

Ante, Lennart

## Article

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## Research Note

## The polychotomy of NFT ownership: Motivational heterogeneity and underlying drivers

Lennart Ante <sup>a,b,\*</sup><sup>a</sup> Constructor University, School of Business, Social & Decision Sciences, Germany<sup>b</sup> Blockchain Research Lab, Germany

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## ABSTRACT

We investigate the motivations behind non-fungible token (NFT) ownership. Utilizing survey data from NFT owners, we identify four distinct groups based on their primary motivations: (1) Utilizers, who emphasize functional uses; (2) Socializers, motivated by community and networking; (3) Speculators, focused on profit potential; and (4) Aesthetes, who appreciate artistic and cultural aspects. Our analysis indicates that individual traits such as risk-taking, impulsivity, and investment knowledge significantly influence group membership. These findings suggest that NFT users are a diverse cohort with varied motivations rather than a homogeneous group.

## 1. Introduction

Non-fungible tokens (NFTs) have emerged as a distinctive class of crypto assets, presenting a new paradigm through which value and ownership are articulated in the digital realm. Due to their unique, non-interchangeable characteristics, NFTs are distinct from fungible cryptocurrencies and facilitate the ownership of a diverse array of digital artifacts, ranging from art and music to virtual real estate and beyond. As NFTs continue to gain traction, they not only challenge conventional notions of art and ownership but also create new economic and social dynamics within the digital sphere.

The proliferation of NFTs has been propelled by their perceived potential to democratize ownership and earnings in the digital economy. This shift has been particularly significant in the art world, where NFTs have disrupted traditional models of distribution and profit sharing, providing artists and creators potential direct access to global markets without intermediaries and thus giving them greater control over their works. Additionally, NFTs have enabled artists to earn royalties from secondary sales, creating a sustainable revenue model that was previously difficult to achieve in the digital space (Guadamuz, 2021; Madine et al., 2023). Moreover, the integration of NFTs with virtual and augmented reality platforms suggests a future where digital and physical realms increasingly intersect, creating immersive experiences that further blur these boundaries. For example, virtual galleries and exhibitions are emerging, allowing users to experience art in entirely new

ways (Lee et al., 2021).

Beyond the art world, NFTs are also reshaping concepts of digital ownership in the context of virtual economies and online communities. Virtual economies—environments in which users can buy, sell, and trade digital goods—have become increasingly prominent with the advent of NFTs. In online communities and metaverse platforms, NFTs serve as both currency and status symbols, allowing users to participate in exclusive experiences or own rare digital goods (Baytaş et al., 2022; Ko et al., 2022; Yilmaz et al., 2023). This has been particularly evident in virtual gaming ecosystems, where NFTs represent items, characters, or real estate, thereby fostering new ways for players to engage economically and socially (Boido & Aliano, 2023; Dowling, 2021; Far et al., 2022; Hartwich et al., 2022). The ownership of such assets often extends beyond mere investment; it reflects a user's identity and social standing within these digital environments (Ante et al., 2022; Turner & Oakes, 1986; Wood et al., 2014). Recent studies suggest that virtual ownership, underpinned by blockchain, significantly enhances user engagement and provides a sense of belonging within these digital spaces (Casale-Brunet et al., 2022; Leyton Escobar et al., 2014; Popp & Woratschek, 2016).

Similarly, the role of NFTs in forming and sustaining online communities must be considered. The social value of NFTs has encouraged the formation of tight-knit communities, where ownership of a particular NFT series can grant access to exclusive groups, events, or decision-making processes within a decentralized autonomous organization

\* Corresponding author at: Constructor University, School of Business, Social & Decision Sciences, Germany.

E-mail address: [ante@blockchainresearchlab.org](mailto:ante@blockchainresearchlab.org).

(DAO) (Hassan & De Filippi, 2021; Santana & Albareda, 2022; Wang et al., 2019). Such structures not only incentivize ownership through communal involvement but also contribute to the perceived social capital within virtual environments. This interplay between digital asset ownership and community formation demonstrates how NFTs function as both economic and social instruments in virtual worlds.

However, the rise of NFTs has also been subject to controversy. The environmental impact of blockchain technology, issues of copyright and digital rights, and the speculative bubbles observed in NFT markets raise critical ethical and economic questions. These challenges underscore the necessity for a deeper understanding of the motivations driving individuals toward NFT acquisition and the broader implications of their widespread adoption.

This article addresses a gap in the existing literature by systematically analyzing the motivations behind NFT ownership. Grounded in a dataset comprising 343 NFT owners and aligning with SDT (Deci & Ryan, 1985), our exploratory factor analysis (EFA) reveals four primary motivational constructs—utilizers, socializers, speculators, and aesthetes—each characterized by distinct behavioral determinants. The functional applications of NFTs primarily drive utilizers, whereas socializers engage with NFTs for community integration and networking. Speculators are attracted by the potential financial returns, and aesthetes are drawn to the artistic and cultural value. Our findings highlight the multifaceted nature of NFT ownership, emphasizing that different user groups are motivated by a combination of factors rather than a single dominant motive. Furthermore, our analysis extends to how individual differences in risk-taking, impulsivity, and investment knowledge influence these motivational orientations, suggesting that NFT ownership is not a monolithic phenomenon but rather a reflection of diverse and complex consumer behaviors.

