 2023). However, no study has compared the effect of the gender of NFT buyers on the perceived value of NFTs. This potential relationship seems like a useful research vein, especially considering that luxury brands are the most active firms in the NFT space (Chen et al., 2025; Cho et al., 2024; Kim et al., 2025; Lee et al., 2024; Zhang & Phang, 2024a) and luxury buyers tend to be women.

These gaps, and others derived from under-researched antecedents, can be found in Table 2-9, below.

Table 2-9. Future Research Directions, Based on Antecedent Gaps

Research gap	Research questions	Theory/context/method	Initial links
Impact of online community participation on NFT buyers	How much do online communities matter to initial NFT purchases? How much does the presence of online communities influence NFT holders to hold or to sell?	Data mining approaches, comparing participation in online communities with NFT holding periods	Vega & Camarero (2024)
Transference of brand loyalty from the real world to NFTs	How many sports NFT owners are offline sports fans? Do they express affinity for NFTs of their supported teams over others?	Stratified sampling of NFT sports collectibles and their preferred teams	Park & Lee (2024)
Initial ("mint") prices as a form of value signaling	What is the optimal mint price for a new NFT? Does a high initial price always signal value? What is the optimal mint price for long-term success?	Longitudinal view of NFT prices compared with the original mint price	Liu et al. (2024)
NFTs' ability to enhance brand value perception	Can NFTs enhance or extend the value perception of a luxury brand? Can a brand's use of NFTs have a negative impact on brand perception?	Quantitative/mixed method	Kim et al. (2025)
Gender differences in NFT value perception	Do women and men evaluate NFTs differently? How does gender impact perceived value?	Quantitative survey	Xie & Muralidharan, (2024)

2.7.5 Decision-based Future Directions (ADO)

This SLR consolidated consumer behavior decisions into five main themes (Table 2-8). Undoubtedly, the decision-making process for an NFT purchase is complex, and yet fewer studies have

examined the specific actions that consumers undertake. An opportunity for future research is found in this transaction gap, whether looking at the internal factors, such as trust or emotion, or the external factors, like social context or technology adoption, or even the mechanical steps. These are explored, with proposed research questions, in Table 2-10.

Table 2-10. Future Research Directions, Based on Decision Gaps

Research gap	Research questions	Theory/context/method	Initial links
The role of trust in NFT purchase decisions	How do consumers decide to trust an NFT platform, project, or transaction? What contributes to trust or mistrust?	Mixed method and ethnographic studies	Jin (2024)
The effect that emotion plays in purchase intent	How does consumer emotion or affection influence purchase intent? How might these emotions improve or reduce the probability of an NFT purchase?	Mixed method and ethnographic studies	Wu et al. (2024)
The decision process of an initial NFT purchase	What are the factors that stimulate a consumer to purchase a specific NFT at a specific moment in time? What are the emotional or financial criteria to cause a purchase?	Experimental	Hofstetter et al. (2024)
Accelerants of technology acceptance of NFTs	Can specific attributes of NFTs (e.g., price, brand) help onboard entirely new NFT buyers?	Experimental	Ismail et al. (2024)
Impact of social context on buyer motivation	How much does social media sentiment influence interest in NFTs? What do NFT buyers react to in social content?	Mixed method, qualitative and experimental	Kim & Lee (2024)

2.7.6 Outcome-based Future Directions (ADO)

Most of the studies were quite positive in their outlook on NFTs, explaining the reasons that lead to adoption, usage, purchase intent, and performance, among others. There is a need for additional research on the negative factors of NFTs, such as looking at how bad actors exploit consumer vulnerabilities in the NFT market, as in cryptocurrency (Kerr et al., 2023), collectibles (Castonguay & Stein Smith, 2020), or other online purchases (e.g., Knuth & Ahrholdt, 2022). Despite a general acknowledgement that fraud is a known consideration, there has been limited research into the types of

schemes that are effective and how to ensure consumers are not being taken advantage of. These opportunities are further expanded upon in Table 2-11.

Table 2-11. Future Research Directions, Based on Outcome Gaps

Research gap	Research questions	Theory/context/method	Initial links
The relationship between NFT experience and offer price	Do NFT experienced buyers bid more or pay higher prices? Or does buyer inexperience impact NFT prices?	Mixed-method, qualitative	Prasad et al., (2023)
Factors impacting perceived trust and brand loyalty	What can brands do to engender trust in NFT purchases? Do more trustworthy brands inspire more purchases?	Qualitative, comparative study	Lee et al. (2023)
Consumer responses to luxury NFT cues	Are there cues that NFT collections can provide to be considered premium products? Do these cues engender long-term brand engagement?	Mixed-method, longitudinal	Zhang & Phang (2024a)
Consumer vulnerabilities in purchasing NFTs	How are consumers fooled by NFT scammers? Are some consumers more vulnerable than others?	Comparative, cross-cultural study	Blue et al. (2024)
Herd behavior in NFT consumers and its impact on prices	Do NFT consumers display herd behavior? How do NFT holders react to exogenous events?	Quantitative study	Ali et al. (2024)

2.8 Conclusion

This systematic literature review conducted a thorough, rigorous review of the current literature on NFT consumer behavior to address five main research questions. We identified 53 articles focused on NFT consumers that represented a level of peer-reviewed, scholarly work that met our criteria. We identified the 39 theories that have been employed to study NFT consumers in these studies. We constructed a TCM-ADO Map to display the theories, context, and methods used to explain NFT consumer behavior. To demonstrate the dominant antecedents, decisions, and outcome variables used to explain NFT consumer behavior, we constructed an ADO Relationship Map and employed a voting system to highlight the frequency of those relationships. We observe that Purchase intention is the most studied

outcome, with 84 of 235 observations, which may be due to the unique, peer-to-peer nature of the market. We propose future researchers pursue integrated models of theories to capture the multi-dimensional nature of NFTs, especially the SOR and TAM theories. Lastly, to help guide where consumer behavior research on NFTs should head, we created a group of suggestions based on gaps in the ADO relationship map.

3 BEHIND THE BUBBLE: EXPLORING THE MOTIVATIONS OF NFT BUYERS

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Abstract

Non-fungible tokens (NFTs) represent a multibillion-dollar global market. While considerable speculation exists about the future utility of NFTs, there has been limited research into the consumer behaviors of market participants. This research paper examines the motivations of NFT buyers through the lens of self-determination theory. Using a sample of 482 participants, the authors tested a conceptual framework to better understand both NFT buyers' intrinsic and extrinsic motivations. This study expands the literature on NFTs in three different ways: i) it is the first study, as far as we know, to focus exclusively on NFT buyers and their motivations in purchasing NFTs; ii) it explores a variety of potential motivations theorized in the literature; and iii) it tests the expected future value of NFTs as both a motivation and as a moderator for NFT buyers. The authors determined that intrinsic motivation had the most substantial effect on purchase intention, and the expectations of NFTs' future value positively moderated the effect of amotivation on purchase intention. In contrast, high expectations of future value moderated the effect of external regulation on purchase intention. The results suggest that NFT buyers are not as impacted by potential social or monetary gain as often characterized in the academic literature but behave more like traditional buyers of luxury goods.

3.1 Introduction

Non-fungible tokens (NFTs) represent an emerging form of digital items traded in a global marketplace. Since their invention in 2017, NFTs have evolved from a cryptocurrency feature into a 24/7 global consumer market comprised of art, collectibles, music and so on, worth over USD 12B in annual trading volume at its peak in January 2022 (Aharon & Demir, 2022; Dowling, 2022a; Umar et al., 2022a).

This is surprising as NFTs are challenging to purchase, requiring several highly technical, pre-meditated steps (Bhujel & Rahulamathavan, 2022; He et al., 2022; Zarifis & Castro, 2022). Though every NFT transaction is public and perfectly traceable (Chen & Omote, 2022; Kavitha et al., 2022; Nakavachara & Saengchote, 2022), fraud remains rampant because many NFT projects exist solely to fleece initial buyers of their digital assets (Huang et al., 2023; He et al., 2022; Kshetri, 2022). Even when NFT projects are legitimate, the vast majority of projects fail, losing their purchase value within weeks, never to be resold (Nadini et al., 2021; Venz, 2022). Finally, the NFT market experienced its first bubble from 2017 to 2019 (Jiang & Liu, 2021), falling so rapidly that "the average sale (USD) at the beginning of 2020 was close to zero" (Vidal-Tomás, 2023). Yet, buyers continue to purchase NFTs. What explains their commitment to this seemingly risky behavior?

Primarily rooted in self-determination theory (SDT), this study sheds light on buyer motivation in the NFT market, utilizing the Situational Intrinsic and Extrinsic Motivation Scale (SIMS), and has implications for the broader NFT market phenomenon in general. Given the varied explanations in the existing body of research, this study utilized the Situational Intrinsic and Extrinsic Motivation Scale (SIMS) to measure four distinct motivations defined by SDT: intrinsic motivation, identified regulation, external regulation, and amotivation (Guay et al., 2000).

To address the question of why consumers buy NFTs, we developed a novel conceptual model and conducted a study of NFT buyers (n = 482) on self-reported interest in and future expectations of

NFTs from March to May, 2023. The aim of this research is three-fold: i) to identify specific motivations that may support and explain the purchase intention of NFT buyers; ii) to explore the differences between intrinsic and extrinsic motivations for the purchase intention of NFT buyers; and iii) to examine the influence of expectations regarding the future value of NFTs on the relationships between the specific motivations and the purchase intention of NFT buyers.

We empirically validate our model through a quantitative partial least squares/structural equation modeling (PLS-SEM) technique. Our findings reveal that expectations of NFTs' future value and specific dimensions of motivation positively or negatively impact NFT buyers' purchase intention. Additionally, expectations of NFTs' future value were moderated by some, but not all, dimensions of motivation.

This paper provides three contributions to the literature. First, we propose a new theoretical model of NFT buyer motivation. Motivations behind digital purchases are of particular interest since such purchases are entirely self-directed, without the involvement of a sales agent. A variety of theoretical models exist concerning motivations for online purchase behavior (e.g., Close & Kukar-Kinney, 2010; Shang et al., 2005; Veronika, 2013) as well as purchase intention (e.g., Animesh et al., 2011; Bian & Forsythe, 2012; Jalilvand & Samiei, 2012). Previous studies of NFT buyers have approached this topic by focusing on attitudes toward the purchasing process (Yilmaz at al., 2023) or the trust required to acquire the underlying crypto assets (Zarifis & Castro, 2022), or by studying specific assets, such as metaverse land (Ante et al., 2023). This study is uniquely focused on the motivations of NFT buyers and on studying their antecedents.

Second, we contribute to the emerging field of NFT research by focusing on a critical actor in the market ecosystem, the NFT buyer. Prior work has focused on NFT asset pricing as an investment class (e.g., Ko et al., 2022; Umar et al., 2022a; J. Wang et al., 2023) or the future promise of applied NFT

technology in various fields (e.g., Hamledari & Fischer, 2021; Manzoor et al., 2020; Zhan et al., 2022). While the inefficiency of NFT price setting has been studied (Aharon & Demir, 2022; Dowling, 2022a) as well as the role speculation plays in NFT prices (Vidal- Tomás, 2022; Y. Wang et al., 2022), little direct research has focused on the participants who ultimately set market prices. Unlike other markets, NFT buyers play an active role in pricing assets, initially when they buy an NFT and subsequently when they sell an asset (Baals et al., 2022; Malik et al., 2023). Thus, our research adds to the growing literature on the economic activity of the NFT market (e.g., Nadini et al., 2021; Pinto-Gutiérrez et al., 2022; Wilkoff & Yildiz, 2023).

Third, we view NFTs as digital versions of luxury goods and, thus, full of potential implications for future researchers and practitioners in the field. Indeed, luxury brands have been some of the first to dabble in NFTs, with varying degrees of success (Joy et al., 2022). This research should interest those wishing to understand the opportunities and challenges in enticing NFT buyers to participate in a new project.

3.2 Literature Review

While a significant body of literature exists on cryptocurrency, NFT research is still nascent (e.g., Nadini et al., 2021; Baek et al., 2022; Taherdoost, 2023). Although online purchase intentions have been studied for decades (e.g., Animesh et al., 2011; Koufaris, 2002; Shang et al., 2005), there is a lack of research on buying and transferring digital goods (Hamari & Keronen, 2017; Ritterbusch & Teichmann, 2023) and on research concerning personal motivations behind self-directed consumer behavior (Paul, 2015; 2019; Shahid & Paul, 2021; Tsai, 2005). Given the rapid and significant growth of the NFT market, researchers have questioned the motivations behind NFT transactions, especially since market participants buy and sell anonymously (Bao & Roubaud, 2022; Dwivedi et al., 2022; Chowdhury et al., 2023; Yilmaz et al., 2023).

An optimistic view suggests that NFT buyers are fan enthusiasts, and NFTs are collectibles that represent the future of marketing. The volatility of NFT prices is typical of the early adoption phases of new technology (Chohan & Paschen, 2021; W. Lee & Cha, 2023; Özkaynar, 2022; Zaucha & Agur, 2022). More financially oriented researchers believe that NFT purchases are speculative investments whose volatility is exacerbated by NFTs' denomination in cryptocurrency and whose prices may be manipulated by bad actors (Anselmi & Petrella, 2023; Apostu et al., 2022; Chalmers et al., 2021; Dowling, 2022b; Vidal-Tomás, 2022; 2023). Others posit that NFT buyers are driven by a herd mentality or "fear of missing out" (FOMO), as seen in other digital assets (Bao et al., 2023; Karkkainen, 2021; Lyócsa et al., 2022; Mamidala & Kumari 2023; Ozdemir & Kumar, 2023; Yousaf & Yarovaya, 2022a). Finally, NFT buyers could simply be stuck trading crypto assets within the cryptocurrency ecosystem, continuing to purchase NFTs out of a stubborn nihilism (Allen & Potts, 2023; Chohan, 2022; Dowling, 2022a).

Given these varied explanations, there have been calls for specific research into NFT buyers' continued participation in such speculative market behavior (Bao & Roubaud, 2022; Prasad et al., 2023), as well as a general call to explore the motivations behind the purchase behavior of NFT buyers (Baklanova et al., 2023; Dwivedi et al., 2022; W. Lee & Cha, 2023; Xie et al., 2023; Yilmaz et al., 2023).

3.2.1 Definitions related to NFTs

For this paper, we will refer to several specific aspects of NFTs, which we define as follows: *blockchain, non-fungible token (NFT), NFT project, minting, wallet, gas fees,* and *Ethereum.* A blockchain can be defined as a public, immutable ledger that records transactions and secures trackable assets using cryptographic computations (Franceschet, 2021). Blockchains operate as shared databases of the transactions undertaken (Nakamoto, 2009) and are often public to provide transparency into these transactions. A non-fungible token (NFT) is a unique item with specific, non-repeatable attributes that lives in a cryptocurrency-based blockchain and can be bought and sold on a public platform any time (Ali

& Bagui, 2021; Chalmers et al., 2021; Wilson et al., 2021). An NFT project is composed of a group of NFT items from the same creator whose attributes vary within a defined limit, implying the rarity of certain attributes over others. One of the earliest and best known NFT projects is CryptoPunks, where 10,000 24x24 pixel artworks were algorithmically created. These "punks" have observable variances between them – e.g. presenting male or female, smoking a cigarette, wearing sunglasses, etc. – such that no two are the same (J. Wang et al., 2023). Inspired by CryptoPunks, NFT projects often run in lots of 10,000, released all at once in a new smart contract (Bruschi et al., 2022). Minting is the act of an NFT creator directly originating a new NFT and setting up the process ready for purchase, often at a nominal price. NFTs can be combined into a collection but, once all are minted in a project, new NFTs cannot be added (Wilson et al., 2021). If a project mints its entire run, NFT creators often turn to creating new, related NFT projects, which can be understood as brand extensions of the original. For example, the very successful Bored Ape Yacht Club (BAYC) sold out of its original 10,000 items and to onboard more buyers into their ecosystem, launched its derivative 20,000 item Mutant Ape Yacht Club at a lower price point than what a BAYC sold for (Brouard, 2024).

A wallet is a semi-public storage mechanism for NFTs and cryptocurrencies. Anyone can observe the transactions interacting in a wallet – for example, buying and selling NFTs and cryptocurrency – but cannot positively identify the owner because buyers may own multiple wallets. Gas fees refer to the transaction fees paid to network participants ("miners") who provide computational resources needed to ensure the integrity of the blockchain. To purchase, list, or sell an NFT requires a gas fee because these transactions must be secured on the blockchain network (Murray et al., 2022). Finally, Ethereum is the most popular cryptocurrency for NFTs; the authors of the Ether blockchain developed the specific protocol and software that created NFTs in the first place (Entriken et al., 2018).

3.2.2 The NFT Market

The NFT market has undergone two distinct periods of rapid growth and decline. The first, from 2017 to 2019, was driven exclusively by early cryptocurrency adopters because buying, storing, and spending cryptocurrencies required even more sophisticated technical knowledge than it does today (Jiang & Liu, 2021). The second wave, from 2020 to its peak in January 2022, correlated strongly with COVID-19 lockdowns and appeared to be driven by consumer adoption of digital wallets from for-profit companies, such as Coinbase (Ghosh et al., 2023a; Y. Wang et al., 2022; White et al., 2022). Figure 3-1 illustrates this growth by visualizing the monthly volumes on the largest NFT marketplace, OpenSea (Cho et al., 2024).