By delineating different motivational categories of NFT ownership, this study contributes to the understanding of digital asset acquisition and highlights its heterogeneous nature. These insights have practical implications for marketers, developers, and policymakers aiming to engage with the NFT market effectively. This not only enriches our comprehension of digital market dynamics but also assists stakeholders across the digital and creative economies in crafting strategies that align with the varied motives of NFT owners.

## 2. Theoretical background

Motivation is a crucial factor that drives human behavior, shaping how individuals pursue their goals and interact with their environment. Self-determination theory (SDT) (Deci & Ryan, 1985) posits that the quality and strength of motivation depend on the degree to which an individual's basic psychological needs are satisfied. Central to SDT is the distinction between intrinsic and extrinsic motivation. Intrinsic motives refer to engaging in an activity for the inherent satisfaction and pleasure derived from the activity itself (Ryan & Deci, 2000a). This form of motivation is considered self-determined, as individuals act on their inherent interests and curiosity, which leads to higher levels of persistence, creativity, and overall well-being.

In contrast, extrinsic motivation involves performing an activity to attain a separable outcome, such as a reward or the avoidance of punishment (Ryan & Deci, 2000b). SDT describes a continuum of motivation types, ranging from amotivation to intrinsic motivation, with several forms of extrinsic motivation in between, characterized by varying levels of self-determination (Ryan & Deci, 2000a). These include external regulation, where behavior is driven by external rewards or punishments, and identified regulation, where actions are taken based on personal values and the perceived importance of the activity (Guay et al., 2000; Ryan & Deci, 2000b).

SDT has been applied extensively in digital contexts, providing a framework for understanding user engagement with technologies like video games, social media, and online communities (Ferguson et al., 2015; Przybylski et al., 2010). In the context of NFTs, a variety of

intrinsic and extrinsic motives may influence users' decisions to engage with these digital assets. Intrinsic motivations, such as the tokens' utility (Belk et al., 2022; Zhang, 2023), aesthetics (Kong & Lin, 2021; Wang, Gao, et al., 2022), and identity expression (Far et al., 2022), could play a crucial role in the decision to engage in NFT ownership. Users may be drawn to NFTs due to their inherent functions, such as engaging in governance, accessing platforms, or using them for games and virtual worlds (Gonserkewitz et al., 2022). Furthermore, NFT owners may appreciate the aesthetics or artwork of the project, highlighting the inherent value they place on the visual and artistic aspects of digital assets (Ante, 2022a). Collecting NFTs can also satisfy the psychological need for competence as users curate and manage their digital collections (Wang et al., 2024). Lastly, the identity motive underscores the importance of self-expression and personal identity in the digital realm, as users may use NFTs as a means of expressing their online identity through profile pictures, avatars, or other digital representations (Far et al., 2022; Turkle, 1999).

Extrinsic motivations, including social aspects, motives of disrupting existing systems, the underlying technology and business model, financial returns, and community factors could also contribute to the NFT ownership decision. Users may engage with NFTs due to social motives, such as promoting sustainability, philanthropy, or other socially responsible initiatives (Chandra, 2022), demonstrating the external rewards associated with contributing to a greater social good. The disruption motive emphasizes the desire to challenge traditional norms and systems, as users may be motivated by the potential of NFTs to disrupt established structures or industries, such as decentralization or anonymity (Baytaş et al., 2022). Users may also be attracted to NFT projects due to their enthusiasm for the underlying technology, e.g., decentralized finance (Alamsyah & Muhammad, 2024) or business ideas (Kuehn, 2024). Furthermore, users may invest in NFTs with the intention of selling them at a higher price, either shortly after purchase or at a later point in time (Ante, 2022b; Belguith et al., 2024; Casale-Brunet et al., 2023; Wilson et al., 2022), reflecting the extrinsic financial rewards associated with speculative investment. Users may engage with NFTs to gain a stake in the venture or decentralized autonomous organization (DAO), such as equity, voting rights, or rewards (van Haaften-Schick & Whitaker, 2022; Whitaker & Kraeusel, 2018).

Finally, becoming part of a community via NFT ownership highlights the potential extrinsic social reward of connecting with like-minded individuals and forming relationships within the digital realm, as users may be motivated to engage with NFTs to become part of a community or network (Casale-Brunet et al., 2022). These extrinsic motivations align with identified and integrated regulations in SDT, where individuals value the activity for its personal importance or alignment with their values. Motivations across the SDT continuum can thus influence NFT buyers—from amotivation, where engagement is passive and without purpose, to intrinsic motivation, where the satisfaction is derived from the pleasure and enjoyment inherent in the ownership and use of NFTs (Ryan & Deci, 2000b).

Understanding motivational forces is crucial to exploring user behavior in the NFT market, as it reveals the psychological and social factors that drive engagement.

## 3. Data background

We use data derived from an online survey administered between December 15th, 2022, and January 19th, 2023. The investigation was designed to gather information on the utilization of NFTs, stablecoins, and cryptocurrencies. The survey was designed to onboard crypto and NFT users and did not have the goal of representing a nationally or internationally representative sample based on, e.g., age and gender. A group of multiple researchers developed the questionnaire, and pilot testing ( $N = 5$ ) was conducted to validate it.

Dissemination of the survey link occurred through various social media channels operated by CoinGecko ([coingecko.com](https://www.coingecko.com)), including X

(then Twitter), Facebook, and a daily newsletter. The survey attracted 2892 clicks and was coined “Survey on NFT and Crypto Users.” Prospective participants were informed through the aforementioned channels that the survey’s primary objective was to gain insight into the global behavior and preferences of NFT and cryptocurrency users. Given the survey’s anonymous nature, participants were not offered any remuneration for their contributions. Fig. 1 delineates the process of sample selection, culminating in the identification of “NFT owners.”

A total of 438 respondents completed the entire survey, of which 164 respondents disclosed ownership of LAND in platforms such as The Sandbox, Decentraland, or Otherside. This accounts for 47.8 % of NFT owners and 37.4 % of the overall sample, constituting the primary subset for this investigation.

Twelve distinct intrinsic and extrinsic factors potentially motivating NFT acquisition decisions were enumerated, and survey participants were requested to evaluate their significance employing a Likert scale ranging from not important (1) through neutral (3) to very important (5). The corresponding motives and their designated abbreviations can be found in Table 1.

To account for various demographic factors, the survey gathered data on gender, age, income, and education. It also considered investors’ psychological traits, such as their propensity for risk, impulsive behavior, and investment skills. Furthermore, to measure NFT awareness, the survey included variables like the number of NFTs owned, concerns about fraud, the necessity of regulations, familiarity with NFT projects, understanding of NFTs, and the timing of initial NFT acquisition.

## 4. Results and discussion

### 4.1. NFT ownership groups

We utilize exploratory factor analysis (EFA) to uncover the latent structure within the data and to classify retail investor motivations for NFT ownership, similar to other studies that focused on different populations and asset classes (Ante, Fiedler, et al., 2023; Ante, Wazinski, & Saggiu, 2023; Ryu & Kim, 2016). We employ principal component analysis with varimax rotation as well as Kaiser normalization and set a factor loading threshold of 0.4 for assigning variables to factors. The results of this factor analysis are presented in Table 2, revealing four distinct factors with eigenvalues greater than one, which together explain 71.4 % of the total variance in the dataset.

The landscape of NFT ownership is marked by a remarkable heterogeneity in motivations, which can be categorized into four distinct groups based on the factor analysis, which we name (1) utilizers, (2) socializers, (3) speculators, and (4) aesthetes. Each group is characterized by unique underlying drivers that influence their engagement with NFTs.

**Utilizers** are primarily motivated by the functional aspects of NFTs, which can be explained by significant factor loadings of utility (0.790), stake (0.704), or business model (0.617). This group prioritizes the practical applications and utilities that NFTs offer, such as governance rights, access to exclusive content, or enhancements in gaming environments, which aligns with the empowering role that NFTs can present to their holders (van Haaften-Schick & Whitaker, 2022; Whitaker & Kraeußl, 2018). Utilizers seem to be driven by an enthusiasm for technology and the innovative potential of NFTs. The decentralized nature of blockchain technology, which ensures the security and immutability of digital assets, resonates strongly with tech-savvy individuals who are keen to explore and leverage these innovations. Further, NFTs provide unique technological features, such as verifiable ownership and provenance. Individuals in the group are likely to invest in NFTs with robust business models and clear, tangible benefits—one such business model is developed by Kuehn (2024). Their engagement seems pragmatic, focusing on how NFTs can be used to achieve specific goals within digital ecosystems. This utilitarian approach reflects a broader interest in the ways NFTs can facilitate new forms of interaction and utility in the digital realm. This finding aligns with Zalan and Toufaily (2024), who identify that one value driver of NFTs is utility.

**Socializers** focus on community engagement and networking opportunities that NFTs provide. For them, ownership may be a means to connect with like-minded individuals and to participate in socially-driven initiatives. This aligns with Chandra (2022), who outlines entrepreneurial options that NFTs enable. Socializers are motivated by the sense of belonging that comes from being part of a community, as well as the potential for collective action and social impact. This finding aligns with research on the engagement with NFTs to become part of a community or network (Casale-Brunet et al., 2022). This group may value the role of NFTs in promoting sustainability, philanthropy, and other socially responsible efforts. Additionally, they see NFTs as tools for identity expression (Far et al., 2022), leveraging digital assets to curate and project their online personas. The social and communal aspects of NFT ownership are paramount for socializers, who view these assets as gateways to broader social networks and collective endeavors.