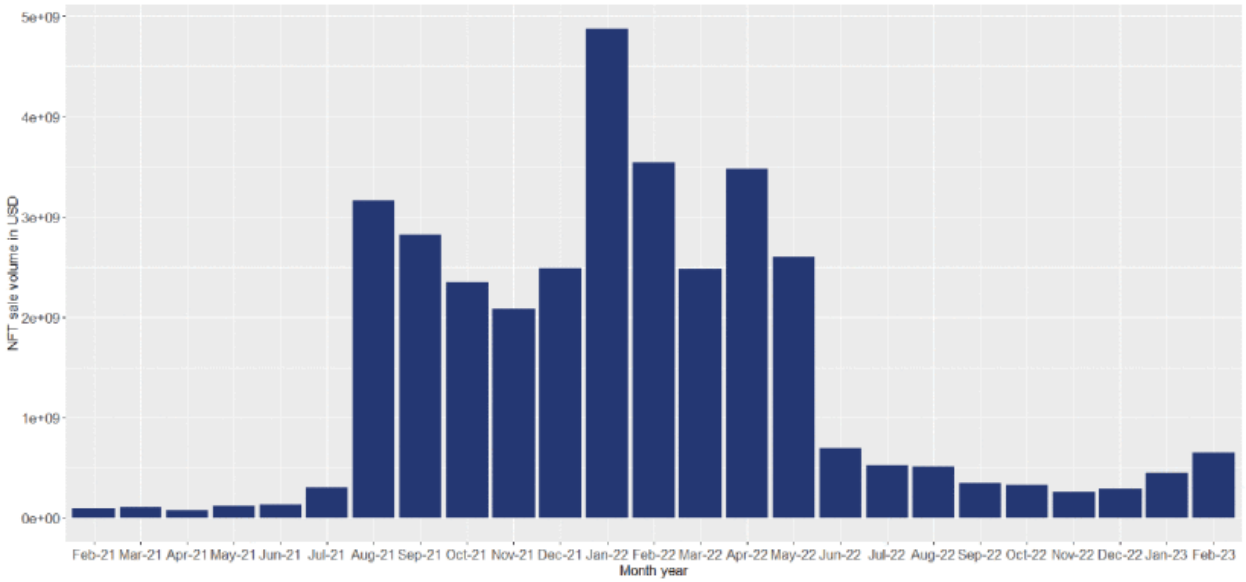


Figure 3-1. OpenSea Monthly NFT Trading Volumes (taken from Cho et al., 2024)

Both periods have been criticized as speculative bubbles (Flick, 2022; Griffin, 2023; Pinto-Gutiérrez et al., 2022). Such criticism assumes that NFT buyers are primarily motivated by financial goals and, yet, unlike the derivative cryptocurrency market, the NFT market is comprised of creative collectibles, such as art, music, in-game tokens, avatars, and digital trading cards (Umar et al., 2022a). Thus, NFTs provide social status in addition to potential financial return (Joy et al., 2022; Yilmaz, 2023).

Moreover, the NFT market is not a single marketplace but a collection of many virtual markets across numerous websites (Nadini et al., 2021). Because of cryptocurrency's distributed nature, NFT transactions occur in a single, public contract between a buyer and a seller rather than in a central clearinghouse for trades, such as a public stock exchange (Hewa et al., 2021). Thus, buyers can sell their assets anytime, at a dynamic price they determine, rather than waiting for a mediating third party to act (Malik et al., 2023).

3.2.3 Technical Complexity of Buying NFTs

While NFTs are somewhat synonymous with cryptocurrency, the underlying blockchain provides the token mechanism required for NFTs, and the most popular blockchains trade these tokens as digital currencies. To purchase an NFT, a buyer must first own the correct blockchain-specific cryptocurrency token because the purchase price of the NFT and the required gas fees are both denominated in the blockchain's cryptocurrency (Murray et al., 2022).

Participating in the NFT market is considerably more demanding than a typical online shopping experience. Before purchase, a buyer must complete disparate steps, which include creating a wallet, acquiring the correct digital currency, transferring the currency to the wallet, creating a marketplace account, syncing one’s digital wallet to that marketplace account, paying the gas fees, and acquiring the correct NFT (Zarifis & Castro, 2022). These activities are not streamlined on a single website but are independent activities. Even when successful, buyers face risks, such as interacting with a bogus NFT project, being defrauded by a smart contract that empties their wallets, and paying exorbitant transaction fees (Ferone & Della Porta, 2022; He et al., 2022). These steps demand tenacity, intentionality, self-taught technical literacy, and persistence on the part of the NFT buyer in order to successfully engage (Albayati et al., 2023).

Why, then, do buyers participate at all?

This study addresses NFT buyers directly to illuminate their durability and explain their continued participation in the market. The results of our research should promote a general understanding of the NFT market and provide future research avenues on how market participants operate in inefficient, developing markets.

3.3 Conceptual framework and hypotheses development

We propose a theoretical model of the dimensions of motivation and expectation of future value as independent variables, with the purchase intention of NFT buyers as the dependent variable (Figure 3-2). Drawing on self-determination theory (Deci & Ryan, 1985; 2000), we include both intrinsic and extrinsic motivations (Kasser & Ryan, 1993; 1996), with specific reference to intrinsic motivation, identified regulation, external regulation, and amotivation (Guay et al., 2000). These variables speak to several theories identified in the literature to explain NFT buyer behavior. Early adopters express intrinsic motivation (Ali et al., 2023; Sharma et al., 2022); NFT buyers chasing a bubble express identified regulation (Steinmetz, 2023; Vidal-Tomás, 2023); herd-driven behavior relates to external regulation motivations (Colicev, 2023; Lyócsa et al., 2022), and amotivation could explain cynical activity (Allen & Potts, 2023; Chohan, 2022). Moreover, our conceptual model includes the expectation of NFTs' future value as a determinant of the purchase intention of NFT buyers, in line with previous studies focused on the purchase of digital goods (e.g., Fortagne & Lis, 2023; Hamari & Keronen, 2017; J. Wang et al., 2023). Additionally, the expectation of NFTs' future value was seen to present moderation effects on the relationships between intrinsic and extrinsic motivations and the purchase intention of NFT buyers.

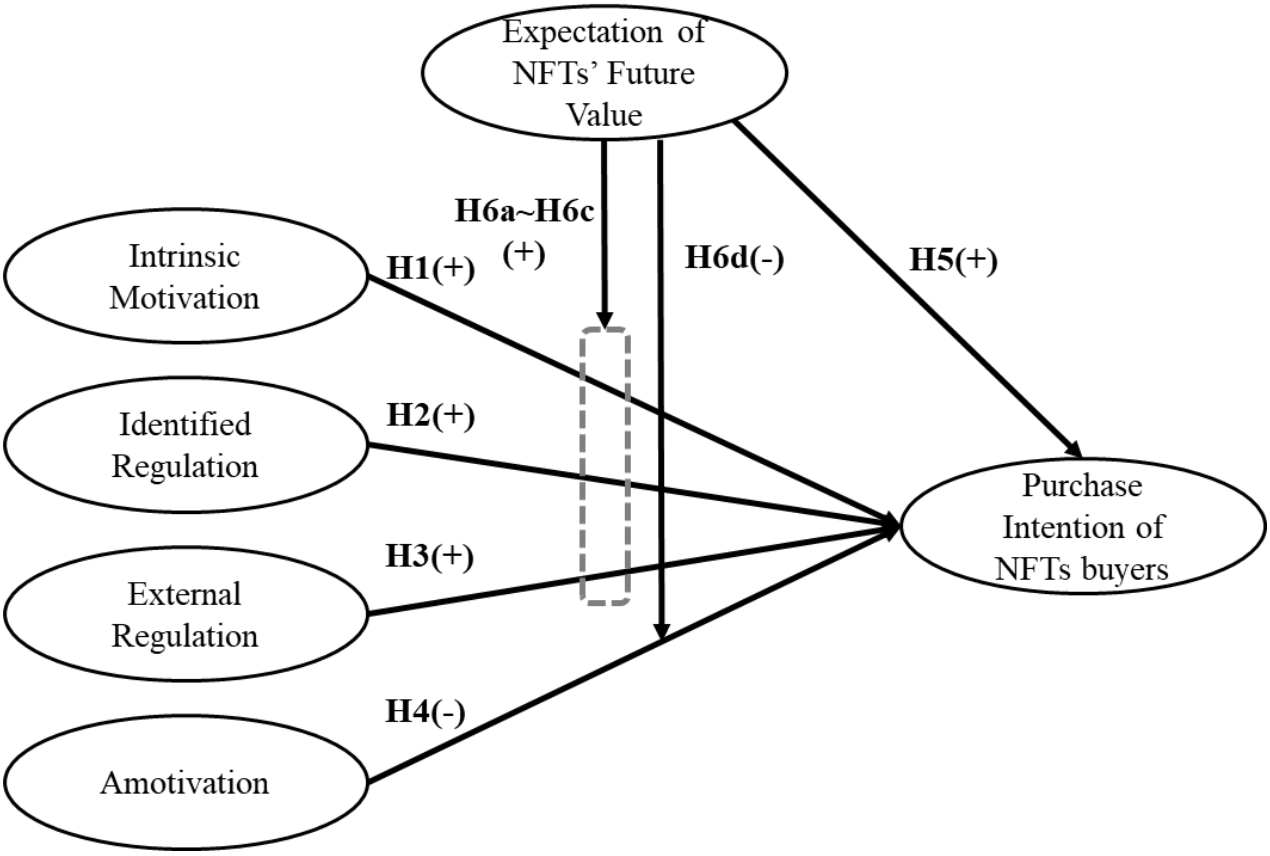


Figure 3-2. Conceptual Model

3.3.1 Self-determination theory

Self-determination theory (SDT) is a theory of human motivation concerned with the individual's decision making and the motives behind such behavior (Deci & Ryan, 1985; 2000). Situational motivation is centered on the experiences of an individual in understanding a specific activity (Vallerand, 1997). According to this theory (Ryan & Deci, 2000), three different types of motivation lead individuals to make decisions. These motivations extend along a continuum from the amotivation level, where individuals are not motivated, to an intermediate level, where extrinsic motivations play the central role, meaning that individuals are motivated by external elements. Finally, they move to the level of intrinsic motivations, where motivations within the person justify the individual decisions taken.

One extreme of the self-determination continuum (Ryan & Deci, 2000) is amotivation. In this state, individuals do not act at all, or if they do decide, it is without intention because they cannot see the connection between the behavior and the expected result (Lejealle & Dolansky, 2023). This is directly related to one of the Situational Intrinsic and Extrinsic Motivation Scale (SIMS) dimension, amotivation (Guay et al., 2000).

Extrinsic motivations are found in the middle of the continuum, where individuals decide to pursue external rewards, such as wealth/luxury, fame, and image, or to avoid punishments (Kasser & Ryan, 1993; 1996). Thus, we can identify different regulatory styles – namely, external, introjected, identified, and integrated regulations (Ryan & Deci, 2000). In this study, we will explore external and identified regulation with greater specificity since both are included in the SIMS scale (Guay et al., 2000). External regulation refers to situations where decisions are made "to satisfy an external demand or reward contingency” (Ryan & Deci, 2000: 72). Identified regulation refers to a more autonomous form of extrinsic motivation because decisions are conscious and sensitive to behavioral objectives and, therefore, the action performed is not unimportant.

Intrinsic motivation sits at the other extreme of the self-determination continuum (Ryan & Deci, 2000) and is linked to the intrinsic regulation presented in the SIMS scale (Guay et al., 2000). In this motivation, decisions are made, and subsequent actions are taken, on the basis of the pleasure, enjoyment, interest, or inherent satisfaction that the behavior can bring (Lejealle & Dolansky, 2023; Ryan & Deci, 2000).

SDT is considered suitable for this research for two main reasons. First, our research focuses on the sustained motivation of buyers rather than technical dimensions or NFT adoption. SDT has been studied extensively in related fields. For instance, the purchase intentions concerning both online buying (Shang et al., 2005) and luxury goods have been researched utilizing the SIMS scale (Truong, 2010;

Truong & McColl, 2011). SDT has been used to study the precedents of the NFT space, such as community-driven investing through crowdfunding (Gerber & Hui, 2013), cryptocurrency and initial coin offering purchase behavior (Fisch et al., 2021), and digital games (Uysal & Yildirim, 2016), as well as the purchase of metaverse goods (Ante et al., 2023).

Second, SDT has been used to explore the motivations behind luxury goods purchases (Ajitha & Sivakumar, 2019; Bian & Forthsythe, 2012). We regard NFTs as luxury goods for several reasons. The real-world utility of consumer NFTs is far below their intangible value and entirely derived from aesthetics and rarity, a working definition of luxury in several theoretical papers (Heine, 2012; Nueno & Quelch, 1998; Tynan et al., 2010). Additionally, the perceived value of luxury goods is highly dependent on marketing hype, and NFTs may only be enjoyable if they are expensive and desirable to others (Michau et al., 2023). Ample studies exist on the external social signaling and self-satisfaction derived from luxury purchases (Vigneron & Johnson, 1999; Wiedmann et al., 2009). Indeed, this research implies that NFTs function as a new type of luxury good. While questions have been raised to what extent buyers purchase luxury goods for either intrinsic reasons, such as self-directed pleasure (Tsai, 2005), or extrinsic reasons, such as conspicuous consumption to impress others (Veblen, 1899), practitioners have been advised to bifurcate their luxury brand strategies to signal either conspicuous consumption (external motivation) or subtle wealth (internal motivation) (Berger & Ward, 2010; Wilcox et al., 2009). More recent research suggests that luxury-goods decisions may be inauthentically motivated, complicating this internal versus external motivation binary (Goor et al., 2020; Zhang et al., 2022). This mirrors early research on the perceived value drivers behind NFTs, which appear to change over the life of the purchasing decision (Yilmaz et al., 2023).

3.3.2 Intrinsic Motivations

Intrinsic motivations are self-directed. Buyers of traditional luxury items often derive pleasure from aesthetic or decorative appreciation without regard to financial expectations (Anderson, 1974). These intrinsic motivations allow buyers to experience self-directed pleasure (Silverstein & Fiske, 2003). Prior research has identified a subset of NFT buyers who buy and hold, mirroring traditional art patronage (Franceschet, 2021). Others claim NFT buyers may be replicating the experience of physical collectibles (Ali et al., 2023; Stough & Graham, 2023). If NFT buyers are intrinsically motivated, it may explain some of their continued willingness to participate in the marketplace (Sharma et al., 2022). Therefore:

H1: NFT buyers' intrinsic motivations will have a positive relationship with their purchase intention concerning NFTs.

3.3.3 Extrinsic Motivations

Extrinsic purchase motivations are informed by the social nature of acquiring goods that are seen as valuable by others. Thorstein Veblen successfully argued that social status could be signaled through a consumer's buying behavior (Veblen, 1899). Today, luxury goods routinely reflect pricing strategies that communicate perceived value to consumers (Bagwell & Bernheim, 1996). NFT creators mimic these luxury-goods pricing strategies by elevating the mint prices of NFT projects to indicate quality, future utility, or rarity (Y. Lee, 2022; Mekacher et al., 2022). Because buyers can immediately resell their NFTs, questions have been raised as to what extent NFT buyers are extrinsically motivated and profit driven (Griffin, 2023).

For our study, we considered two variables that, taken together, represent a spectrum of extrinsic motivations: external regulation and identified regulation (Guay et al., 2000). External regulation concerns rewards and punishment. It is closely aligned with herd-driven motivations, where

NFT buyers participate to overcome the fear of missing out (FOMO) (Herman, 2000; Prasad et al., 2023) or to find the next big reward (Karkkainen, 2021).

Identified regulation is a higher level of motivation based on the personal importance and values of the individual (Deci & Ryan, 2000). NFTs are prone to speculative bubbles (Guo et al., 2023; Vidal-Tomás, 2022; 2023) and, since a peculiar feature of the NFT market is the immediacy of secondary sales, buyers who engage in such speculation do so to play the market successfully (Steinmetz, 2023; J. Wang et al., 2023; Yousaf & Yarovaya, 2022b).

Both motivations may be valid rationales for buying NFTs. Therefore:

H2: NFT buyers' identified regulation will have a positive relationship with their purchase intention concerning NFTs.

H3: NFT buyers' external regulation will have a positive relationship with their purchase intention concerning NFTs.

3.3.4 Amotivation

Cryptocurrency buyers have been accused of an irrational, almost fanatical commitment to their investments, popularized by the ideals of "hold on for dear life" (HODL), which encourages buyers to hold on to their assets through short-term volatility (Zhao et al., 2022), and "diamond hands," which suggest that the eventual, most significant reward comes to those who display the courage to hold long-term assets despite their short-term volatility (Pedersen, 2022). Such traders may undertake increasingly risky bets that are unlikely to succeed with social proofing (Lyócsa et al., 2022). These "you only live once" (YOLO) investors create unstable buyer expectations, which inform many NFT narratives (Allen & Potts, 2023).

There has been limited research into YOLO investors, especially their interests in cryptocurrencies and derivatives like NFTs (Chohan, 2022). Since our study concerns existing buyers of NFTs, an expression of amotivation should counter purchase intention, suggesting that amotivated buyers may experience fatigue and doubt their behavior. Amotivation should have a negative impact on their future purchase intention concerning NFTs. Thus,

H4: NFT buyers' amotivation will have a negative relationship with their purchase intention concerning NFTs.

3.3.5 Future expectation of value

Expectation of future returns is a fundamental driver of investment activities. Whereas public stock returns signal future expectations through the interplay of share price, investments, and profitability (Fama & French, 2006; Lamont, 2000), buyers of NFTs have minimal data. While the NFT market is public, financial information is limited to past activities, such as previously priced transactions (Kireyev & Lin, 2021).

The NFT market also suffers from limited market participants (Chowdhury et al., 2023) and illiquidity (Wilkoff & Yildiz, 2023). Buyers' collective expectations set the market price of NFT assets (Malik et al., 2023). The nascent NFT market has already experienced cycles of heightened confidence and, subsequently, lower investor expectations, which impact investment, innovation, and project development (Allen & Potts, 2023).

As there are no traditional fundamentals for NFTs or their underlying cryptocurrencies, the future expectation of value is primarily a function of buyer confidence (Cheah & Fry, 2015; White et al., 2022). In previous studies, the expectation of future profit has been seen to impact both liquidity and asset prices in NFTs (Wilkoff & Yildiz, 2023) and the willingness to purchase (J. Wang et al., 2023). Therefore:

H5: The expectation of NFTs' future value will have a positive and direct relationship with the willingness to purchase.

3.3.6 Moderating effects of future expectation of value

In line with the previous arguments, the expectation of future value is a typical driver of investment decisions in the stock market (Fama & French, 2006; Lamont, 2000). As buyers have limited information regarding NFT prices (Kireyev & Lin, 2021), they form an opinion or a perception about the value of an NFT from online publications, forums, or the advice of friends (Critien et al., 2022; Kraussl & Tugnetti, 2023; Pinto-Gutiérrez et al., 2022; Umar et al., 2022a).

For traditional goods, consumers develop purchase intentions based on price expectations, sometimes driving towards or away from a decision (Jacobson & Obermiller 1989, 1990; Kwon & Schumann, 2001). The expected future price (EFP) assesses what consumers expect to pay for a product. EFP perception reinforces existing motivations when those motivations positively impact purchase intention, and it can mitigate negative relationships (Jacobson & Obermiller, 1990; Kalwani et al., 1990; Krishna, 1994). Since NFT buyers become NFT sellers, the EFP of their purchases matters considerably. Not only might a future NFT go on "sale" compared to its current price, but the current NFT might increase significantly in value.