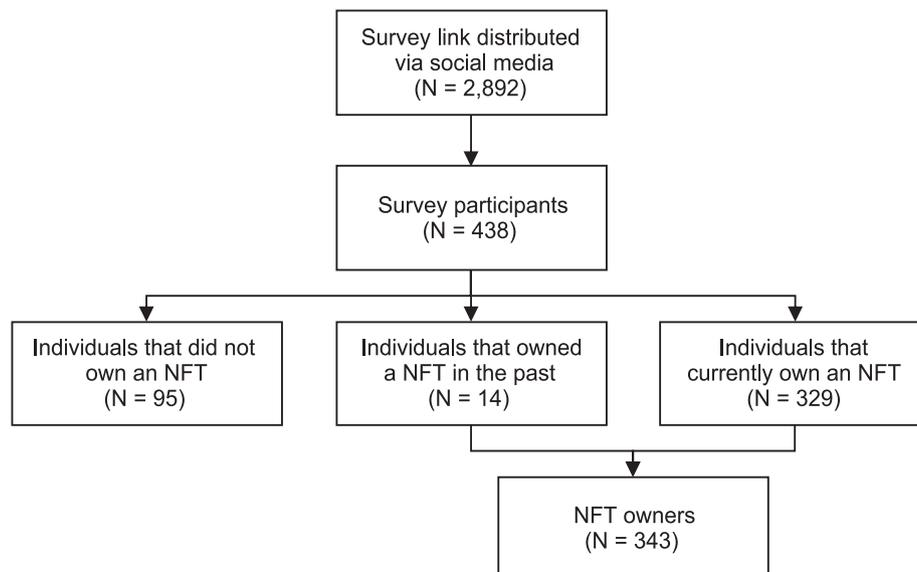


Fig. 1. Sample selection process.

**Table 1**  
Description of variables and descriptive statistics.

Variable	Coding	Mean	SD	Rank
<b>Ownership motives</b>	In general, how important are the following motives in your decision to purchase NFTs (1 = not important; 5 = very important):			
Aesthetics	Personal enthusiasm for the aesthetics or artwork of the NFT project	3.567	1.234	8
Identity	Use NFTs as online identity (e.g., profile pictures, avatars)	3.445	1.312	9
Business model	Personal enthusiasm for the business model or business idea of the NFT project	3.616	1.205	5
Social	Social motives (e.g., sustainability, philanthropy)	3.299	1.254	11
Saving	Saving (e.g., inflation hedging, capital preservation)	3.226	1.335	12
Utility	Use NFTs in their intended utility function (e.g., governance, access, gaming)	3.646	1.276	4
Stake	Gaining a stake in the venture or DAO (e.g., equity, voting rights, rewards)	3.695	1.215	2
Community	Becoming part of a community and/or network	3.598	1.192	7
Sale (short-term)	Future sale of the NFT at a higher price (shortly after purchase)	3.604	1.304	6
Sale (long-term)	Future sale of the NFT at a higher price (at a later point in time)	3.890	1.234	1
Disruption	Disrupting established structures and/or industries (e.g., decentralization, anonymity)	3.427	1.209	10
Technology	Personal enthusiasm for the technology of the NFT project	3.646	1.222	3
<b>Demographics</b>				
Gender	Dummy variable that captures whether the respondent is male (=1) or not (=0)	0.895	–	
Age	Respondent age (categoric variable: 18 to 24; 25 to 34; 35 to 44; 45 to 54; 55 to 64; 65 and over)	2.537	1.047	
Income	Respondent average net income (categoric variable: less than \$500; \$500 to \$999; \$1000 to \$1499; \$1500 to \$1999; \$2000 to \$2999; \$3000 to \$4999; more than \$5000)	3.146	2.451	
Education	Respondent average education level income (categoric variable: no schooling completed; high school; trade/technical/vocational training / apprenticeship; Bachelor's degree; Master's degree; Doctorate degree)	2.551	1.198	
<b>Personality</b>				
Risk-taking	Q: Are you generally a person who is willing to take risks? (1 = not at all willing to take risks; 10 = very willing to take risks)	7.586	2.147	
Impulsivity	Q: Do you consider yourself to be an impulsive person in life? (1 = not at all impulsive; 10 = very impulsive)	5.746	2.462	
Investment knowledge	Q: Please rate your overall investment knowledge (outside the crypto sphere). (1 = no knowledge; 10 = very good knowledge)	6.641	2.310	
<b>NFT variables</b>				
Number of NFTs	Q: How many NFTs did you purchase so far? (categoric variable: 0; 1; 2 to 5; 6 to 10; 11 to 20; 21 to 50; 51 or more)	3.927	1.882	
Afraid of fraud	Q: Are you afraid of fraud when investing in NFTs? (1 = strongly disagree; 5 = strongly agree)	3.519	1.149	
Need for regulation	Q: NFT regulation should be stricter (1 = strongly disagree; 5 = strongly agree)	3.321	1.239	
Informing about NFTs	Q: I inform myself in detail about NFT projects before investing (1 = strongly disagree; 5 = strongly agree)	3.845	1.024	
NFT understanding	Q: I understand the technology behind NFTs (1 = strongly disagree; 5 = strongly agree)	3.822	1.098	
First NFT purchase	Q: I understand the technology behind NFTs (categoric variable: 2017; 2018; 2019; 2020; 2021; 2022)	2.309	1.223	