In light of prospect theory (Kahneman & Tversky, 1979), where a buyer's reference point becomes the relative basis for gains or losses, NFT buyers face a dilemma with every transaction. Will they regret buying a certain NFT because it will go down in value or regret not buying it because it will go up in value? Loss aversion might paradoxically motivate buyers to purchase if they expect the EFP to rise.

Therefore:

H6: The expectation of NFTs' future value will have a positive, moderating effect on the relationship between:

a) **Intrinsic motivation and purchase intention concerning NFTs.**
b) **Identified regulation and purchase intention concerning NFTs.**
c) **External regulation and purchase intention concerning NFTs.**

H6d: The expectation of NFTs' future value will have a negative, moderating effect on the relationship between amotivation and purchase intention concerning NFTs.

3.4 Method

3.4.1 Sample and Data Collection

A study was undertaken with self-identified NFT buyers to test the proposed conceptual framework. Since we were interested in querying the market's direct-to-consumer segment, which is itself a niche market rather than a mass market, the challenges in identifying NFT owners were not insignificant. Respondents were sourced through three mechanisms: in public posts on the social media platform Twitter (now x.com), via three email outreaches sent to investors in emerging technology, and through our research promoted by a finance blog, Young Money. Twitter yielded the vast majority of respondents because it has been a consistent source of aggregation for cryptocurrency communities (Critien et al., 2022; Park & Lee, 2019) and, subsequently, it has become the most popular public platform for discussing NFTs (Kapoor et al., 2022; Lade et al., 2023; Meyns & Dalipi, 2022; Yilmaz et al., 2023). Several influential NFT accounts retweeted (re-posted) the survey to their audiences.

One of the authors emailed investors familiar with cryptocurrency and NFTs, explaining the intentions of the study, promising anonymity, and providing a link to the online survey. They were also asked to forward the survey to others they thought would be knowledgeable about the NFT space (i.e., a

"snowball" methodology). Finally, our survey was included in a weekly email/blog focused on younger, investor-oriented men. This nonprobability sampling seems adequate for our research (Hair et al., 2020; Vehovar et al., 2016) since NFT buyers are a niche segment not traceable in an official database. The survey was conducted between March and May 2023, well past the peak of the NFT market in January 2022, during an obvious downslope of interest (Cho et al., 2024). One benefit of studying this period is that the research focused on buyers who remained NFT holders well past any recently inflated expectations.

Our survey yielded 602 respondents who had previously purchased NFTs, providing 482 surveys that were complete and usable. This sample size is comparable to other SIMS research (615 in Truong et al., 2010), superior to other financial research (128 in Kengatharan & Kengatharan, 2014), and commensurate with other NFT research surveys (356 in Fortagne & Lis, 2023; 542 in Lee & Cha, 2023).

To calculate the minimum sample size, we follow two procedures. First, the PLS-SEM literature generally presents the "10 times rule" (Hair et al., 2017), according to which the minimum sample size should be greater than ten times the maximum number of structural paths pointing to any construct in the research framework. According to this rule, our minimum sample size should be 50 observations (or 90 if we consider the moderating effects). Second, to reinforce the accuracy in the definition of the minimum sample size, the G*Power version 3.1.9.7 (Faul et al., 2007) was used with the set of parameters recommended by Hair et al. (2017): F-test with linear multiple regression, fixed model and R^2 deviation from zero; test power 95%; error probability of 0.05 and f^2 of 0.15. The required minimum sample size is 166. Therefore, the sample size of this study was deemed adequate to conduct a statistical analysis (482 observations). As Table 3-1 shows, 90% of the 482 survey respondents were male, and the majority were educated to the level of bachelor's degree or higher (86.1% total). Perhaps surprisingly, given the perception of NFT buyers, most of our respondents were over the age of 35 (66.5% total).

Table 3-1. Sample Profile

Characteristics	N	%
Gender		
Male	434	90.0
Female	39	8.1
Non-binary	3	0.6
Prefer not to say	6	1.3
Level of Education		
High School	53	11.0
Bachelor's Degree	240	49.8
Master's Degree	129	26.8
Ph.D./Advanced Degree	46	9.5
Other	53	2.9
Age		
18-25 years old	33	6.8
25-34 years old	128	26.6
35-44 years old	168	34.9
45-54 years old	114	23.7
55-64 years old	34	7.1
65+ years old	5	1.0

3.4.2 Questionnaire and Measures

These data were collected using an online questionnaire comprised of primarily close-ended questions divided into six sections: demographics (age, gender, education, country of origin, country of residence), length of experience with cryptocurrency and NFTs, adapted dimensions of motivation, expectations of future value, and purchase intention concerning NFTs.

The primary variables were operationalized using a four-item scale adapted from Guay et al. (2000) and their Situational Motivation Scale (SIMS). SIMS includes four categories that we employed as independent variables derived from the motivational factors proposed by SDT: *intrinsic motivation, identified regulation, external regulation*, and *amotivation* (Deci & Ryan, 1985; 1991). SIMS has been widely used to measure motivation in as diverse arenas as sports (Standage et al., 2003; Conroy et al., 2006), online purchasing (Shang et al., 2005), luxury goods (Truong, 2010; Truong & McColl, 2011). As

for the variable of *expectation of NFTs' future value*, we used three questions adapted from Kengatharan and Kengatharan (2014). All five variables were scored on a 7-point Likert-type scale (1 = "Strongly Disagree," 4 = "Neither Agree nor Disagree," and 7 = "Strongly Agree").

The outcome variable, *purchase intention of NFTs buyers*, was operationalized through a single question that scored on a Juster scale of 0-10 (Juster, 1966), ranging between 0 = "No Chance" and 10 = "Certain" (Juster, 1966).

Furthermore, four control variables were chosen: *age*, *gender*, *educational level,* and *cryptocurrency experience*. While demographics have been studied as specific variables in previous studies (Ajitha & Sivakumar, 2019), our focus was on buyer motivation, and no compelling data suggested that SIMS motivations are heavily influenced by age, gender, or educational levels. Experience in cryptocurrency was considered for inclusion as one of our independent variable but was rejected – there is insufficient overlap between cryptocurrencies and NFTs, given that many cryptocurrencies precede the creation of NFTs. This became a proxy for technical comfort – for example, addressing the potential early adoption factor of NFTs (Jiang & Liu, 2021). Ultimately, it demonstrated no discernable distinction.

3.4.3 Nonresponse, common-method, and respondent bias

Since our survey was open ended in its collection window, nonresponse bias was not a particular concern. However, we did not determine any difference between the early respondents (first 75%) and the late respondents (last 25%) (Armstrong & Overton, 1977).

Common-method bias (CMB) was a concern because we presented the survey only once to a respondent, and we maintained no means of follow up. We know that common-method bias can impact the empirical results of a survey (Burton-Jones, 2009; Podsakoff, 2003). Consequently, several precautionary steps were taken in the design of the survey (Podsakoff, Podsakoff, Williams, Huang &

Yang, 2024; Podsakoff, 2003): (1) respondents did not have access to the theoretical model; (2) respondents were instructed that there were no right or wrong answers; (3) the ordering of the questions deviated from the order of the variables in the conceptual model; (4) the model's constructs were assembled from different, previously validated source materials; (5) the labels of the scales included the extremes (1 and 7) but also the midpoint (e.g., 4); and (6) the study included other variables aside from those in the conceptual framework because this study is a subset of a larger research initiative. Moreover, in line with the recommendations of Podsakoff et al. (2024), two critical procedural remedies were implemented. First, respondents were guaranteed anonymity and confidentiality of their answers to reduce their evaluation apprehension, and only generic personal information was asked. Second, the scales used in the survey present different properties, related with their anchor types, anchor points and scale formats. By doing that, it is expected to decrease CMB. Finally, other procedural remedies (Mackenzie & Podsakoff, 2012; Podsakoff et al., 2024) were considered to overcome the lack of ability or motivation of the respondents, such as: selecting respondents who have knowledge about the phenomenon under study and for which the topic studied is relevant; emphasize the importance of respondents' personal experiences and enhance their motivation to answer accurately by explaining the importance of knowing more about this recent phenomenon; and used a small questionnaire to enhance the response rate.

In addition to the previous *ex-ante* procedures, two *ex-post* procedures were implemented to ensure that common-method bias was not a presenting issue. First, we implemented Harman's one-factor test (Malhotra et al., 2006; Podsakoff et al., 2024). An exploratory factor analysis resulted in seven factors with eigenvalues above 1.0 when all the variables considered in the conceptual model were included, explaining about 63% of the variance. The first factor was responsible for 21.2% of the variance, a value well below the 50% limit suggested by Podsakoff et al. (2003). Second, we used the market variable test (Lindell & Whitney, 2001; Malhotra et al., 2006). Respondents were asked about

their level of knowledge about the Ph.D. programs in management (using a seven-point scale ranging from 1 = very low to 7 = very high), which is a subject well outside the scope of this study. This question was included in the study with that purpose, and is a variable theoretically unrelated with the variables of the conceptual model but similar in terms of format (Podsakoff et al., 2024). This question's average correlation with the set of variables included in the model was 0.049. By selecting the second smallest correlation of this question and the other variables (r_M = 0.009), a new correlation matrix was adjusted for common-method bias. The comparison between both correlation matrices indicated no relevant differences (Δr = 0.011), maintaining the significance levels (Lindell & Whitney, 2001). Hence, the common-method bias was not a concern.

Finally, to ensure the quality of the response, we implemented a suggestion by Atuahene-Gima (2005). At the end of the questionnaire, respondents were asked a question about their knowledge of the subjects presented in the questionnaire on a seven-point scale (1 = very low to 7 = very high). The results show an average value of 5.63 (S.D: = 1.12), which gives us confidence in the responses.

3.5 Results

We tested our theoretical framework by using partial least squares structural equation modeling (PLS-SEM) with the SmartPLS 4.0.9.3 software (Ringle et al., 2015). We evaluated and interpreted the results following a two-stage approach (Hair et al., 2012). Initially, the reliability and validity of the measurement model were assessed, followed by an examination of the model fit and then the values of the structural model (Hair et al., 2017; 2019).

3.5.1 Assessment of the Measurement Model

We first assessed the quality of the measurement model by reviewing the indicator reliability, internal consistency, convergent validity, and discriminant validity (Hair et al., 2017). As Hair et al. (2019)

recommended, we removed all the standardized loadings that failed to meet the minimum threshold of 0.70 (Table 3-2). The only exception was one item in intrinsic motivation, which exceeded the 0.60 value and, therefore, we decided to maintain it in the analysis.

Table 3-2. Measurement Items and Validity Assessment

VARIABLES - scale items	**Standardized loadings**
SIMS *Thinking about times when you have purchased NFTs, rate how strongly you agree or disagree with each statement below:(Consider a scale of 1-7 with 1=Strongly Disagree, 4= Neither Agree or Disagree, and 7=Strongly Agree)*	
INTRINSIC MOTIVATION α=0.784/CR=0.862/AVE=0.612	
Because I think that purchasing NFTs is interesting.	0.645
Because I think that purchasing NFTs is pleasant.	0.805
Because purchasing NFTs is fun.	0.845
Because I feel good when purchasing NFTs.	0.817
IDENTIFIED REGULATION α=0.773/ CR=0.869/ AVE=0.688	
Because I am doing it for my own good.	0.798
Because I think that purchasing NFTs is good for me.	0.855
By personal decision.	*
Because I believe that purchasing NFTs is important for me.	0.835
EXTERNAL REGULATION α=0.700/CR=0.863/AVE=0.760	
Because I am supposed to do it.	*
Because it is something that I have to do.	*
Because I don't have any choice.	0.932
Because I feel that I have to do it.	0.808
AMOTIVATION α=0.807/CR=0.873/AVE=0.632	
There may be good reasons to purchase NFTs, but personally, I don't see any.	0.816
I purchase NFTs, but I am not sure if it is worth it.	0.759
I don't know; I don't see what purchasing NFTs brings me.	0.819
I purchase NFTs, but I am not sure it is a good thing to pursue.	0.784
EXPECTATION OF NFTs' FUTURE VALUE α=0.743/CR=0.855/AVE=0.794 *When you think about the future value of non-fungible tokens (NFTs), how much do you agree or disagree with the following statements? (Consider the scale of 1-7 with 1=Strongly Disagree, 4= Neither Agree or Disagree, and 7=Strongly Agree)*	
The financial returns of NFTs are equal to or higher than the average returns of other investments.	*
Investors are satisfied with future financial returns from NFT purchases.	0.910
The purchase of NFTs usually has an expectation of financial returns.	0.872

Notes: * - This item was deleted during the scale purification process;
α = alpha; CR = composite reliability; AVE = average variance extracted

Second, we assessed the reliability of the measurements using both alpha and composite reliability (CR) for the framework variables (Hair et al., 2017. 2019). For the independent variables, all alpha were at or above 0.70 (the variable external regulation was the lowest at 0.70). The CR factor loadings were at or above 0.70 (the lowest being 0.855 for expectations of NFTs' future value). The above results showed that the internal consistency of our conceptual framework's variables was reliable (Hair et al., 2017).

Third, we assessed convergent validity. As with the alpha and CR scores, the average variance extracted (AVE) needed to exceed 0.5 to indicate an acceptable range of findings (Bagozzi & Yi, 1988; Hair et al., 2019). Our results showed that the lowest AVE value (0.612) was from intrinsic motivations. Therefore, the convergent validity of the variables in this study can be assured.

The final step was to evaluate discriminant validity using three procedures: cross loadings, Fornell and Larcker's (1981) approach, and the heterotrait/monotrait ratio (HTMT) analysis. First, we observed that every construct's outer loadings exceeded its cross loadings with other constructs (Hair et al., 2017). Second, the square root of each variable's AVE was more highly correlated to that specific variable than with any other construct. Finally, per the HTMT ratio procedure, all the ratios of correlations between variables were observed to be below the threshold of 0.85 (Henseler et al., 2015), again confirming the discriminant validity (Table 3-3). The highest HTMT ratio was 0.614, well below the threshold of 0.85.

Table 3-3. Discriminant Validity

	1	2	3	4	5	6
1. Expectation of NFTs' Future Value	**0.891**	*0.359*	*-0.311*	*-0.004*	*0.408*	*0.168*
2. Purchase Intention	0.414	**-**	*-0.559*	*-0.121*	*0.460*	*0.479*
3. Amotivation	0.398	0.614	**0.795**	*0.174*	*-0.488*	*-0.365*
4. External Regulation	0.028	0.138	0.24	**0.872**	*0.004*	*-0.119*
5. Identified Regulation	0.533	0.523	0.608	0.087	**0.830**	*0.471*
6. Intrinsic Motivation	0.219	0.539	0.453	0.177	0.602	**0.782**

Note: The boldface scores on the diagonal are the square root of AVE. The values above the main diagonal are the correlation values, while the values below that diagonal are the HTMT values.

3.5.2 Model Fit

In line with Hair et al. (2012), the model fit was assessed by reviewing the explained variance of the dependent variables (R^2), the effect size (f^2), the cross-validated redundancy measure (Q^2), and the standardized root mean square residual (SRMR).

Following Falk and Miller (1992) procedures, the explained variance (R^2) values should be greater than 10%. Our results showed 48.5% R^2 for purchase intention, so the explained variance threshold was exceeded (Table 3-4).

Table 3-4. Results of Structural Model Assessment and PLS Predict Test

Constructs	VIF	f^2	R^2	Q^2	SRMR
Intrinsic Motivation	1.435	0.10			
Identified Regulation	1.817	0.01			
External Regulation	1.103	0.01			
Amotivation	1.435	0.16			
Expectation of NFTs' Future Value	1.264	0.03			
Purchase Intention			0.485	0.431	0.058

	PLS-SEM			LM	
	Q^2 Predict	RMSE	MAE	RMSE	MAE
Purchase Intention	0.431	2.057	1.522	2.110	1.608

At the same time, we analyzed the effect size (f^2) of each exogenous variable on the endogenous variables. When a specific, exogenous variable was omitted from the model, this process determined

the change in the value of the R^2 of the endogenous variable. The thresholds of effect size were 0.02 (small), 0.15 (medium), and 0.35 (large) (Cohen, 1988; Hair et al., 2017), respectively. Our results show that amotivation had a medium effect (0.16) on purchase intention, while Internal Motivation (0.10) and Expectations of NFTs' Future Value showed minor effects (0.03). No other variables displayed effect size above the small effect threshold.

The first step to perform the PLS Predict technique is verifying that the cross-validated redundancy measure (Q^2) must be greater than zero to support predictive relevance for the endogenous constructs (Hair et al., 2012; Shmueli et al., 2019). By utilizing the PLSPredict procedure and applying ten as the number of folds and repetitions (Hair et al., 2012), the value of cross-validated redundancy exceeded zero (Q^2 = 0.431) for purchase intention. The second step consists of analyzing the prediction errors (RMSE and MAE) that result from the comparison between the PLS path model and the linear regression model (LM). In our case, we only present the results for one indicator, since there is only one endogenous variable (purchase intention), measured through a single indicator (Table 3-4). Nevertheless, since for that indicator the values of RMSE and MAE are higher for PLS-SEM than for LM, we can conclude that our model has a high predictive power (Shmueli et al., 2019).

Finally, as a goodness-of-fit measure, we analyzed the SRMR. This index translated the divergence between the observed covariance and the model's implicit correlation matrix (Hair et al., 2017). As Henseler et al. (2014) suggested, this analysis was intended to avoid model misspecification. In our study, the SRMR was 0.058, lower than the determined limit (0.08) suggested by the literature (Hair et al., 2017; Hu & Bentler, 1999).

3.5.3 Structural Model Estimation

As reliability and validity were acceptable, a bootstrapping procedure of 5000 sub-samples was performed (Hair et al., 2012). Table 3-5 (Path coefficients) contain the results of the hypothesized direct

effect relationships. As suggested by Becker et al. (2023), when evaluating direct effect relationships, the moderator should not be included and, therefore, the moderating effect is accessed in a different step. Even so, due to the space limitation, Figure 3-3 shows the results with the moderation effect included. Results show that intrinsic motivation was positively associated with purchase intention (β = 0.273, p<0.001), as was identified regulation (β = 0.101, p<0.05) which supported H1 and H2, respectively. External regulation had no discernable effect on purchase intention, failing to support H3, while amotivation had a negative effect (β = -0.357, p<0.001) on purchase intention, supporting H4. Expectations of NFTs' future value had a positive effect on purchase intention (β = 0.128, p<0.001). Thus, H5 found support.

Table 3-5. Results of Direct Effects

Path coefficients	Hyp.	Results	Standardized Estimate (t-value)	Standard deviation (STDEV)
Direct Effects				
Intrinsic Motivation → Purchase Intention	H1	Supported	0.267*** (5.776)	0.046
Identified Regulation → Purchase Intention	H2	Supported	0.138** (2.612)	0.053
External Regulation → Purchase Intention	H3	Not supported	*-0.006 (0.146)*	*0.043*
Amotivation → Purchase Intention	H4	Supported	-0.389*** (8.407)	0.046
Control Variables				
Age	-	-	*0.007 (0.205)*	*0.036*
Gender	-	-	*0.163 (1.120)*	*0.145*
Educational level	-	-	*0.026 (0.766)*	*0.034*
Cryptocurrency experience	-	-	*0.037 (1.127)*	*0.033*

Notes: *** p=<0.001 ** p=<0.01 * p=<0.05

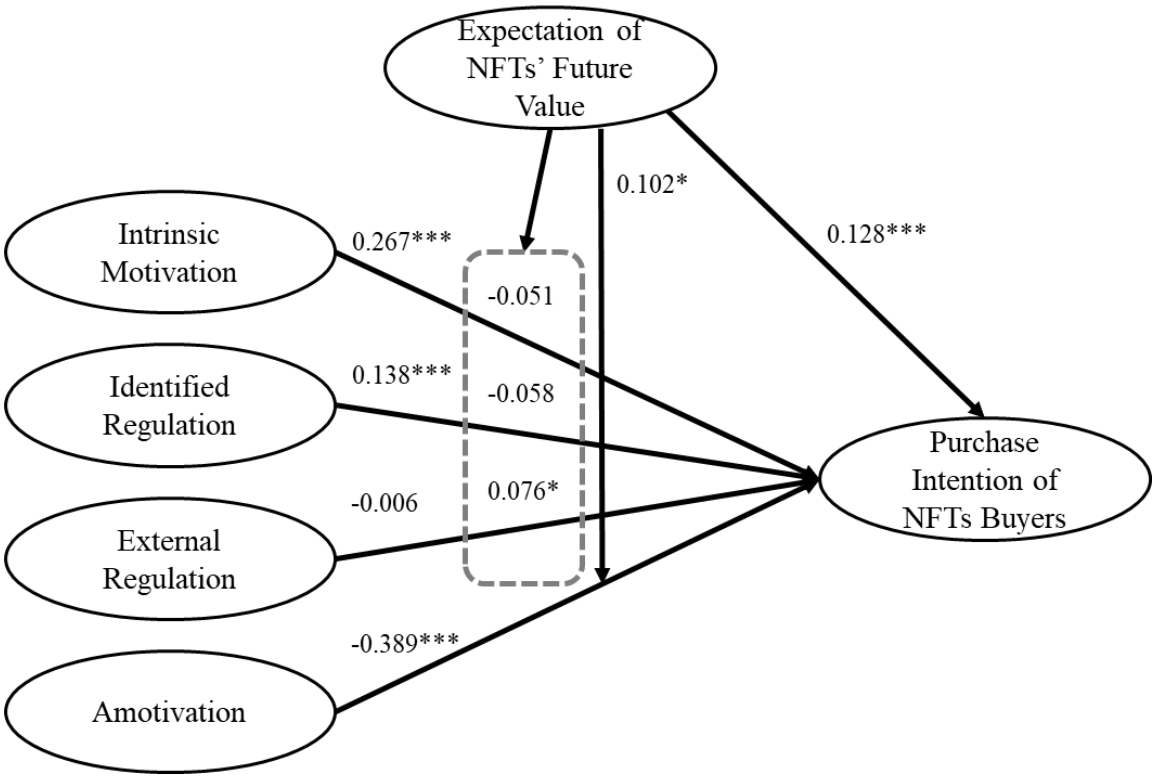


Figure 3-3. Conceptual Model with Results

3.5.4 Assessment of Moderation Effects

In line with the recommendation of Becker et al. (2023), the moderating effects were assessed in a second stage, after evaluating the direct effects. Table 3-6 presents the results of hypothesized moderating effects.

The H6 consisted of four parts. H6a hypothesized that expectations of NFTs' future value would have a positive moderating effect on the relationship between intrinsic motivation and purchase intention concerning NFTs. Expectations of NFTs' future value had no discernable moderating effect on intrinsic motivation. Thus, H6a is not accepted. Likewise, H6b posited that expectations of NFTs' future value would have a positive moderating effect on identified regulation and purchase intention concerning NFTs. However, this was rejected because expectations of NFTs' future value had no significant moderating effect on identified regulation.

Table 3-6. Results of Moderating Effects on Purchase Intention

Path coefficients	Hyp.	Results	Standardized Estimate (t-value)	Standard deviation (STDEV)
Moderating Effects				
Expectations of NFTs' Future Value * Intrinsic Motivation → Purchase Intention	H6a	Not supported	*-0.051 (1.344)*	*0.043*
Expectations of NFTs' Future Value * Identified Regulation → Purchase Intention	H6b	Not Supported	*-0.058 (1.063)*	*0.047*
Expectations of NFTs' Future Value * External Regulation → Purchase Intention	H6c	Supported	0.076* (2.019)	0.038
Expectations of NFTs' Future Value * Amotivation → Purchase Intention	H6d	Supported	0.102* (2.338)	0.045
Direct Effects				
Intrinsic Motivation → Purchase Intention			0.273*** (6.802)	0.039
Identified Regulation → Purchase Intention			0.101* (1.977)	0.05
External Regulation → Purchase Intention			*-0.034 (0.775)*	*0.038*
Amotivation → Purchase Intention			-0.357*** (8.068)	0.044
Expectations of NFTs' Future Value → Purchase Intention			0.128*** (3.431)	0.039
Control Variables				
Age	-	-	*0.002*	*0.034*
Gender	-	-	*-0.024*	*0.034*
Educational level	-	-	*0.023 (0.739)*	*0.032*
Cryptocurrency experience	-	-	*0.049 (1.448)*	*0.033*

Notes: *** p=<0.001 ** p=<0.01 * p=<0.05

Expectations of NFTs' future value have a positive moderating effect on the relationship between external regulation and purchase intention concerning NFTs ($\beta = 0.076$, $p<0.5$), supporting H6c. It was found that, with low expectations about NFTs' future value, external regulations present a negative relationship with the purchase intention concerning NFTs. On the other hand, when the expectations of NFTs' future value are high, external regulation's effect on the purchase intention concerning NFTs is only slightly negative, almost null. This result is curious because external regulation is

most tied to reward-based activity, suggesting that, if future expectations of NFTs were low, such expectations extinguished any external motivation driving a need to buy.

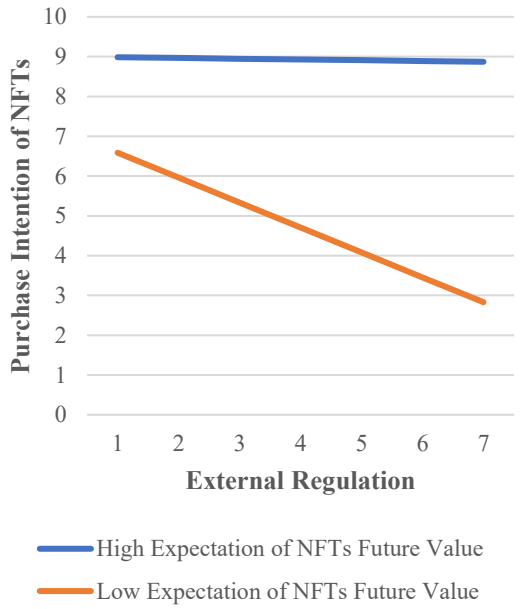


Figure 3-4. Moderation Effect of NFTs’ Future Value on the Relationship Between External Regulation and Purchase Intention Concerning NFTs

Expectations of NFTs' future value were also expected to have a negative moderating effect on the negative relationship between amotivation and purchase intention concerning NFTs (H6d). As anticipated, expectations of NFTs' future value negatively moderated the effect of amotivation on purchase intention, meaning that the value presented by the interaction effect is positive ($\beta = 0.102$, $p<0.5$). When expectations of NFTs' future value were high, amotivation had a less negative (and not positive) significant effect than when expectations of NFTs' future value were low.

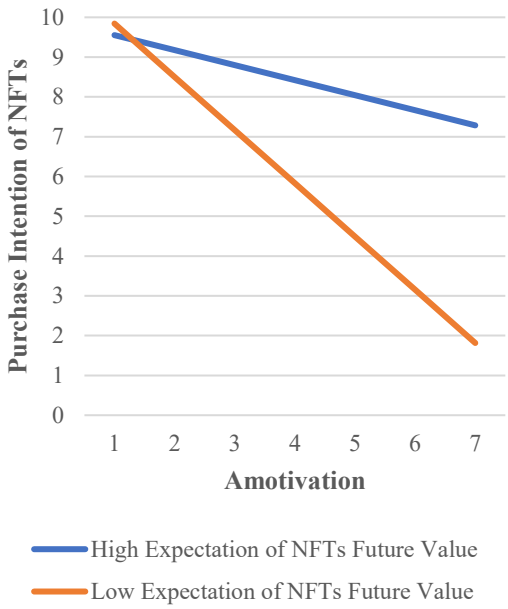


Figure 3-5. Moderation Effect of NFTs' Future Value on the Relationship Between Amotivation and Purchase Intention Concerning NFTs

3.6 Conclusions and Implications

3.6.1 Contributions and theoretical implications

This seminal study tries to understand the motivations behind NFT buyers' decisions to purchase NFTs. It is the first study, as far as we know, to focus exclusively on NFT buyer motivations. We tested various motivations for NFT buyers as well as expected future value as a motivation and a moderator.

We stressed different motivation effects – intrinsic, extrinsic, and amotivation effects on willingness to purchase. We determined that intrinsic motivation had the most substantial effect. This finding contrasts with how NFT buyers are often characterized in popular media and conceptual articles as herd investors driven by greed. In fact, the two external motivation measures – internal regulation and external regulation – had limited effect and no discernable effect, respectively. These results suggest that NFT buyer motivation is only somewhat impacted by social or monetary gain but not, contrary to previous studies, as motivated by social comparison (Q. Xie & Muralidharan, 2023) or by

herd behavior (Mamidala & Kumari, 2023; Ozdemir & Kumar, 2023). Finally, amotivation reduced the willingness to purchase, indicating that buying NFTs requires considered determination and is not an impulse purchase.

The expectation of future performance acts simultaneously as a determinant and moderation effect. It had a medium effect on purchase intent, indicating that it played a role in NFT buyers' motivations. Therefore, it seems that the motivation to purchase NFTs is not only related to the market itself and, thus, the expectations about NFTs' future value, but also personal motivations. This is in line with the previous findings of Fortagne & Lis, (2023) which found a hedonistic attitude demonstrated "a significant impact on purchase intention." Of note in our study, however, is the fact that the moderating effect of expectation about future performance was more significant. Expectations of future performance positively impacted external regulation and herd-driven motivation, whereas it did not affect internal regulation, the motivation most closely tied to speculative behavior.

Likewise, the expectation of future performance mitigated the impact of amotivation, suggesting that rising market expectations could potentially lure NFT buyers back into activity from apathy. Nevertheless, this cannot be regarded as evidence of a future speculative bubble because the negative relationship with the purchase intention concerning NFTs is still maintained. Finally, expectations of NFTs' future value did not impact intrinsic motivations, suggesting that the potential of future performance did not impact NFT buyers motivated by an emotional connection.

We conclude that the market's volatility is not entirely explained as a speculative bubble amplified by bad actors (Vidal-Tomás, 2022; 2023). We did not find support that NFT purchases are primarily driven by a herd mentality (Colicev, 2023; Karkkainen, 2021; Lyócsa et al., 2022) but observed that expectations of future value moderated corresponding external regulation motivations. We found no support that NFT buyers were stubbornly engaging in cynical risk-taking without expectations of

future performance (Allen & Potts, 2023; Chohan, 2022) but, instead, such expectations moderated pessimistic amotivation. We did see that intrinsic motivations and expectations of future value had significant impacts on buyer motivations. Taken together, this does not suggest NFT buyers are early adopters of new technology as some have proposed (Chohan & Paschen, 2021; Özkaynar, 2022).

We argue that consumer NFTs are a novel form of luxury goods: they require self-actualization to purchase (Shahid & Paul, 2021), they can trade for significant sums (Kireyev & Lin, 2021), they are not impulse purchases but rather demand premeditation (Wang et al., 2022), and their value is heavily derived from the interplay of personal, group, and societal cues (Vickers & Renand, 2003). Indeed, in assessing the NFT market as a whole, luxury brands have been early creators of NFT Projects and some of the few success stories (Park & Lim, 2023; Yoo et al., 2023).

Thus, NFT buyers can best be categorized as collectors of digital luxury items, excited by the novelty of using cryptocurrency to purchase items they feel an emotional connection to and whose value they expect to increase, which is not directly driven by popularity but may be informed by it.

3.6.2 Practitioner implications

Since intrinsic motivation displayed the strongest effect, companies entering the NFT market as a brand extension should focus on well-designed NFTs projects for their core audience. The best chance for a successful NFT launch is engaging those buyers who are intrinsically motivated by the pleasure of collecting. As discussed, NFT buyers may see these items as luxury goods and they should be priced accordingly. However, the expectation of future value is still critical to an NFT project's success, indicating that successful marketing hype may help existing brands transition to NFT projects. Despite this, brands would be wise to avoid overpromising and underdelivering. The expectation of future value is a strong moderating effect, so brands should consider NFTs as brand extensions to reward or engage

their existing, loyal buyers rather than a quick monetization route. A poorly performing NFT project can sour buyers on all subsequent NFT projects of that brand (Sundararajan, 2022).

Moreover, this study allows NFT buyers to make more informed purchase decisions. Since the market perception of future value heavily influences NFT prices, buyers would do better to assess whether an NFT project is reinvesting in its intrinsic value, with the prospect of future appreciation, versus riding the wave of popularity and utilizing hype. NFT buyers should consider if they are speculative, short-term investors or dedicated, long-term fans, as the volatility in the market impacts both approaches.

3.6.3 *Limitations and Future Research*

This study has several limitations. First, it is constrained to self-reported data on NFT buying decisions. No attempts were made to verify the respondents' purchase of NFTs and, therefore, the research may be limited to direct buyers only, ignoring any non-consumer utility of NFTs. The decision was made to make the survey anonymous to obtain the maximum number of respondents possible, so no follow-up research was conducted. A future study could be undertaken that compares questionnaire results with the trading patterns of an NFT buyer as wallet activity is public. Including verification mechanisms on the NFT purchase in future studies may enhance data reliability.

Second, most respondents were drawn from Twitter, which may not be a representative sample of NFT buyers. While Twitter (now x.com) is a social media platform where traders exchange ideas about NFTs, the respondents recruited through Twitter may represent an unusually tenacious subset of NFT buyers who are more tech-savvy and engaged in the subject matter (Kapoor et al., 2022; Yilmaz et al., 2023). Most NFT projects have individual private chatrooms on third-party applications, such as Discord. A follow-up study could be undertaken with NFT buyers of newer and older NFT projects to understand better how time impacts purchase intention.

Third, this study was conducted from March 2023 to May 2023, which spanned a period when NFT prices and trading volumes were down considerably from their peak (Cho et al., 2024). The participants who owned NFTs could suffer from a survivorship bias because other participants have exited the space and did not respond to our survey. A study like this one could be replicated during a boom cycle to determine if rising asset prices impact any of the motivations studied here.

Fourth, 90% of respondents were male. While the NFT market is understood to be comprised of a disproportionate number of men, a study where a more representative gender sample was undertaken could result in different conclusions.

Fifth, other antecedents or determinants can be studied in future research. We used Purchase Intent, whereas other consumer studies have employed different variables, such as willingness to purchase, purchase value, or effective purchase amount. Likewise, additional variables could be used as moderators such as experience with NFTs or experience with cryptocurrencies, to test how time impacts interest in the NFT market. Similarly, a moderator for risk propensity could be employed, either positively – to test how being more adventurous can lead people to buy these products even though they are not so secure in their future value – or negatively – to test the effect of risk aversion on making people unlikely to purchase NFTs.

Sixth, this study is limited to NFT buyers. Additional studies could research how non-buyers are similarly or differently motivated from NFT buyers. Further exploration of buyers' and non-buyers' motivation might uncover behavioral or attitudinal differences between the groups.

Finally, this study utilized a quantitative research approach. Adding a qualitative or mixed-method approach could help us better understand the interplay of motivations for NFT buyers as well as why non-buyers might remain reluctant to participate. Mixed-method studies, in particular, may provide a deeper understanding of motivation because participant self-reflection could yield new insights.

4 WHO BUYS NFTS: SPECULATORS, FANS, OR EARLY ADOPTERS? UNDERSTANDING BUYER MOTIVATIONS USING SELF-DETERMINATION THEORY

This chapter is under review by a Q1 journal.

Abstract

Non-fungible tokens (NFTs) represent an emerging digital asset class with growing relevance to brand engagement and consumer behavior. Despite their increasing adoption in marketing practice, limited research has systematically examined the motivations underlying NFT purchases, failing to integrate extrinsic and intrinsic factors in a unified, testable model, particularly one that compares buyers and non-buyers. This present study investigates the motivations of NFT buyers applying self-determination theory (SDT) and its sub-theory, goal contents theory (GCT). Through a novel application of the Aspiration Index across a sample of 1,075 participants, it is, to our knowledge, the first large-scale empirical study comparing both NFT buyers and non-buyers via a unified motivational framework. The findings reveal that both the motivation for wealth, an extrinsic motivation, and the motivation to contribute to one's community, an intrinsic motivation, had positive direct effects on NFT ownership and purchase intention. Yet NFT ownership was shown to have the most significant impact on purchase intention, suggesting that experience, rather than motivational orientation, plays a pivotal role in continued market engagement. These results challenge simplistic narratives that characterize NFT markets as driven solely by either speculation or *fomo*. Instead, they reveal a hybrid motivational landscape and suggest that initial exposure to NFTs may reshape future behavior, lending support to a technology adoption explanation. The study

contributes to the literature on digital goods consumption and self-determined consumer behavior, while offering actionable guidance for marketers seeking to design more targeted and psychologically attuned NFT campaigns.