Extrinsic financial incentives and the potential for economic gain drive **speculators**. This group perceives NFTs primarily as investment opportunities, focusing on the potential for significant returns through both short-term trading and longer-term investment. This aligns with [Zalan and Toufaily \(2024\)](#), who find that NFT engagement represents a novel form of day trading and everyday financialization. Speculators may be attracted by the volatility and speculative nature of the NFT market, which offers a high-risk-high-reward environment. One example is the trading of digital NFT parcels of land in the metaverse, as outlined by [Casale-Brunet et al. \(2023\)](#). This economic focus aligns with broader speculative behaviors observed in other asset classes, where the primary goal is to capitalize on market movements and profit from strategic buying and selling.

**Aesthetes** value NFTs for their artistic and cultural dimensions. This group is attracted to the aesthetic qualities and creative expressions that NFTs embody. Aesthetes appreciate the artwork and cultural significance associated with NFTs, potentially collecting them for their beauty and artistic merit rather than for functional or financial reasons. Their motivation seems intrinsically driven, rooted in personal enthusiasm for the aesthetics of digital art and the cultural narratives that NFTs can convey. Aesthetes use NFTs as a medium for self-expression and identity formation, showcasing their collections as reflections of their personal tastes and artistic engagements. Given that visual impressions and the (digital) art sector represent significant aspects of the NFT market ([Kong & Lin, 2021](#); [Wang, Horkey, et al., 2022](#)), this finding aligns with the literature.

These four groups illustrate the heterogeneous nature of NFT

ownership, emphasizing that motivations extend beyond mere financial speculation. Utilizers, socializers, speculators, and aesthetes each bring different perspectives and values to the NFT ecosystem, enriching the digital asset landscape with a variety of engagement modes.

**Table 2**

Profiling NFT owners based on their purchase motives. The table provides exploratory factor analysis results based on survey data of 343 NFT owners. Factor loadings assigned to the respective factors are highlighted in bold.

Motive	Factor 1: Utilizers	Factor 2: Socializers	Factor 3: Investors	Factor 4: Aesthetes
Utility	<b>0.790</b>	0.239	0.095	0.212
Stake	<b>0.704</b>	0.308	0.341	–0.016
Technology	<b>0.631</b>	0.281	0.106	0.414
Business model	<b>0.617</b>	0.158	0.220	0.426
Social	0.282	<b>0.815</b>	0.023	0.274
Saving	0.331	<b>0.667</b>	0.396	–0.031
Community	0.325	<b>0.569</b>	0.032	0.401
Disruption	0.405	<b>0.481</b>	0.052	0.306
Sale (short-term)	0.002	0.162	<b>0.863</b>	0.463
Sale (long-term)	0.256	0.013	<b>0.850</b>	0.140
Aesthetics	0.224	0.138	0.220	<b>0.786</b>
Identity	0.102	0.433	0.165	<b>0.551</b>
Variance explained	47.8 %	11.2 %	6.3 %	6.1 %
Uniqueness	26.5 %	18.1 %	50.8 %	28.8 %

Understanding these diverse motivations is crucial for stakeholders in the digital and creative economies, as it allows for the development of targeted strategies that resonate with the specific desires and needs of each group.

The correlations between the four NFT ownership groups (Table 3) reveal distinct but interconnected motivations. Utilizers and socializers exhibit a strong positive correlation (0.561), indicating a significant overlap between functional and community-driven motivations. Speculators show a moderate correlation with both utilizers (0.347) and socializers (0.282), suggesting a secondary consideration of financial aspects among these groups. However, the weakest correlations are observed between aesthetes and the other groups, particularly speculators (0.105). This highlights the distinct nature of aesthetic motivations compared to practical or financial ones.

#### 4.2. Prediction of NFT ownership group affiliation

Table 4 presents the results of four ordinary least squares (OLS) regression models predicting the factor scores of the four NFT owner groups based on socio-demographics, personality traits, and NFT usage variables. The R-squared values reveal that the models for utilizers (0.24) and speculators (0.16) explain a higher proportion of variance compared to those for socializers (0.07) and aesthetes (0.12). Correlation analyses and variance inflation factors (VIFs) can be assessed in Table A.1 in the appendix.