4.1 Introduction

Non-fungible tokens (NFTs) are a relatively recent class of digital assets, traded continuously in a decentralized, peer-to-peer market. The NFT market is as notorious for its technical complexity as its wild price swings and susceptibility to fraud (Ghosh et al., 2023b; Sharma et al., 2023; Xie et al., 2024). Unlike conventional online purchases, NFT transactions occur directly between the digital wallets of a buyer and a seller, without a central clearinghouse (Mirza et al., 2022). While this decentralized architecture has facilitated rapid market expansion, it has also exacerbated price volatility (Franceschet, 2021). Given that today's NFT buyers become tomorrow's NFT sellers, additional research on consumer behavior is warranted. However, research on consumer NFT purchase behavior remains nascent in the literature. Responding to calls for additional empirical investigation (Bao et al., 2024; Chang et al., 2024; Sangsawang, 2024), this study advances the literature by comparing and contrasting the motivations of buyers and non-buyers following Goal Contents Theory (GCT) and operationalizing intrinsic and extrinsic constructs through a related tool, the Aspirations Index (Kasser & Ryan, 2011).

The central research question guiding this study is: What motivates individuals to buy NFTs? To explore this question, this study considers five sub-objectives: i) to identify which motivational factors influence purchase intention amongst NFT buyers; ii) to examine the differences between the intrinsic and extrinsic goal-seeking of NFT buyers; iii) to evaluate the role of prior NFT ownership in shaping future purchase intention; iv) to determine which motivations may increase or decrease future purchase intention of NFTs; and v) to derive implications for researchers and practitioners engaged in NFT marketing.

To address these objectives, the authors propose a new theoretical model based on self-determination theory (SDT) to explain the motivational drivers of NFT future purchase intention and NFT ownership. This model was empirically tested by a quantitative structural equation modeling technique. The findings reveal that one extrinsic motivation, *wealth aspiration*, had a statistically significant effect on NFT ownership and purchase intention. Similarly, one intrinsic motivation, *community aspiration,* also had a statistically significant effect on owning NFTs and the purchase intention of NFTs. These effects suggest an interplay between different motivations surrounding NFT consumer behavior.

More notably, prior ownership of NFTs emerged as the strongest predictor of the constructs that were studied. NFT ownership exerted a large and direct impact on the purchase intention of NFTs, indicating that previous experience with NFTs mattered considerably more than any personal motivations studied. This suggests that an initial purchase is a threshold experience with a first purchase increasing the likelihood of future engagement. This finding underscores the importance of consumers engaging in low-stakes experimentation to drive NFT adoption.

This study advances the academic discourse on NFT consumer behavior by highlighting the nuanced motivations that drive purchase intention and, perhaps, wider NFT adoption. From a practical standpoint, these findings imply marketers may achieve greater success by targeting NFT campaigns towards a subset of existing, engaged customers already experienced with the technology, rather than trying to onboard new buyers into NFTs. In doing so, brands may foster effective relationships and cultivate lasting engagement in the NFT ecosystem.

4.2 Literature Review

4.2.1 Non-Fungible Tokens and the NFT Market

To contextualize the marketing application of NFTs, it is important to first understand their technological origin and its evolution. Blockchain technology was first introduced in 2008 through the publication of "Bitcoin: A Peer-to-Peer Electronic Cash System," which envisioned a decentralized, distributed peer-to-peer network to facilitate digital current transactions via cryptographic signatures (Nakamoto, 2008) Bitcoin established the blockchain infrastructure for digital currency subsequently extended by other chains, such as Ethereum and Solana (Ali et al., 2023).

NFTs emerged from these previously indistinguishable cryptocurrency tokens into uniquely serialized items that include a verifiable right to a digital asset (Kraizberg, 2023). Their technical viability was enabled by the introduction of the ERC721 protocol on the Ethereum blockchain, which allowed additional custom-defined metadata to be stored within a unique ID (Ante, 2022; Costa et al., 2023; Tang et al., 2023). This innovation ensured that every NFT retains a full ownership history, enabling its current owner to irrevocably commit to a transaction, which has fueled market growth (Franceschet, 2021).

The global NFT market experienced two distinct periods of expansion. The first, from 2017 to 2019, was largely driven by Ethereum enthusiasts and early adopters (Nadini et al., 2021). At the time, specific technical skills were needed to participate, and the market eventually contracted due to saturation and limited accessibility (Jiang & Liu, 2021). The second wave began in late 2020 with the launch of NBA Top Shot NFTs, a series of branded trading cards, and quickly expanded in financial scope and breadth of NFTs, peaking in January 2022. This period, coinciding with COVID-19 lockdowns, saw rapid consumer adoption thanks to the introduction of commercial custodial wallets (Aharon & Demir, 2022; Mirza et al., 2022; White et al., 2022). As NFTs evolved from technical novelties into true consumer-facing

products, their perceived value became increasingly shaped by psychological and social motivations, which raises critical questions about what drives NFT adoption.

4.2.2 NFTs as Marketing Assets

Although researchers envision a future where NFTs are deployed in fields as varied as applied medicine (Skalidis et al., 2023), pharmaceutical validation (Turki et al., 2023), waste management (Khiem et al., 2023), or supply chain management (AlKhader et al., 2023), the NFT market itself has thus far remained concentrated in digital art, collectibles, trading cards, metaverse avatars, and in-game objects (Bhujel & Rahulamathavan, 2022; Dwivedi et al., 2022; Umar et al., 2022a). These entertainment use cases, explained away as transitional by technology-oriented researchers, have nonetheless persisted, opening up new possibilities for marketers.

Colicev (2023) argues that NFTs can function as standalone brand assets and create value throughout a consumer relationship lifecycle at multiple touchpoints across the marketing funnel. Branded NFTs can drive initial awareness, particularly among digitally native consumer segments, of new products or offers. During the purchase phase, NFT ownership can be used to stimulate cross-channel sales by offering exclusive merchandise to existing token holders. Post-purchase, NFTs may strengthen loyalty and brand attachment through emotional and psychological ownership of unique brand elements, reinforced via community experiences.

NFTs also support fan-driven community formation. NFT holders often join decentralized networks such as Discord or Telegram, where digital ownership can serve as a basis for exclusive community membership (Brouard, 2024; Kim et al., 2022). These communities, exemplified by projects like the Bored Ape Yacht Club, not only extend the brand experience into online social environments but also can organize for in-real-life events (Brouard, 2024). For marketers, these curated digital and real-

world experiences can amplify brand affiliation and foster deeper community engagement (Malik et al., 2023).

Finally, NFTs offer innovative applications for loyalty and retention. Boukis (2024) demonstrates that tokenized loyalty rewards, or using NFTs as incentives, can outperform traditional point-based schemes, which are purely transactional. Such rewards offer not only functional value but also emotional significance, particularly when combined with limited availability or exclusivity. In this way, NFTs can enhance psychological ownership and foster deeper connections between consumers and brands.

Despite these opportunities, the use of NFTs as marketing assets remains nascent. A brand’s success with NFTs hinges on its marketers' ability to understand and target NFT buyers effectively. While diverse buyer segmentation models have been proposed to explain a spectrum of buyers from investment-driven speculators to community-oriented enthusiasts (Ante, 2024; Eastman et al., 2024; Vomberg & von Gegerfelt, 2025), these distinctions are rarely implemented in practice. As a result, marketers can mistake speculation for sustained brand engagement and obscure the real drivers of NFT adoption and retention. Yet the effectiveness of these marketing efforts ultimately hinges on a deeper question: why do consumers buy NFTs in the first place?

4.2.3 Understanding Consumer NFT Adoption

Many NFT strategies have relied on speculative value or exclusivity, which is a sensible approach in a growing, frothy market. Post the 2022 peak, there is a growing recognition that psychological and social drivers, such as enjoyment, belonging, or creative expression, may be increasingly informing buyer behavior (Ahsan & Gupta, 2024b; Park & Lee, 2024a; Prasad et al., 2023). However, few marketing frameworks adequately capture the complexity of NFT buyer motivations (Hofstetter et al., 2022).

Indeed, the academic literature remains divided on the underlying motivations of NFT buyers. One perspective suggests that NFT buyers are primarily extrinsically motivated, and the speculative

bubbles of NFT prices are examples of extreme online investing events; therefore, interest will wane as financial returns diminish (Bao et al., 2023; Lyócsa et al., 2022; Mamidala & Kumari, 2023). In contrast, other scholars contend that buyers are intrinsically motivated, citing a strong psychological attachment to their selected digital goods (Ali & Bagui, 2021; Stough & Graham, 2023; Zaucha & Agur, 2023) or a desire for social belonging within exclusive digital communities (Almeda & Hartmann, 2023; Kim et al., 2022; Xiao et al., 2024). Thus, researchers tend to frame NFT buyer motivations in one of two extremes: externally motivated, herd-like speculators, or intrinsically motivated, community-driven fans.

While the fundamental tension between extrinsic and intrinsic drivers may invite interest in further buyer segmentation, the body of research appears contradictory if NFT buyers are bifurcated into either *speculators* or *fans*, suggesting the need for a more integrated motivational theory (Ante, 2024; Chang et al., 2024; Yilmaz et al., 2023b).

4.2.4 Goal Contents Theory

Examining individual motivation provides an opportunity to test divergent theories present in the literature. Kasser and Ryan (1993, 1996) introduced Goal Contents Theory (GCT) as a framework to explore the nuances of motivations by explaining why individuals pursuing the same goal can be motivated differently and experience differing amounts of satisfaction with the same achievement. Because GCT explicitly distinguishes intrinsic from extrinsic goals and has been used to explain heterogeneous motivations in digital consumer contexts, it offers a strong theoretical foundation for reconciling the motivational tensions observed in NFT adoption literature.

GCT itself is a sub-theory of Self-Determination Theory (SDT), which explores how motivation, feelings, and personality contribute to satisfy basic personal needs (Deci and Ryan, 2000). SDT has been widely applied to the context of online consumer behavior since purchase motivations are not facilitated by a salesperson but made independently (Gerber & Hui, 2013; Shahid & Paul, 2021; Shang et al., 2005).

GCT further extends SDT by categorizing goals as either intrinsic or extrinsic and holds a dynamic and cyclical view of achievement. It posits that progress toward a goal itself provides a feedback loop that reinforces motivation. Thus, while two individuals may participate in the same activity, GCT allows us to consider how their distinct motivational orientations influence their actions and satisfaction with their outcomes.

4.2.5 Previous Studies on NFT Buyers

To date, several studies have explored the motivations for NFT purchases, but the field remains nascent and, as such, faces some methodological limitations. A key challenge stems from the difficulty of recruiting large, representative samples of NFT holders, as this community is decentralized. Many studies fail to distinguish between buyers and non-buyers (e.g., (Fortagne & Lis, 2023; Prasad et al., 2023; Schlimm et al., 2024).

Several studies have used psychological frameworks. Fortagne and Lis (2023) used the Stimulus-Organism-Response (SOR) model to investigate the impact of utilitarian and hedonic attitudes on the future purchase intention of NFTs, finding that the perceived aesthetics of NFTs and perceived price value predicted purchase intent. However, only 107 of the 356 participants were NFT holders, and the analysis did not distinguish between buyers and non-buyers. Prasad et al. (2023) studied the perceived risks and benefits of NFTs, defining perceived benefit as a combination of value appreciation, feeling of exclusivity, and enjoyment. This definition blended motivations since value appreciation and feelings of exclusivity are extrinsic motivations, whereas enjoyment is an intrinsic one. However, the perceived benefits were post-purchase evaluations, and the survey was conducted with 358 participants, without specifying how many were NFT owners. Ante (2024) investigated buyer motivations using self-determination theory (SDT) among 343 buyers, theorizing that primary motivations represented sub-segments within the NFT buyer set, but did not investigate how intrinsic vs. extrinsic motivations interact or co-occur, despite observed

motivational overlap. Griffiths et al. (2024) tested NFT buyer motivations across four dimensions – intrinsic, identified regulation, external regulation, and amotivation – and determined that both intrinsic motivation and expectation of future value had a significant and direct effect, highlighting a tension between intrinsic and extrinsic motivations. The authors noted the need for future research comparing the motivations of buyers and non-buyers. Schlimm et al. (2024) found that social needs and wants were the strongest predictors of NFT purchase intention among 856 respondents. However, the study did not segment buyers from non-buyers, limiting motivational contrast. Vomberg & von Gegerfelt (2025) constructed four buying motives from customer engagement theory, using them to segment NFT buyers into five distinct archetypes, using 807 respondents. They did not consider non-buyers nor investigate the differences between buyers and non-buyers.

While others viewed NFT purchases as part of a technology adoption framework, such as UTAUT2 or TAM. Lee and Cha (2023) used both TAM and UTAUT in their model, examining attitudes towards NFT by having South Korean undergraduate students create their own NFTs. Although they found that perceived usefulness and profit expectancy were key drivers of NFT interest, they excluded the aesthetic value and community dimensions of NFTs, which comprise two potential drivers of NFT market growth. Park & Lee (2024) focused on holders and non-holders of a specific NFT project, utilizing UTAUT2. This exploratory study's applicability is limited by its obscure subject (Kbollect) and its low sample size (n=11). Sangsawang (2024) proposed a theoretical integration of the theory of planned behavior (TPB) and the technology acceptance model (TAM) in a survey of 336 self-reported buyers. This study found that attitude and perceived usefulness were the strongest predictors of purchase intent, with the integrated TPB-TAM model explaining a significant portion of variance in NFT purchases. However, this study was more exploratory in its aims; since it used unvalidated and self-developed constructs, and did not apply psychometric testing (e.g., Cronbach's alpha) or structural equation modeling (SEM), its conclusions are more directionally orientated than reliable. Vega and Camarero (2024) framed NFT purchases as a

technology adoption, using established UTAUT2 constructs and employing PLS-SEM to validate their findings. Enjoyment proved to be a significant factor for repeat purchasers, but any price-related constructs were deliberately excluded to isolate adoption effects, despite price appreciation and expectations of future value being central in NFT market interest (Christopher Westland, 2024). Of the 387 participants, 237 reported NFT ownership, yet purchasing behavior was not directly measured.

In summary, while existing studies provide valuable insights, research concerning NFT purchase behavior is still in an early stage, and the current literature often proposes two opposing explanatory frameworks for NFT buyer motivations: one focused on speculative, extrinsic motivations, and the other grounded in fan-oriented, intrinsic motivations. Despite these early efforts, no single study has yet reconciled extrinsic and intrinsic motivations into a unified model that accounts for both buyers and non-buyers. Addressing this gap is central to advancing our understanding of NFT marketing efficacy.

By using GCT, this present study seeks to resolve these seemingly contradictory conclusions through a more integrated approach and suggests they may be, in fact, complementary. Rather than occupying mutually exclusive categories, buyers may simultaneously pursue financial return and psychological fulfillment. GCT's dual-motivation framework helps operationalize this overlap.

By directly advancing previous research on NFT buyer participation, this study seeks to identify which motivational drivers are positively associated with future purchase intention, providing a clearer view of what compels consumers to engage and re-engage with NFTs.

4.3 Conceptual framework and hypotheses development

Drawing on Kasser and Ryan (1993) and Deci and Ryan (2000), we propose a theoretical model of intrinsic and extrinsic motivations across six dimensions of aspirations, plus prior ownership of NFTs, as independent variables, with the purchase intention of NFT buyers as the dependent variable (Figure 4-1).

Our model is comprised of aspirations for wealth, image, fame, community, relatedness, and personal growth. These variables are derived from Kasser and Ryan's (1996) work and test dimensions of several theories proposed to explain NFT buyer behavior (Figure 4-1).

The organismic dialectic theory posits that human beings have an inherent need to explore and grow. While SDT compares intrinsic and extrinsic motives, GCT proposes that goals pursued with intrinsic motivations may yield greater fulfillment, while goals pursued for extrinsic rewards like wealth, fame, or image, may lead to dissatisfaction, as sustained success there requires continuous reward-seeking (Kasser & Ryan, 1996). Given the paradoxical nature of the NFT market, which seems animated by both speculation and self-expression, buyers may seek to satisfy several, perhaps contradictory goals. Therefore, testing both extrinsic and intrinsic motivations in the same study could help shed light on their relative importance. The conceptual framework examined in this research is exhibited in Figure 4-1.

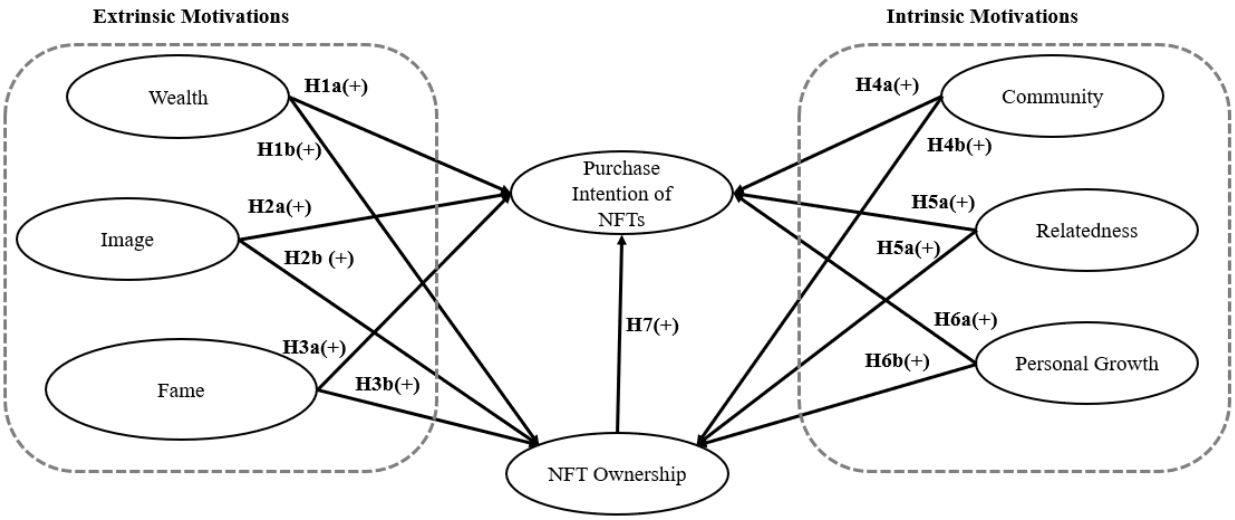


Figure 4-1. Conceptual Framework

The aspirations included in the framework are explained in Table 4-1.