Model 1 reveals that age has a significant positive association with the likeliness to be defined as utilizer, suggesting older individuals are more likely to be utilizer-type NFT owners. This finding indicates a potential generational appreciation for the functional uses of NFTs. The lack of significant influence from gender, income, and education suggests these demographics are less relevant in determining utilizer status – which is also the case for all other regression models. Personality traits like risk-taking (0.05\*\*) and investment knowledge (0.05\*) positively correlate with utilizer group status, while impulsivity (−0.05\*\*) has a negative association. This suggests that utilizers are generally more calculated and informed owners, emphasizing the importance of the utility and pragmatic use of NFTs. Additionally, being well-informed about NFTs (0.17\*\*) and having a strong understanding of them (0.24\*\*\*) are significant positive predictors, highlighting the role of knowledge and awareness in driving utilitarian motivations.

Model 2 focuses on the socializer group, finding no significant effects from socio-demographic variables. However, personality traits play a notable role, with risk-taking (−0.05,  $p < .10$ ) negatively impacting socializer status and investment knowledge (0.06,  $p < .05$ ) having a positive effect. This indicates that socializers, while generally knowledgeable, tend to be less risk-prone. The absence of significant NFT-related variables suggests that social engagement and community integration drive this group more than specific NFT-related characteristics. This group’s motivations are thus rooted in the social and communal aspects of NFT ownership rather than the assets’ financial or functional attributes.

Model 3 examines the group association of speculators, showing that while being male (0.28) has a positive association, it is not statistically significant. However, personality traits such as risk-taking (0.06,  $p <$

**Table 3**

Factor correlations. The table illustrates the observed correlations between the four components derived from an exploratory factor analysis utilizing oblimin rotation for the sample of 343 NFT owners. All coefficients are significantly correlated at the 1 % level.

Groups / factors	(1)	(2)	(3)	(4)
(1) Users	1.000			
(2) Socializers	0.561	1.000		
(3) Investors	0.347	0.282	1.000	
(4) Aesthetes	0.215	0.191	0.105	1.000

**Table 4**

Regression models predicting NFT owner profile association. The table shows the results of four ordinary least squares regression models with heteroskedasticity-robust standard errors and constant (not reported) predicting factor scores of the four NFT owner groups with 343 observations per model. Factor scores, i.e., the four dependent variables, are calculated via the regression method. Statistical significance at the 1 %, 5 %, and 10 % levels are indicated by \*\*\*, \*\*, and \*.

	Model 1: Utilizers	Model 2: Socializers	Model 3: Investors	Model 4: Aesthetes
<b>Socio-demographics</b>				
Gender (male)	−0.03 (0.16)	−0.10 (0.21)	0.28 (0.26)	−0.07 (0.22)
Age	0.14 (0.05) ***	0.03 (0.05)	−0.003 (0.04)	−0.02 (0.05)
Income	−0.01 (0.02)	−0.01 (0.03)	0.004 (0.02)	0.01 (0.02)
Education	−0.06 (0.05)	−0.01 (0.05)	0.05 (0.05)	0.05 (0.05)
<b>Personality</b>				
Risk-taking	0.05 (0.02) **	−0.05 (0.03)*	0.06 (0.03) **	−0.03 (0.03)
Impulsivity	−0.05 (0.02)**	0.02 (0.02)	0.06 (0.02) **	0.06 (0.02) **
Investment knowledge	0.05 (0.03) *	0.06 (0.03)**	0.01 (0.03)	−0.06 (0.03) *
<b>NFT-related variables</b>				
Number of NFTs	0.03 (0.03)	0.01 (0.03)	0.01 (0.03)	0.02 (0.03)
Afraid of fraud	−0.02 (0.05)	−0.07 (0.06)	0.10 (0.05)	0.02 (0.05)
Need for regulation	−0.02 (0.05)	0.06 (0.05)	0.03 (0.05)	0.10 (0.05) **
Informing about NFTs	0.17 (0.07) **	0.07 (0.07)	0.12 (0.06) **	0.21 (0.07) ***
NFT understanding	0.24 (0.06) ***	0.02 (0.06)	−0.02 (0.06)	0.06 (0.07)
First NFT purchase	−0.06 (0.04)	0.02 (0.05)	0.04 (0.04)	0.05 (0.03)
F-statistic	0.000	0.007	0.000	0.000
R <sup>2</sup> (adj. R <sup>2</sup> )	0.24 (0.20)	0.07 (0.02)	0.16 (0.12)	0.12 (0.07)

.05) and impulsivity (0.06,  $p < .05$ ) are significant predictors, indicating that a higher propensity for risk-taking and impulsive behavior typically characterizes speculators. This aligns with the speculative nature of their engagement. The positive association with being knowledgeable about NFTs underscores the importance of knowledge even in speculative investments, where understanding market dynamics can lead to more strategic decision-making.

Model 4 analyzes aesthetes where no socio-demographic variables show significant effects. Instead, personality traits such as impulsivity (0.06,  $p < .05$ ) and investment knowledge (−0.06,  $p < .05$ ) significantly predict aesthete status. This suggests that aesthetes exhibit impulsive behavior and lack financial literacy. NFT-related variables like informing oneself about NFTs (0.21,  $p < .01$ ) and the need for regulation (0.10,  $p < .05$ ) are significant positive predictors, indicating that aesthetes value being well-informed and support measures to maintain a stable and trustworthy market environment.