Table 4-1. Aspirations Definitions

Aspiration	Definition

Wealth	A drive for material and financial success
Image	A drive for physical attractiveness in the eyes of others
Fame	A drive for social recognition
Community	A drive to contribute to one's community
Relatedness	A drive for meaningful connection with others
Personal Growth	A drive for personal self-improvement

Source: Adapted from Kasser & Ryan (1996) and Utvær et al., 2014.

4.3.1 Extrinsic Aspirations: wealth, image, and fame

NFTs are derivatives of cryptocurrency assets; like many other crypto assets, the earliest buyers have realized outsized gains (Campino et al., 2022) and initial positive experiences may drive future intention to use (Al-Omoush et al., 2023). Early on, many studies considered NFT pricing vis-à-vis their interrelatedness with conventional assets (e.g., Abakah et al., 2024; Aharon & Demir, 2022; Umar et al., 2022b) as well as cryptocurrency assets (e.g., Dowling, 2022a; Guo et al., 2023; Kumar & Padakandla, 2023). These studies regard NFT market volatility as investor herding behavior as observed in other financial markets (e.g., Bao et al., 2023; Mamidala & Kumari, 2023; Xie et al., 2024).

Herding is a psychological phenomenon where investors copy the behavior of others and are influenced to make an investment based on emotion rather than analytical research. Making a correct investment leads to satisfaction, while missing a successful investment creates the fear of missing out (Fomo), which can itself drive investors to make an even faster, riskier decision next time (Herman, 2000; Karkkainen, 2021; Prasad et al., 2023). Given that NFTs have no financial fundamentals and cumulative individual transactions set prices, it is logical that NFT buyers may be influenced by financial herding in their purchases.

Over two centuries ago, Thorstein Veblen argued that materialism can signal social status through conspicuous consumer behavior (Veblen, 1899). This dynamic is amplified in online contexts, where acquiring an asset before its price rises can position an NFT trader as a subject of envy and recognition

(Chohan, 2022; Lyócsa et al., 2022). Therefore, financial herding in NFTs can be exacerbated by the social reward of buying the right asset or the social punishment of not getting in early enough. This digital display of wealth creates a desirable image for others and contributes to one's social standing among peers, much the way a luxury purchase can enhance the perception of its owner (Lyócsa et al., 2022; Xie & Muralidharan, 2023; Bao et al., 2024). NFTs can confer this wealth, status, and fame on an NFT buyer if one promotes the right asset in public before its financial peak.

Researchers who believe external motivations animate NFT purchases posit that, to the buyer, the composition of the NFT – e.g., art, music, collectibles – is immaterial in the face of the potential returns and explain NFTs as a peculiar market of financial assets where traders routinely attempt to predict the future value of appreciating assets (Bao et al., 2023; Guo et al., 2023; Yousaf & Yarovaya, 2022a). Beating the herd, then, is itself the real skill successful NFT buyers develop, and the price volatility is a benefit of the market, not an undesirable aspect to resolve.

Thus, we hypothesize that aspirations of wealth, image, and fame will have a positive and direct relationship with NFT ownership and future purchase intention of NFTs, since materialism and the desire to compete for financial wins drive NFT buyers. More specifically, we can advance with the following hypotheses:

H1a: *There is a positive and direct relationship between wealth aspiration and purchase intention of NFTs.*

H1b: *There is a positive and direct relationship between wealth aspiration and owning NFTs.*

H2a: *There is a positive and direct relationship between image aspiration and purchase intention of NFTs.*

H2b: *There is a positive and direct relationship between image aspiration and owning NFTs.*

H3a: *There is a positive and direct relationship between fame aspiration and purchase intention of NFTs.*

H3b: *There is a positive and direct relationship between fame aspiration and NFT ownership.*

4.3.2 Intrinsic Aspirations: Community, Relatedness, and Personal Growth

Other research presents an opposing view, holding that NFT buyers display aspects of collectors and that they find genuine enjoyment in NFTs (Brandes & Dölp, 2025; Chohan & Schmidt-Devlin, 2023; Stough & Graham, 2023; Zaucha & Agur, 2023). NFTs are still objects, albeit digital ones, and NFT buyers may have an affinity to the art, sports team, aesthetic, or brand behind the token. Traditional collectible buyers derive pleasure from aesthetic or decorative appreciation without regard to financial expectations (Anderson, 1974). Their engagement in the market is to experience self-directed enjoyment, which is an entirely intrinsic motivation (Silverstein & Fiske, 2005). Some research has shown NFT buyers mirroring traditional art patronage (Franceschet, 2021) and replicating the experience of physical collectibles (Ali & Bagui, 2021; Stough & Graham, 2023).

These researchers conceptualize NFTs as digital collectibles that unlock fan-driven, online communities organized around the shared ownership of these collectibles (Almeda & Hartmann, 2023; D. Kim et al., 2022; Xiao et al., 2024). Given that the most rapid period of NFT market expansion was during the COVID lockdowns of 2020 to early 2022, a time when online communities substituted for real-world interactions, these communities flourished because participants found meaningful value in their continued involvement. The appeal of trading digital collectibles with like-minded peers seems to be a motivating factor for some buyers. This continued engagement, despite the sharp price decline since the January 2022 peak, would suggest that some motivating factors on the part of buyers must be intrinsic ones. Thus:

H4a: *There is a positive and direct relationship between community aspiration and purchase intention of NFTs.*

H4b: *There is a positive and direct relationship between community aspiration and NFT ownership.*

H5a: *There is a positive and direct relationship between relatedness aspiration and purchase intention of NFTs.*

H5b: *There is a positive and direct relationship between relatedness aspiration and NFT ownership.*

H6a: *There is a positive and direct relationship between personal growth aspiration and purchase intention of NFTs.*

H6b: *There is a positive and direct relationship between personal growth aspiration and NFT ownership.*

4.3.3 NFT ownership

Purchasing an NFT requires several discrete technical steps, including creating a digital wallet, obtaining the correct cryptocurrency, engaging with a smart contract, etc. (Bhujel & Rahulamathavan, 2022; He et al., 2022; Zarifis & Castro, 2022). These technical barriers are especially pronounced on the first purchase, creating friction in onboarding new participants in the market.

The Technology Acceptance Model (TAM) and its subsequent theory, the unified theory of acceptance and use of technology (UTAUT), have been used in previous studies to understand NFT participant motivations (Cho & Lee, 2022; Sun, 2024; Vega & Camarero, 2024). Those who regard NFTs as primarily a technology often refer to TAM and UTAUT, especially since the latter contains a measure of performance expectancy (Colicev, 2023; Lee & Cha, 2023; Toraman & Gecit, 2023). However, this is only a partial explanation since technology adoption is predicated on accomplishing a goal, and a purely technological view leaves these motivations unaddressed.

Purchase intention of NFTs has been used as an independent variable in many prior NFT studies (e.g., Griffiths et al., 2024; Lee et al., 2024; Lee & Cha, 2023; Prasad et al., 2023; Schlimm et al., 2024), and

while prior ownership has been theorized as an influence, as far as we know, it has not been directly tested until now. Accordingly, we propose the following hypothesis:

H7: *There is a positive and direct relationship between NFT ownership and purchase intention of NFTs.*

4.4 Method

To address the motivation of NFT buyers, we developed a survey for both buyers and non-buyers of NFTs based on a GCT-derived tool, the Aspirational Index (AI). Created by Kasser and Ryan (2011), AI has been used previously to explore motivations behind individualistic rewards in education and vocational settings, where external and intrinsic rewards are present and can complement or confound each other (Green, 2018; Utvær et al., 2014; Y. Zhang et al., 2018). AI also fits the aims of this study as it directly addresses a group of potential motivations for purchasing NFTs, namely the desire for wealth, image, fame, community, relatedness, and self-growth. Moreover, in addition to motivational differences, this study seeks to distinguish motivational patterns between buyers and non-buyers, an overlooked dimension in prior literature.

4.4.1 Sample and Data Collection

A study was conducted of both buyers and non-buyers of NFTs to test the proposed framework and hypotheses. Since NFT buyers constitute a very specific market, three tactics were developed to source respondents. First, we turned to x.com (formerly Twitter), a social media network that has been noteworthy as a platform for cryptocurrency and NFT enthusiasts (Kim & Chakraborty, 2023; Meyns & Dalipi, 2022). A public Twitter post was amplified by several others, including a finance account with over 1M users, which helped the platform become the primary mechanism for respondents. Second, one of the authors emailed investors familiar with NFTs, explaining the intention of the studies, ensuring anonymity, and including an online link to the survey. The investors were encouraged to take the survey

as well as to forward it to others they suspected might be knowledgeable about the space, following a “snowball” methodology. Finally, a weekly finance newsletter (Young Money) picked up our research and distributed the survey to its audience.

This non-probability sampling method appears adequate for our approach (Hair et al., 2012; Vehovar et al., 2016) as both NFT buyers and non-buyers are not easily identifiable and have to self-report. Our survey was conducted between March and May 2023, during a period when prices of NFTs had declined from the market peak of January 2022 (Den Yeoh et al., 2023; Cho et al., 2024). Thus, the collection period of this survey was after NFTs had reached popular notoriety but also after a period when NFT investing seemed to generate inconsistent returns.

Our survey yielded 1,276 responses, of which 1,075 results were complete and usable. 495 respondents had purchased NFTs, and 580 respondents did not. As

Table 4-2 shows, 80% of the 1,075 respondents were male, the majority were educated to the level of a bachelor's degree or higher (88% total), and the majority of our respondents were over the age of 35 (73.2% total).

This sample size is consistent with or exceeds other AI surveys (1,359 in Costa et al., 2020; 971 in Rodríguez et al., 2016; 415 in Utvær et al., 2014) and exceeds other NFT research surveys (e.g., 856 in Schlim et al., 2024; 807 in Vomberg & von Gegerfelt, 2025; 542 in Lee & Cha, 2023; 387 in Vega & Camarero, 2024; 358 in Prasad et al., 2023; 356 in Fortagne & Lis, 2023; 343 in Ante, 2024; 336 in Sangsawang, 2024). Accordingly, it is currently one of, if not the largest, datasets on buyers and non-buyers of NFTs.

We followed two procedures to calculate the minimum sample size. First, we applied the "10 times rule" (Hair et al., 2017), which states the minimum sample size should be ten times greater than the maximum number of structural paths pointing to any construct. Thus, our minimum sample size should be 70 observations (or 100 when including control variables), which was clearly exceeded. Complementarily, a more demanding measure procedure was used to define the minimum sample size with the help of G*Power software version 3.1.9.7 (Faul et al., 2009). By using the parameters suitable for this framework (F-test with linear multiple regression, fixed model, and R^2 deviation from zero; test power 95%; error probability of 0.05 and f^2 of 0.15), we identify a required minimum sample of 172 (Hair et al., 2017). Taking these rules as the threshold, we hold that the sample size of this research is suitable for performing the statistical analysis (1,075 responses).

In addition, by following the procedure suggested by Atuahene-Gima (2005), we were able to assess the quality of the respondents. The final question of the survey asked respondents about their degree of knowledge of the subjects discussed in the questionnaire on a 7-point Likert-type scale, ranging from 1 = "very low" to 7 = "very high". The average value of the results was 4.97 (S.D. = 1.52), meaning

that the respondents were comfortable and had the necessary knowledge about the subjects presented in this study.

4.4.2 Questionnaire and Measures

The data were collected using an online questionnaire comprised primarily of closed-ended questions divided into five sections: demographics (age, gender, education, country of origin, country of residence), length of experience with cryptocurrency and NFTs (if any), personal aspirations, and purchase intention towards NFTs.

Table 4-2. Sample Profile

Characteristics	N	%
Gender		
Male	861	80.1
Female	194	18.0
Non-binary	7	0.7
Prefer not to say	13	1.2
Level of Education		
High School	93	8.7
Bachelor's Degree	495	46.0
Master's Degree	352	32.7
Ph.D./Advanced Degree	99	9.2
Other	36	3.4
Age		
18-24 years old	44	4.1
25-34 years old	244	22.7
35-44 years old	325	30.2
45-54 years old	297	27.6
55-64 years old	121	11.3
65+ years old	44	4.1
NFT Ownership		
Yes	495	46.0
No	580	54.0

The variables in the structural model were derived from a literature review. We conducted a questionnaire using a shortened version of the Aspiration Index (Kasser & Ryan, 1996), which is comprised of thirty-five items with a previously observed high validity and reliability. The index includes seven categories, of which we studied six independent dimensions: personal growth, relatedness, community feeling, wealth, fame, and image. In line with the procedure of Kasser and Ryan (1996), we determined to exclude the health aspiration as it does not conform to either intrinsic or extrinsic motivation and was added to a later version of the AI. Each one of these dimensions was measured with five items, and respondents rated their answers using a standardized 7-point scale, which ranged from 1 = not at all to 7 = very important. This allowed us to validate the internal consistency of items in our study. The variable

NFT ownership was operationalized as a dichotomous variable that assumes the value '1' when the respondent purchased an NFT previously, and '0' otherwise.

Purchase intention of NFT, the outcome variable, was operationalized through a single question on how likely respondents were to purchase an NFT. Respondents then scored their answer on a Juster scale of 0-10, ranging between 0 = "No Chance" and 10 = "Certain" (Juster, 1966). This scale has been widely used in established academic and market research contexts with proven validity (e.g. Brennan & Esslemont, 1994).

Furthermore, four control variables were incorporated into the analysis: *age*, *gender*, *level of education,* and *cryptocurrency experience*. *Age* was operationalized as a continuous variable corresponding to the respondents' reported chronological age. *Gender* was measured using a categorical variable, with the following coding scheme: '1' for male, '2' for female, '3' for non-binary, and '4' for prefer not to say. *Educational level* was also measured as a categorical variable with the value '1' for secondary education or lower, '2' for a bachelor's degree, '3' for a master's degree, '4' for PhD or advanced degree, and '5' for other educational backgrounds.

Prior research has established that participation in the NFT market is influenced by demographic factors, particularly age and gender, with the market typically comprising a younger, early-career demographic characterized by limited financial capital and a male-dominant user base (Belk et al., 2022; Fortagne & Lis, 2023; Krol & Zdonek, 2023). However, the present study includes a more demographically diverse sample across age, gender, and educational levels than those examined in earlier investigations, such as Krol and Zdonek (2023), Vishnu et al. (2023), Vega and Camarero (2024), and Xie et al. (2023).

Cryptocurrency experience was also included as a control variable due to its documented association with NFT transactions (Dowling, 2022a; Mensi et al., 2024; Okorie et al., 2024). This variable was measured as the self-reported number of years the respondent had owned cryptocurrencies.

4.4.3 Nonresponse, common-method, and respondent bias

Our survey was open-ended in its collection window. Therefore, nonresponse bias was not a specific concern. Nonetheless, no differences between early respondents (first 75% of the sample) and the late respondents (last 25% of the sample) were observed (Armstrong & Overton, 1977).

Given that all the data for this study were collected using self-reported measures within a single cross-sectional survey, the potential for common-method bias (CMB) was a concern. Common-method bias is known to distort a survey's empirical results (Burton-Jones, 2009; Podsakoff et al., 2003). In response, several precautionary steps were undertaken in the survey design to mitigate CMB, following Podsakoff et al. (2003, 2024). Specifically: (1) respondents were not given the theoretical model; (2) respondents were clearly instructed that answers were subjective and there were no right or wrong answers; (3) the questions were not presented in the same order of the conceptual model's variables; (4) all constructs were measured using items drawn from previously validated and widely-utilized questionnaires; (5) response scales clearly included end-points (1 and 7) as well as a labeled midpoint (e.g., 4); and (6) the study included additional variables beyond those in the conceptual framework as the data collection formed part of a larger research project.

In accordance with the recommendations of Podsakoff et al. (2024), two critical procedural remedies were implemented to limit the potential for CMB. First, respondents were assured of both anonymity and confidentiality to reduce their evaluation apprehension; only generic demographic information was requested. Second, the survey varied its scale formats depending on the question, including anchor types, anchor points, and formats. Finally, additional procedural remedies, as suggested by MacKenzie & Podsakoff (2012) and Podsakoff et al. (2024), were incorporated to overcome the lack of ability or motivation from participants. The study allowed participants to opt in, it emphasized the

importance of personal experience over knowledge, and it was designed as a short questionnaire to boost response rate.

In addition, to avoid common-method bias, two *ex-post* procedures were implemented. First, Harman's single-factor test (Malhotra et al., 2006; Podsakoff et al., 2024) was conducted via exploratory factor analysis using all the variables in the conceptual model. This analysis yielded eight factors with eigenvalues greater than 1.0 that collectively explain approximately 65% of the total variance. The first factor explains only 19.9% of the variance, well below the threshold for CMB set by Podsakoff et al. (2003).

Second, we applied the marker variable technique (Lindell & Whitney, 2001; Malhotra et al., 2006), using a theoretically unrelated question that asked respondents about their level of knowledge of Ph.D. programs in management. This construct, well outside the scope of this study, was measured using a Likert-type seven-point scale similar to other items (ranging from 1 = very low to 7 = very high). The marker variable exhibited an average correlation of 0.05 with the rest of the variables included in the model. Following Lindell & Whitney's (2001) guidelines, the second lowest correlation ($r_M = 0.023$) was used to adjust the correlation matrix. A comparison of both correlation matrices yielded no relevant differences ($\Delta r = 0.022$), supporting the conclusion that common-method bias was not a problem in this study (Lindell & Whitney, 2001).

4.5 Results

The conceptual model and associated hypotheses were tested using partial least squares structural equation modeling (PLS-SEM) implemented via SmartPLS software v.4.1.0.3 (Ringle et al., 2024). Following a two-stage approach to evaluate and interpret the results per Hair et al. (2012), the reliability and validity of the measurement model were assessed first. Subsequently, model fit and the values of the structural model were examined to evaluate the hypotheses (Hair et al., 2017, 2019).

Among all relationships considered in this study, prior *NFT ownership* emerged as the most influential factor, highlighting experience over motivation as a predictor of *purchase intention*. This suggests that familiarity with the transaction or technical dimension of NFTs is more predictive of future purchase intent than individual future aspirations.

4.5.1 Assessment of the Measurement Model

The quality of the measurement model was evaluated by reviewing the indicator reliability, internal consistency, convergent validity, and discriminant validity per Hair et al. (2017). Following the guidance of Hair et al. (2019), standardized loadings below the minimum threshold of 0.60 were removed (Table 4-3). In the current study, all loadings exceeded 0.70, except in three items – two from the *wealth aspiration* construct and one from the *fame aspiration* – which still surpassed the 0.60 minimum value. Given the exploratory nature of this research, these three items were still included (Bagozzi & Yi, 1988; 2012).

Next, measurement reliability was assessed using both Cronbach's alpha and composite reliability (CR) for each construct in the conceptual model (Hair et al., 2017, 2019). All Cronbach's alpha values were above the recommended threshold of 0.70, with the lowest value being *personal growth aspiration* at 0.738. Likewise, the CR factor loadings were also above the 0.70 threshold, with the lowest value shown as 0.852 for the *personal growth aspiration*. These results confirmed the internal consistency of our conceptual framework's variables (Hair et al., 2017).

Convergent validity was then evaluated using average variance extracted (AVE). AVE needed to exceed 0.5 to indicate an acceptable range of findings (Bagozzi & Yi, 1988; Hair et al., 2019). The lowest observed AVE value was *wealth aspiration* at 0.616, exceeding the minimum levels of acceptability, and supporting the convergent validity of this study's variables.

Table 4-3. Measurement Items and Validity Assessment

VARIABLES - scale items	**Standardized loadings**
ASPIRATION INDEX *How important are each of these goals to you personally?* *(Consider a scale of 1-7 where 1=Not at All, 4= Moderately Important, and 7=Very Important)*	
WEALTH α=0.844/CR=0.886/AVE=0.616	
To be a very wealthy person.	0.892
To have many expensive possessions.	0.644
To be financially successful.	0.836
To be rich.	0.892
To have enough money to buy everything I want.	0.611
IMAGE α=0.800/ CR=0.866/ AVE=0.619	
To successfully hide the signs of aging.	0.737
To have people comment often about how attractive I look.	0.778
To keep up with fashions in hair and clothing.	*
To achieve the "look" I've been after.	0.870
To have an image that others find appealing.	0.757
FAME α=0.874/CR=0.883/AVE=0.719	
To have my name known by many people.	0.665
To be admired by many people.	*
To be famous.	0.898
To have my name appear frequently in the media.	0.954
To be admired by lots of different people.	*
PERSONAL GROWTH α=0.738/CR=0.852/AVE=0.657	
To grow and learn new things.	*
To choose what I do, instead of being pushed along by life.	0.772
To know and accept who I really am.	*
To gain increasing insight into why I do the things I do.	0.856
At the end of my life, to be able to look back on my life as meaningful and complete.	0.802
RELATEDNESS α=0.873/CR=0.900/AVE=0.694	
To have good friends that I can count on.	*
To share my life with someone I love.	0.814
To have committed, intimate relationships.	0.888
To feel that there are people who really love me, and whom I love.	0.863
To have deep enduring relationships.	0.760
COMMUNITY α=0.899/CR=0.920/AVE=0.696	
To work for the betterment of society.	0.869
To assist people who need it, asking nothing in return.	0.807
To work to make the world a better place.	0.847
To help others improve their lives.	0.845
To help people in need.	0.801

Notes: * - This item was deleted during the scale purification process;
α = alpha; CR = composite reliability; AVE = average variance extracted

The final step in the assessment of the measurement model involved evaluating discriminant validity via three procedures: cross-loadings, the Fornell-Larcker criterion (1981), and heterotrait-monotrait ratio (HTMT) of correlation. First, for all constructs, the outer loadings exceeded their cross-loadings with other constructs, satisfying the criterion for discriminant validity via the cross-loading method (Hair et al., 2017). Second, the square root of AVE for each variable was greater than its correlations with any other construct, therefore meeting the Fornell-Larcker criterion. Third, the HTMT ratio procedure revealed that no ratio of correlations between variables exceeded Henseler et al.'s (2015) recommended threshold of 0.85, further confirming the discriminant validity (Table 4-4). The highest HTMT ratio observed was 0.718, which is well below this threshold.

Table 4-4. Discriminant Validity

	1	2	3	4	5	6	7	8
1. Wealth	**0.785**	*0.369*	*0.292*	*0.129*	*0.032*	*-0.042*	*0.194*	*0.232*
2. Image	0.480	**0.787**	*0.384*	*0.099*	*0.111*	*0.083*	*-0.033*	*0.045*
3. Fame	0.384	0.503	**0.848**	*0.114*	*0.046*	*0.128*	*0.036*	*0.055*
4. Personal Growth	0.200	0.139	0.179	**0.811**	*0.410*	*0.443*	*-0.107*	*-0.044*
5. Relatedness	0.069	0.127	0.063	0.538	**0.833**	*0.383*	*-0.051*	*-0.080*
6. Community	0.066	0.091	0.152	0.544	0.454	**0.834**	*0.028*	*0.063*
7. NFT Ownership	0.188	0.032	0.031	0.125	0.041	0.029	**1.000**	*0.718*
8. Purchase Intention	0.232	0.048	0.038	0.052	0.062	0.056	0.718	**1.000**

Note: The boldface scores on the diagonal are the square root of AVE. The values above the main diagonal are the correlation values, while the values below that diagonal are the HTMT values.

4.5.2 Structural Model Estimation

To assess the overall model fit, we reviewed the explained variance of the dependent variables (R^2), the effect size (f^2), the cross-validated redundancy measure (Q^2), and the standardized root mean square residual (SRMR), following the guidelines of Hair et al. (2012). Consistent with the procedures established by Falk and Miller (1992), which advised the explained variance (R^2) values should exceed 10%,

the results showed that the model accounts for 53.7% of the *purchase intention of NFTs* variance and 21.3% of *NFT ownership*, both surpassing the threshold for explained variance (Table 4-5).

Table 4-5. Results of Structural Model Assessment and PLS Predict Test

Constructs	VIF		**f^2**		**R^2**	**Q^2**	**SRMR**
Constructs	Purchase Intention	NFT Ownership	Purchase Intention	NFT Ownership			
Wealth	1.310	1.232	0.009	0.016			
Image	1.314	1.296	0.004	0.009			
Fame	1.231	1.231	0.001	0.000			
Personal Growth	1.430	1.394	0.001	0.020			
Relatedness	1.290	1.290	0.012	0.000			
Community	1.384	1.364	0.008	0.019			
Purchase Intention					0.542	0.121	0.058
NFT Ownership			0.771		0.213	0.319	

In parallel, we assessed the effect size (f^2) of each exogenous variable on the endogenous variables to determine any change in the value of the R^2 of the endogenous variable when a specific, exogenous variable was omitted from the model. According to established guidelines, effect sizes are interpreted as small ($f^2 \geq 0.02$), medium ($f^2 \geq 0.15$), and large ($f^2 \geq 0.35$) (Cohen, 1988; Hair et al., 2017), respectively. The results reveal that, except for one variable, all observed effective sizes were small, with several variables displaying no effect. Notably, *NFT ownership* exhibited a large effect size on *purchase intention* (f^2=0.771), indicating a substantial effect within the model.

In performing the PLS Predict technique, the initial step is to verify the cross-validated redundancy measure (Q^2) is greater than zero, thereby indicating predictive relevance for the endogenous constructs (Hair et al., 2012; Shmueli et al., 2019). We implemented the PLS Predict technique and applied ten-fold cross validation with ten repetitions, in accordance with Hair et al. (2012). The results demonstrated that the Q^2 values exceeded zero, confirming the relevance: Q^2 = 0.121 for *purchase intention of NFTs* and Q^2 = 0.319 for *NFT ownership*.

Finally, the standardized root mean square residual (SRMR) was examined as a measure of goodness-of-fit to capture the divergence between the observed covariance and the model's implicit correlation matrix (Hair et al., 2017). As Henseler et al. (2014) suggest, this analysis is intended to avoid model misspecification. This study's SRMR was 0.058, which is below the accepted limit of 0.08, suggested by the literature (Hair et al., 2017; Hu & Bentler, 1999), and indicates an adequate model fit.

Following confirmation of reliability, validity, and model fit, a bootstrapping procedure of 5000 sub-samples was conducted to assess the hypothesized direct effect relationships (Hair et al., 2012). The results are presented in Table 4-6, and the relationships are visualized in Figure 4-2. The findings show that *wealth aspiration* was positively associated with *purchase intention* ($\beta = 0.075$, $p<0.01$) as well as *NFT ownership* ($\beta = 0.067$, $p<0.001$), confirming H1a and H1b, respectively. *Image aspiration* demonstrated a positive association with *purchase intention of NFTs,* albeit at a borderline p-value ($\beta = 0.052$, $p<0.1$), and a negative association with *NFT ownership* ($\beta = -0.048$, $p<0.05$), supporting H2a, but failing to support H2b. In contrast, *Fame aspiration* did not yield statistically significant enough results either towards *purchase intention of NFTs* ($\beta = -0.018$, $p=0.458$) or *NFT ownership* ($\beta = 0.006$, $p=0.824$), leading to the rejection of H3a and H3b.

Community aspiration exhibited a positive impact on *purchase intention* ($\beta = 0.073$, $p<0.05$) as well as *NFT ownership* ($\beta = 0.071$, $p<0.05$), supporting both H4a and H4b. In contrast, *relatedness* was found to have a negative impact on *purchase intention of NFTs* ($\beta = -0.083$, $p<0.01$), contrary to the hypothesized direction, resulting in a lack of support for H5a. Moreover, it had no discernible effect on *NFT ownership* ($\beta = -0.004$, $p=0.840$), leading to a rejection of H5b as well. Finally, *personal growth aspiration* had no discernable effect on *purchase intention of NFTs* ($\beta = 0.024$, $p=0.358$), providing no support for H6a. Although it did negatively impact *NFT ownership* ($\beta = -0.074$, $p<0.001$), this relationship was contrary to the hypothesized direction, so H6b failed to find support.

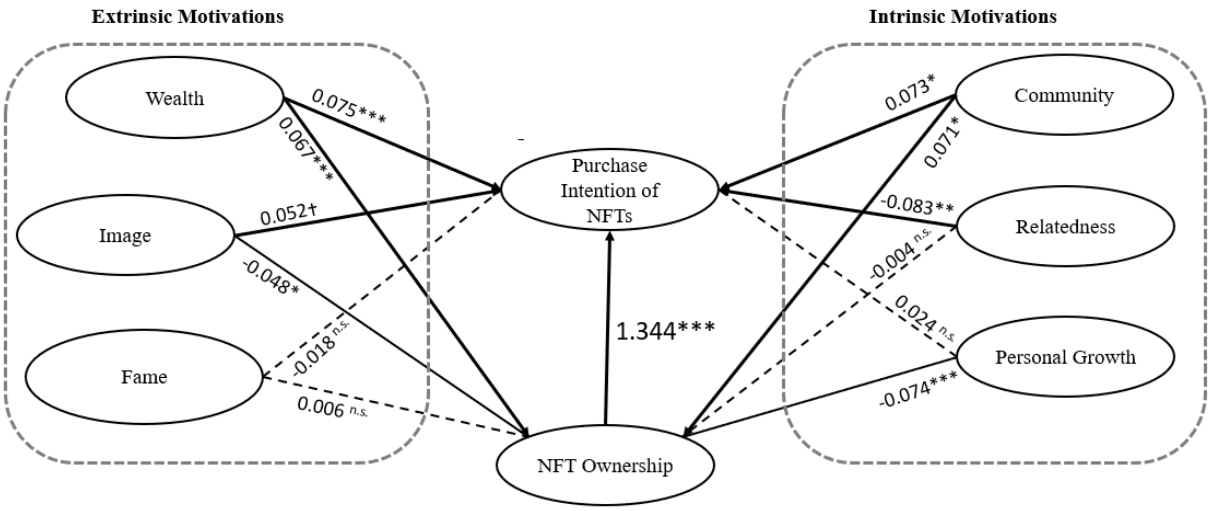
Finally, *NFT ownership* had a significant positive effect on *purchase intention* (β = 1.344, p<0.001). thereby finding support for H7. While much of this research was focused on the differing motivational factors, prior ownership emerged as a dominant effect, which demands considerable discussion in the following section.

Regarding control variables, the results indicate that younger respondents were more likely to exhibit *NFT ownership* (β = -0.046, p<0.001); however, that conclusion was not observed for *purchase intention*. The results also show that male respondents were more inclined to exhibit *NFT ownership* (β = 0.154, p<0.001), but again no corresponding effect was observed on *purchase intention of NFTs*. The educational level does not appear to affect either *purchase intention of NFTs* or *NFT ownership*. On the contrary, previous cryptocurrency experience was observed to positively impact the *purchase intention of NFTs* (β = 0.084, p<0.001) and *NFT ownership* (β = 0.153, p<0.001).

Table 4-6. Results of Direct Effects

Path coefficients	Standardized Estimate (t-value)	Hyp.	Results
Direct Effects			
Wealth → Purchase Intention of NFTs	0.075** (2.905)	H1a	Supported
Wealth → NFT Ownership	0.067*** (4.108)	H1b	Supported
Image → Purchase Intention of NFTs	0.052† (1.825)	H2a	Supported
Image → NFT Ownership	-0.048* (1.957)	H2b	Not Supported
Fame → Purchase Intention of NFTs	*-0.018 (0.742)*	H3a	Not Supported
Fame → NFT Ownership	0.006 *(0.222)*	H3b	Not Supported
Community → Purchase Intention of NFTs	0.073* (2.138)	H4a	Supported
Community → NFT Ownership	0.071* (2.402)	H4b	Supported
Relatedness → Purchase Intention of NFTs	-0.083** (2.622)	H5a	Not Supported
Relatedness → NFT Ownership	-0.004 (0.202)	H5b	Not Supported
Personal Growth → Purchase Intention of NFTs	*0.024 (0.919)*	H6a	Not Supported
Personal Growth → NFT Ownership	-0.074*** (4.348)	H6b	Not Supported
NFT Ownership → Purchase Intention of NFTs	1.344*** (30.671)	H7	Supported
Control Variables			
Age → Purchase Intention of NFTs	*0.019 (0.853)*	-	-
Age → NFT Ownership	*-0.046*** (3.252)*	-	-
Gender → Purchase Intention of NFTs	*0.068 (0.879)*	-	-
Gender → NFT Ownership	*0.154*** (4.454)*	-	-
Educational level → Purchase Intention of NFTs	*0.025 (1.128)*	-	-
Educational level → NFT Ownership	*-0.021 (1.481)*	-	-
Cryptocurrency Experience → Purchase Intention of NFTs	*0.084*** (3.628)*	-	-
Cryptocurrency Experience → NFT Ownership	*0.153*** (10.543)*	-	-

Notes: *** p=<0.001; ** p=<0.01; * p=<0.05; †p=<0.1.



Notes: *** p=<0.001; ** p=<0.01; * p=<0.05; †p=<0.1; n.s. – not significant.

Figure 4-2. Conceptual Model with Results

4.6 Discussion

The desire for money (*wealth aspiration*) and the desire to contribute to one's community (*community aspiration*) exhibited direct and significant effects on both *NFT ownership* and future *purchase intention of NFTs*. However, these effects were small and may be partially offsetting, highlighting the complexity of NFT buyer motivations. While the study sought to determine if extrinsic or intrinsic motivations drove NFT engagement, the evidence is not conclusive.

The rise and fall of NFT prices have largely been attributed to financial speculation, with academics and popular media explaining the market as driven by externally motivated speculators. However, the results of this study only provide limited support for that interpretation. Conversely, NFT enthusiasts have argued that buyers are intrinsically motivated and view purchases as just one expression of community engagement of like-minded fans. This study provides limited support for this interpretation as well. Instead of reinforcing a single, dominant explanation, taken together, these findings reveal an interplay between extrinsic and intrinsic motivations, helping to reconcile a seeming contradiction in prior research.

The most salient and robust finding from this study was the significant impact prior *NFT ownership* has on future *purchase intention of NFTs*. The results suggest that an initial NFT purchase acts as a threshold experience, after which buyers remain likely to buy again. Moreover, it implies a degree of satisfaction with the ownership experience, as evidenced by future purchase intention and willingness to continue in this purchasing behavior even during a downturn in the market. The data was collected after the 2022 market peak and its euphoria; therefore, study participants experienced NFT market rallies and declines. These experienced buyers still intend to make future purchases, which suggests they are engaged adopters committed beyond short-term market cycles.

This study also determined that some aspects of extrinsic and intrinsic motivation influenced the *purchase intention of NFTs*, while others had no impact. It is not surprising that *wealth aspiration* had a positive and direct effect. However, it is noteworthy that *image* and *fame* constructs did not exhibit any effect. A frequent criticism of the current market is that today's NFT collectibles are merely tools for social signaling via conspicuous consumption, albeit digital consumption. These findings challenge that view.

Among intrinsic motivations, only *community aspiration* had a positive and direct effect. The aspiration for *relatedness*, which here is defined as a desire for direct personal connection, was observed as having a negative effect. This suggests that buyers interested in online parasocial relationships within pseudonymous chatrooms may have less interest in interpersonal interactions in real life. The absence of a significant effect for *fame* suggests that NFTs may not serve as a primary vehicle for personal recognition among most buyers, an effect that may have faded as NFT prices have become more volatile. Likewise, *personal growth* showed no meaningful association, which may reflect the recreational nature of NFT purchases.

Overall, this study both upholds and challenges previous NFT buyer research. It reaffirms *wealth aspiration* as an extrinsic motivator as observed in Fortagne and Lis (2023), Lee and Cha (2023), and Prasad et al. (2023). It also confirms the impact of *community aspiration* as an intrinsic motivation, as reported

by Griffiths et al. (2024), Prasad et al. (2023), and Vega & Camarero (2024). Yet, the effects for both were small, suggesting these are not the primary motivational drivers of NFT purchases. Instead, the large effect of prior *NFT ownership* supports the view that NFT market one of early adopters and lends support to viewing NFTs within a technology adoption framework, such as Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) as suggested by Colamartino et al. (2024), Lee & Cha (2023) and Vega & Camarero (2024). It further suggests that the upfront investment of self-education, technical familiarity, and money may confer confidence to buyers and make them prone to repeating a known behavior. This result invites future research into habit-forming theories of NFT buyer motivation.