#### 4.3. Theoretical and practical considerations

The motivations underlying NFT ownership resonate with SDT (Deci & Ryan, 1985), which emphasizes the role of intrinsic and extrinsic motivations in driving human behavior. Intrinsic motivations, such as aesthetic appreciation and community engagement, alongside extrinsic motivations like financial gain, are evident among NFT owners. This diversity also invites insights from behavioral finance, which considers psychological factors and cognitive biases in financial decision-making. The speculative behavior of investors and the aesthetic valuations by

aesthetes underscore the influence of personal beliefs, perceived value, and behavioral biases in the NFT market.

In examining the motivations of NFT owners, four distinct groups emerged, and each can be aligned with different theoretical frameworks that suggest intriguing pathways for future research. Utilizers focus on the practical applications of NFTs, an orientation that aligns with theories on technology adoption (Davis, 1985; Venkatesh et al., 2003), emphasizing the relevance of perceived usefulness and ease of use. This connection with technology adoption theory suggests that future NFT projects should prioritize the development of user-friendly interfaces and utility-driven features to attract this group.

Socializers are drawn to the community and networking opportunities NFTs offer, a perspective supported by social identity theory (Tajfel & Turner, 1979; Tajfel & Turner, 2004), which stresses the importance of group memberships in shaping identity. This underscores the role of network effects in the valuation of digital assets, where community support may influence NFT value. For instance, projects aiming to appeal to socializers could enhance their offerings by creating exclusive, interactive community events or by integrating NFT ownership with social rewards that reinforce group membership. This integration highlights how leveraging social dynamics could be a significant driver for increasing NFT adoption and engagement among users seeking a sense of belonging and identity reinforcement.

Investors approach NFTs with an eye toward economic gain, embodying principles from traditional financial theories such as market efficiency (Fama, 1970; Fama, 1991) and behavioral finance (Barberis & Thaler, 2003; Shiller, 2003). The speculative tendencies observed among NFT investors also align with concepts like overconfidence bias and the greater fool theory, suggesting that financial returns are often pursued with expectations shaped by herd behavior and market hype. This finding challenges the traditional notion of market efficiency, as investor behavior in NFT markets tends to reflect speculative bubbles and emotional decision-making rather than purely rational calculations (Barbon & Rinaldo, 2023; Wang, Horky, et al., 2022). Practical recommendations for NFT creators and marketers could include structuring transparent, data-driven insights about the valuation of NFTs, which could mitigate irrational market behaviors by providing clearer financial projections and risks.

Lastly, aesthetes appreciate the artistic and cultural significance of NFTs, resonating with the concept of aesthetic consumption (Charters, 2006; Venkatesh & Meamber, 2008) that values sensory and emotional experiences derived from a product. Aesthetes may be motivated by the uniqueness, narrative, and cultural context of the digital artifacts they collect. This aligns with theories of symbolic consumption, where ownership reflects deeper personal meanings and emotional satisfaction. NFT projects targeting aesthetes could focus on collaborating with renowned artists or creating narratives around the artwork to enhance its cultural and symbolic value. Additionally, integrating augmented reality (AR) to allow NFT holders to interact with their assets in novel and immersive ways could strengthen the aesthetic appeal.

These varied motivations of NFT owners not only enrich our understanding of the digital asset market but also highlight significant areas for further exploration, particularly how these motivations interplay within the broader digital and creative economies. The comparison of these findings with those from existing research on digital goods ownership further illustrates the heterogeneity of motivations. For example, studies on the adoption of cryptocurrencies have highlighted similar distinctions between utilitarian and financial motives (Ante, Fiedler, et al., 2023), suggesting parallels between NFTs and other virtual assets in how they fulfill both functional and expressive needs. Additionally, findings on social motivations in virtual communities (Ante, Wazinski, & Saggu, 2023) demonstrate that NFTs serve as more than financial assets—they are crucial in fostering identity and group cohesion, much like other digital membership tokens. This indicates a convergence of motivational drivers across different forms of digital ownership, thereby expanding the theoretical implications of the

current study beyond NFTs to other domains of virtual goods.

The diversity of NFT owners' motivations suggests that an interdisciplinary approach, integrating insights from economics, psychology, sociology, and information technology, is essential for a comprehensive understanding of digital assets. Such complexity also invites a configurational approach to future research, such as using methods like fuzzy-set qualitative comparative analysis (fsQCA) to examine how different combinations of motivations influence ownership behaviors and outcomes (Kumar et al., 2022; Pappas & Woodside, 2021). For instance, future studies could investigate how specific combinations of intrinsic motivations (e.g., aesthetic appreciation) and extrinsic motivations (e.g., community status) jointly affect user loyalty and retention in NFT ecosystems.

From a practical standpoint, understanding these motivational categories allows stakeholders—such as NFT creators, marketers, and policymakers—to target their initiatives better. NFT creators could design projects with features that appeal to utilitarian needs (e.g., functionality), community engagement (e.g., exclusive access), speculative interests (e.g., resale opportunities), or aesthetic values (e.g., unique artistic expression), thereby crafting differentiated strategies for different user groups. Marketers could use these insights to segment the NFT market more effectively, offering targeted campaigns that resonate with each group's motivations. Policymakers could consider these motivations in developing regulatory frameworks that both protect consumers from market volatility and foster a supportive environment for digital creativity and innovation. Broader implications suggest that, as user motivations evolve, the development of integrated digital platforms could inform strategies for enhancing the stability and appeal of virtual economies.

## 5. Conclusion

This analysis of the motivational heterogeneity and underlying drivers of NFT ownership provides insights into the diverse motivations behind this phenomenon. We identified four distinct ownership groups: (1) utilizers, (2) socializers, (3) speculators, and (4) aesthetes. This segmentation reveals that NFT owners are far from a monolithic group; their engagement is driven by varied motivations ranging from practical utility and community engagement to financial speculation and artistic appreciation. The findings align with existing research on NFTs.

Our findings highlight the importance of recognizing consumers' diverse motivations to engage effectively with different segments of the NFT market. Understanding the motivations of NFT owners is vital for regulators and policymakers aiming to develop guidelines that protect investors while fostering innovation and community engagement. For NFT platforms and creators, the results highlight the importance of market segmentation and tailored offerings to meet the diverse needs and motivations of different owner types. Overall, this study underscores the heterogeneous nature of NFT ownership.

Despite the strengths of the methods applied, inherent limitations persist that need to be mentioned. Population surveys underly challenges such as self-selection bias, respondent incentives (or lack thereof), or confirmation bias, which is why the results should be reevaluated using other methods of analysis (e.g., on-chain data analysis of NFT users). Longitudinal studies that track changes in NFT ownership motivations over time or qualitative studies to explore motivations in more depth would also be suitable as future research avenues. Finally, studies relying on representative population survey data could analyze the prevalence of NFT ownership in countries, thereby providing academia and industry with a basis for how relevant the theme of NFT ownership actually is.

## CRedit authorship contribution statement

**Lennart Ante:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project

administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization.

interests or personal relationships that could have appeared to influence the work reported in this paper.

**Declaration of competing interest**

The authors declare that they have no known competing financial

**Data availability**

Data will be made available on request.

**Appendix A**

**Table A.1**  
Correlations and variance inflation factors. Statistical significance at the 5 % level is indicated by\*.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	VIF
<b>Motives</b>																		
(1) Factor 1	1.00																	1.31
(2) Factor 2	0.00	1.00																1.05
(3) Factor 3	0.00	0.00	1.00															1.15
(4) Factor 4	0.00	0.00	0.00	1.00														1.12
<b>Sociodemographics</b>																		
(5) Gender (male)	0.06	0.00	0.08	-0.04	1.00													1.11
(6) Age	0.18*	0.01	-0.06	-0.02	-0.02	1.00												1.17
(7) Income	0.02	-0.06	-0.05	0.04	-0.08	0.30*	1.00											1.23
(8) Education	0.03	0.02	-0.03	0.04	0.00	0.13*	0.24*	1.00										1.21
<b>Personality</b>																		
(9) Risk-taking	0.10	-0.05	0.21*	0.04	0.01	0.07	0.06	0.18*	1.00									1.46
(10) Impulsivity	-0.06	0.02	0.21*	0.14	-0.07	0.14*	0.03	0.00	0.47*	1.00								1.41
(11) Investment knowledge	0.22*	0.14*	0.07	-0.07	0.14*	0.04	0.03	0.24*	0.21*	-0.02	1.00							1.26
<b>NFT-related variables</b>																		
(12) Number of NFTs	0.11*	0.04	0.11*	0.12*	-0.02	0.04	0.10	0.07	0.17*	0.12*	0.01	1.00						1.20
(13) Afraid of fraud	-0.04	-0.02	0.16*	0.03	-0.05	-0.10	-0.03	-0.04	0.01	-0.02	-0.06	0.08	1.00					1.45
(14) Need for regulation	-0.00	0.06	0.13*	-0.05	0.03	-0.08	-0.06	0.00	-0.04	0.08	0.01	0.08	0.49*	1.00				1.42
(15) Informing about NFTs	0.34*	0.09	0.16*	0.22*	0.02	0.03	0.05	0.03	0.10	0.03	0.18*	0.21*	0.21*	0.14*	1.00			1.69
(16) NFT understanding	0.39*	0.08	0.09	0.15*	0.15*	0.15*	0.06	0.09	0.03	0.01	0.25*	0.20*	0.16*	0.09	0.59*	1.00		1.71
(17) First NFT purchase	-0.01	0.04	0.05	0.09	0.07	0.11*	0.10	0.09	0.02	-0.02	0.06	0.29	-0.05	-0.06	0.06	0.08	1.00	1.13

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