In summary, the findings indicate that intrinsic and extrinsic motivations have a role to play in the decision-making of NFT purchases, but prior experience is the most salient explanation. This advances a view of NFT buyers as technical early adopters rather than as pure speculators or fans.

4.7 Conclusions

4.7.1 Theoretical Implications

This study contributes new theoretical insights into the motivations of NFT buyers and non-buyers. To our knowledge, it represents the largest empirical study of its kind, with 1,075 respondents. The research tested the effects of six dimensions of intrinsic and extrinsic motivations, drawn from self-determination (SDT) and goal contents theory (GCT), alongside prior *NFT ownership* experience, on *purchase intention of NFTs*.

This paper introduces a new theoretical model of NFT buyer motivation grounded in six dimensions of personal aspirations based on GCT. Whereas prior studies have tended to focus on consumer attitudes toward the purchasing process (Yilmaz et al., 2023b), the importance of trust-building in the process (Zarifis & Castro, 2022), or behavioral drivers such as the influence of social capital or FOMO

(Vega & Camarero, 2024b), this study examines deeper, underlying motivations of individual. In doing so, this study addresses calls to investigate purchasing considerations beyond the initial adoption (Alkhudary et al., 2023; Al-Omoush et al., 2023).

Second, this study contributes to a more nuanced understanding of NFT adoption by concentrating directly on the motivations behind NFT purchases. A GCT-centered approach helps explain why the same actions – the purchase or avoidance of NFTs – can yield seemingly divergent observations in other studies (e.g., Ante, 2024; Griffiths et al., 2024; Lee & Cha, 2023; Prasad et al., 2023; Vomberg & von Gegerfelt, 2025; Zarifis & Castro, 2022). Identifying these motivational distinctions is useful for understanding which psychological appeals are most effective in engaging current NFT owners and which may help onboard new buyers in the future.

Third, this study provides empirical evidence that prior experience with NFTs is a significant factor in future purchase decisions. Earlier research explored attitudes towards NFT adoption (Prasad et al., 2023; Lee & Cha, 2023), generational and demographic adoption factors (Krol & Zdonek, 2023) and users' willingness to experiment (Pramod et al., 2024). This present study is among the first to confirm, across a wide sample of buyers and non-buyers, that *prior ownership of NFTs* had a direct and significant impact on the future *purchase intention of NFTs*. This finding reinforces previous observations about the NFT purchases and the investment of time, money, and learning required (Baklanova et al., 2023; Lee & Cha, 2023). Therefore, it moves beyond the "speculator vs. fan" binary and advances the perspective that current NFT buyers are early adopters of new technology and that attracting future first-time buyers will require additional reduction of these technical barriers.

4.7.2 Implications for Marketers

Given that prior *ownership of NFTs* exhibited the strongest effect on future *purchase intention*, companies considering NFT consumer strategies should carefully consider how to minimize upfront

friction. While aspirations of *wealth* or *community* do play a role, these are weak motivations when compared to *prior ownership*. Thus, to attract completely new buyers, the value proposition of NFT offers needs to overcome the effort and uncertainty of an initial purchase. Conversely, it may be preferable for marketers to target NFT owners who have an affinity for the promoted brand as this audience already has demonstrated proficiency with the technology.

Moreover, this study highlights two key motivations that are not mutually exclusive and may support each other. NFT buyers may be financially motivated, driven by the interest of joining a community, or both. Successful NFT projects will attract devoted community members as well as financial speculators, and that may not be a bad outcome for those participants interested in either extreme. This addresses a question of Colicev (2023) on the fit between brands, consumers, and NFTs as well as another concerning mutually felt experiences of NFT buyers, per Alkhudary et al. (2023). We conclude that NFTs should be regarded as brand-extension opportunities for high-value, technically literate, loyal fans, and that rewards can be provisioned according to their level of online community engagement.

Finally, marketers should not overlook the existing NFT market, which holds significant promise despite recent market conditions. While the overall market may have contracted, the tenacity of participants during boom-and-bust cycles suggests an audience can still be found there. As this study shows, prior NFT experience paves the way for future purchases. Practitioners would do well to identify the prevalence of NFT ownership amongst its target segment and then approach the earliest adopters with products that provide a one-of-a-kind offer, as concluded in Berghueser & Spann (2024). This further advances the view, per Bao et al. (2024), that brands can and should craft NFTs as virtual luxury goods, but this study suggests doing so by prioritizing existing NFT holders.

By clarifying the motivational underpinnings of NFT participation, this study enables marketers to better match campaign design with the psychological profiles of distinct consumer segments, improving engagement, retention, and ROI.

4.7.3 Limitations and Future Research

Several limitations of this study should be acknowledged. First, the data are self-reported, and no verification mechanisms were in place to confirm respondents who claimed to own NFTs held those assets. Likewise, there were no follow-ups after the initial survey and no attempt to study how respondents' attitudes might have changed over time. As such, this study was a cross-sectional snapshot rather than a measurement of dynamic changes over time. A future study could undertake a longitudinal approach to see how attitudes and motivations might evolve, especially in relation to wider market-wide price fluctuations.

Second, the majority of respondents were sourced on X.com (formerly Twitter). While this social media platform has been historically the most popular place for NFT traders to discuss their approach, these respondents may represent an unusually tech-savvy and extrinsically motivated subset of NFT buyers, which may limit the generalizability of these findings (Kapoor et al., 2022; Yilmaz et al., 2023b). Many NFT projects have dedicated private chat rooms; no attempt was made to source verified NFT buyers from these channels. Future studies could focus on a specific NFT project or ecosystem that might include a wider array of buyers and, thus, a different distribution of motivations.

Third, this study's respondents were predominantly male (80%), reflecting a wider demographic trend (e.g., Vega & Camarero, 2024; Griffiths et al., 2024). While this gender imbalance has been observed previously, and similar studies have struggled with recruitment, it limits the conclusions that can be made about gender-based motivational differences. A future study could attempt to recruit a statistically significant gender group to explore these similarities and differences.

Fourth, despite the TAM and UTAUT theories appearing in several prior papers, this study considered a narrow amount of technical experience. Given the large effect of *NFT ownership* on *purchase intention*, future studies could consider the mechanism of NFT adoption by focusing on first-time NFT

buyers or creating experiments for non-buyers to understand what might spur them to an initial NFT purchase.

Finally, this study was focused on a quantitative approach and used an existing research tool. Future studies could approach the question of motivation using a qualitative or mixed-methods approach. This would afford a better understanding of how to predict technology adoption, as well as explore what might motivate non-buyers to make a first purchase.

5 CONCLUSIONS

5.1 Summary of Results

This dissertation set out to answer a deceptively simple question: why do people buy NFTs? At the outset, NFTs presented themselves as a paradox. They appeared simultaneously as speculative assets, artistic expressions, technological novelties, and community artifacts. They drew unprecedented attention from media, investors, and academics, yet their market behavior was volatile, risky, and persistently loss-making for most participants, defying conventional economic explanations. They were serious financial investments whose underlying assets were imaginary pictures of dogs, zombies, penguins, and apes. To address this paradox, the dissertation employed a multi-method approach consisting of a systematic literature review (SLR) and two large-scale empirical studies, each grounded in established motivational theory.

Study 1, the systematic literature review (Chapter 2), synthesized 53 peer-reviewed articles using the ADO (Antecedent Decision Outcome) and TCM (Theory Context Method) frameworks using the SPAR-4-SLR protocol. It revealed that purchase intention was the most frequently studied outcome, with motivation, trust, and perceived value as common antecedents. However, the review also exposed theoretical fragmentation as studies relied on heterogeneous models, often borrowed piecemeal from technology adoption or financial speculation literatures, without a dominant, unifying paradigm. The SLR thus served its purpose, providing a conceptual foundation, highlighting definitional ambiguities, and identifying gaps for empirical testing. The review uncovered a general theoretical fragmentation and a lack of cohesive, integrative models.

Study 2, the survey of 482 NFT buyers grounded in Self-Determination Theory (Chapter 3), tested the role of intrinsic, extrinsic, and amotivation dimensions in shaping purchase intention. Findings revealed that intrinsic motivations (such as enjoyment, community belonging, and identity signaling)

exerted the strongest positive effects. Extrinsic motivations, such as social recognition or financial gain, played a secondary role, while amotivation significantly reduced purchase intention. Expectations of future value emerged as both a direct predictor and a moderator, amplifying the effects of certain motivations and mitigating the negative influence of amotivation. These results challenged popular portrayals of NFT buyers as purely speculative participants, revealing instead a heterogeneous consumer base whose decisions reflect multiple overlapping motivations.

Study 3, the survey of 1,075 participants including both buyers and non-buyers which applied Goal Contents Theory (Chapter 4), examined further aspirations such as wealth, affiliation, and personal growth. Results indicated that while aspirations influenced purchase intention, prior ownership experience was the single strongest predictor of future buying. This underscores the importance of technological familiarity and learning effects: consumers who have successfully navigated the technical hurdles of wallets and smart contracts are far more likely to re-enter the market. Moreover, the findings position NFT buyers as early adopters within the technology diffusion curve. The appear technically literate, risk-tolerant, and motivated by a blend of personal aspirations and prior experiences rather than by speculation alone. Together, the findings suggest that NFT purchases are shaped by a blend of intrinsic enjoyment, expected future value, and hands-on experience, further challenging simplistic portrayals of NFT buyers.

Considering the research as a connected inquiry, these three studies demonstrate that NFT purchasing is shaped by an interplay of intrinsic enjoyment, perceived future value, and prior ownership experience. This multidimensional explanation challenges simplistic narratives of NFTs as speculative bubbles and provides a richer theoretical account of digital asset consumption.

5.2 Theoretical Implications

This dissertation advances theory in several interrelated ways by integrating insights from the systematic literature review and two empirical studies.

The SLR (Chapter 2) contributes to the theoretical foundations of NFT consumer research in two respects. First, by applying the ADO and TCM frameworks, it brings coherence to a fragmented literature where studies had previously borrowed constructs from disparate domains without establishing a unifying theory or perspective. This structuring of antecedents (e.g., motivation, trust, perceived value), decisions (e.g., purchase intention, willingness to pay), and outcomes (e.g., adoption, loyalty) offers a map of how theoretical perspectives have been deployed to date and outlines where such perspectives have been under-investigated. Second, the SLR highlights the absence of a dominant paradigm, underscoring that NFT consumer research remains theoretically immature. By synthesizing 53 studies, the review provides scholars with a roadmap for developing potential integrative models that combine psychological and cultural insights with economic and technological factors. This methodological contribution is not only descriptive but also prescriptive: it points future researchers toward building unified theories rather than continuing piecemeal borrowing.

The first empirical study (Chapter 3), grounded in Self-Determination Theory (SDT), represents a pioneering application of motivational psychology to blockchain-based consumption. Prior literature often portrayed NFT buyers as purely extrinsically motivated and driven by profit, hype, or herd investing behavior. By demonstrating that intrinsic motivations (such as enjoyment and identity expression) outweigh extrinsic factors in predicting purchase intention, this study challenges dominant narratives in both academic and media discourses. Moreover, the moderating role of expected future value extends SDT by showing how intrinsic motivations are reinforced or undermined depending on market expectations. In this sense, the study both applies and adapts SDT in that it demonstrates that intrinsic

and extrinsic motivations are not static but interact dynamically with perceived financial prospects. This integration of psychological motivation and financial expectation enriches motivational theory and broadens its applicability to hybrid consumption contexts where cultural and speculative logics intersect.

The second empirical study (Chapter 4) further develops theory by employing Goal Contents Theory (GCT) to analyze differences between buyers and non-buyers. Its findings that personal aspirations such as wealth and affiliation shape purchase intentions, but that prior ownership experience is the strongest predictor of future buying, extend adoption theory in two ways. First, it positions NFT buyers firmly within the early-adopter segment of technology diffusion, highlighting the importance of technical literacy and hands-on familiarity in driving continued engagement. Second, it links aspirational psychology to technology-enabled consumption, bridging literatures on luxury goods, collectibles, and digital assets. By showing that ownership experience moderates the relationship between aspirations and purchase intentions, the study refines GCT in the context of digital markets. It suggests that aspirations are not merely antecedents but interact with experiential learning to influence adoption.

Taken together, the three studies provide a more comprehensive theoretical account of NFT consumer behavior. They demonstrate that consumer adoption of NFTs cannot be adequately explained by any single theory so far, whether rooted solely in financial speculation, technology adoption, or luxury consumption. Instead, NFTs require a cross-theoretical perspective that integrates motivation, aspiration, and experience. This integrative model challenges reductive assumptions and situates NFTs within broader literatures on digital consumption, cultural economics, and markets of singularities.

The novelty of this dissertation lies not only in applying SDT and GCT to NFTs but also in extending these theories into new conceptual territory. It shows that motivational psychology can explain behavior in markets characterized by volatility, speculation, and cultural symbolism. It demonstrates that ownership experience is itself a motivational factor, reshaping the pathways predicted by existing

theories. Finally, it situates NFTs within the dynamics of creative industries and singularity markets, extending the reach of consumer behavior theory into an emergent digital frontier.

5.3 Practical Implications

This dissertation also provides a range of practical implications, both for specific stakeholders and for the broader NFT ecosystem. By considering each chapter's contributions in turn, we can identify actionable lessons for creators, marketers, and investors.

Chapter 2 synthesized 53 peer-reviewed studies and revealed that much of the existing discourse around NFTs is fragmented, speculative, and narrow in scope. For marketers, this finding underscores the importance of grounding decision-making in empirical evidence rather than hype. Creators can draw on the review's identification of antecedents such as perceived value, trust, and motivation to design strategies that align with actual consumer drivers rather than assumptions. For investors, the review highlights the need to evaluate projects not only in terms of short-term price dynamics but also in terms of how they address these antecedents.

Chapter 3 applied Self-Determination Theory to 482 NFT buyers, demonstrated that intrinsic motivations such as enjoyment, community, and identity expression play a stronger role than extrinsic financial drivers. This insight has several practical consequences. For creators, it suggests that NFT projects are most likely to succeed when they appeal to consumers' sense of identity and belonging rather than promising quick financial gains. A well-designed NFT collection with strong community features, ongoing engagement, and cultural resonance is more sustainable than one that relies on speculative hype. For marketers, the findings imply that campaigns should emphasize the intrinsic benefits of artistry, exclusivity, and belonging, while treating financial value as complementary outcome rather than a primary driver. For investors, the results caution against overestimating extrinsic drivers of demand and that

evaluating community strength and creative authenticity may be just as important to long-term value as near-term financial signals.

Chapter 4 extended the analysis to both buyers and non-buyers using Goal Contents Theory and a sample of 1,075 participants. Its findings that aspirations matter but prior ownership experience is the strongest predictor of future buying have industry-wide implications. For creators, this highlights the importance of technical barriers to entry: first-time NFT buyers are much harder to reach than activating an existing wallet-holder. For marketers, campaigns should focus on activating existing consumers who are also NFT holders rather than trying to use the allure of new technology. Marketers may find more success in using NFTs for retention, so strategies should focus on cultivating repeat engagement through rewards, tiered access, or long-term roadmaps. For investors, the results suggest that early adopters represent the most stable demand base, meaning that projects with high repeat buyer participation are more resilient.

The three studies suggest that NFT markets are not sustained by speculation alone but by a complex ecosystem of motivations, aspirations, and experiences. For market participants, this means success is less about exploiting hype cycles and more about designing projects and platforms that align with diverse consumer motivations, build trust, and reduce friction. The dissertation's practical contributions extend beyond individual stakeholder groups. It provides creators with design principles, marketers with communication strategies, investors with evaluation criteria, and consumers with self-reflective tools. By situating NFTs as both cultural goods and speculative assets, these implications foster a more sustainable and transparent NFT ecosystem.

5.4 Limitations and Future Research

While this dissertation makes important contributions, it is not without limitations.

Methodologically, the empirical studies relied on self-reported survey data, which are subject to biases of recall and sampling skew. While attempts were made to mitigate these issues, they nonetheless persist. The data was also cross-sectional, limiting the ability to track motivational changes over time, and no attempts were made to validate NFT purchases or to follow up with respondents. The samples were overrepresented by male respondents and individuals recruited via social media, which may constrain generalizability. Finally, the survey was undertaken in a fallow period of price activity for NFTs; the same survey conducted in a period of rapid price increase or decrease could have yielded differing results.

Substantively, the focus was on consumer motivations rather than on the full ecosystem of NFT market actors. Non-buyers were incorporated in the Chapter 4, but other groups, such as creators, platform owners, or regulators, were outside the scope. Additionally, the studies were concentrated on Ethereum-based NFTs which, while the dominant blockchain at the time of this research, may limit applicability to other blockchain ecosystems.

Future research should address these limitations in several ways. Longitudinal designs could track how motivations shift as markets evolve, particularly in response to cycles of hype and downturn. Mixed-methods approaches could complement surveys with direct participant interviews, adding depth to quantitative findings. Transactional data from participant wallets could validate or challenge self-reported motivations, offering more objective evidence. Expanding to underrepresented regions and demographics would enhance cultural generalizability. Finally, exploring the retention behaviors of why some consumers hold NFTs long-term while others exit quickly could enrich the understanding of loyalty dynamics in digital asset markets.

5.5 Concluding Reflection

NFTs are emblematic of the paradoxes of digital consumption in the twenty-first century. They are speculative assets subject to extreme volatility, yet also cultural artifacts that embody identity, community, and creativity. They are technically complex, yet marketed as accessible tokens of belonging. They are derided as bubbles of imaginary goods, yet persist as a multi-billion-dollar market.

This dissertation has argued that NFTs cannot be understood through a single theoretical lens. By combining a systematic literature review with two empirical studies grounded in motivational theory, it demonstrates that NFT buying is not reducible to speculation. Instead, it reflects a blend of intrinsic enjoyment, perceived future value, and experiential learning. NFTs thus challenge researchers to rethink consumer motivation in markets where financial, cultural, and technological logics collide.

For scholars, the dissertation provides new theoretical pathways by extending SDT and GCT into blockchain-enabled consumption and by situating NFTs within creative industry dynamics. For practitioners, it offers actionable strategies for creators, marketers, and investors to navigate this uncertain terrain. For consumers, it provides tools for self-reflection in aligning purchases with motivations and risks.

Ultimately, NFTs represent not just a passing novelty but provide broader insight into how consumers engage with virtual goods. Whether NFTs evolve, fade, or transform into new forms of ownership, the questions they raise about motivation, value, collecting, social signaling, and digital identity will remain central to the study of digital marketing and consumer behavior.

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