IJCF
International Journal of Costume and Fashion
pISSN 2233-9051
eISSN 2288-7490
https://doi.org/10.7233/ijcf.2024.25.1.001
Vol. 25 No. 1, June 2025, pp. 1-18

How Does Consumer Self-Perception Affect the Artistic Value and Potential Behavioral Intention of NFT Fashion Products?

Dayun Jeong · Youngsam Kim†
Lecturer, Dept. of Fashion, Chung-Ang University, South Korea
Professor, Dept. of Fashion, Chung-Ang University, South Korea

Abstract Non-fungible token (NFT) product development is actively taking place in the fashion industry; consumer interest in NFT fashion products is increasing. This study aimed to develop a marketing strategy to enhance NFT fashion products' artistic value. To this end, we investigated how consumer self-acceptance and self-esteem affect NFT fashion products' artistic value, how this value affects consumers' behavioral intentions, and whether entry-barrier factors have a moderating effect. A survey targeting 300 Korean consumers was conducted. A subsequent statistical analysis revealed that relatedness and hedonic motivation had a significant impact on NFT fashion products' artistic value, while artistic value had a significant impact on consumers' behavioral intentions. Additionally, uncertainty and costs associated with NFTs moderated the relationship between artistic value and behavioral intention. The consumer-perception factors that affect NFT fashion products' artistic value and barriers to entry into the NFT market identified in this study can be used as basic data to develop marketing strategies for NFT fashion products.

Keywords artistic value, barrier to entry, NFT fashion, potential behavioral intention, self-perception.

Citation Jeong, D. Y. &· Kim, Y. S. (2025). How Does Consumer Self-Perception Affect the Artistic Value and Potential Behavioral Intention of NFT Fashion Products? *International Journal of Costume and Fashion, 25*(1), 1-18.

Introduction

The metaverse is a digital environment implemented using cutting-edge technologies such as blockchain, VR, AR, MR, and extended reality (Fortune Business Insights[FBI], 2024). It represents a change toward a hyper-connectivity paradigm in which consumers, brands, and companies seamlessly interact within a digital space where virtuality and reality are connected (Barrera & Shah, 2023). As consumption in the metaverse becomes virtualized, consumers' understanding of various concepts, such as currency, possessions, and ownership of non-fungible tokens (NFTs), is rapidly changing (Belk et al., 2024).

The market size of the global metaverse is expected to grow to USD 3.4 trillion by 2027 (FBI, 2024), while the number of metaverse users is expected to reach 1.25 billion by 2030 (Statista, 2023). Meanwhile, the NFT market's size is expected to increase from 1.55 billion dollars in 2021 to 14.2 billion dollars by 2031 (Business Research Insights [BRI], 2024a), while the size of the global fashion-brand NFT market is expected to grow from 210.2 million dollars in 2022 to 1.46 billion dollars by 2030 (Congruence Market Insights, 2024). This figure accounts for 10% of the entire NFT market, which can be seen as a large proportion of the

Received October 21, 2024; **Revised** February 15, 2025; **Accepted** March 10, 2025

This work was supported by the Ministry of Education of the Republic of Korea and the National Research Foundation of Korea (NRF-2023S1A5A8080096).
† ***Corresponding Author***: proyskim@cau.ac.kr

fashion NFT market. It is presumed that this growth is due to the introduction and integration of cutting-edge technologies and various services utilizing digital technology.

The Korean market for NFTs has grown at a remarkable pace since 2021, with the surge largely attributed to the rising demand for highly valued NFT projects like Cryptopunk and BAYC. However, the market has faced instability since 2022 due to events such as the Terra Luna collapse and the FTX incident (Block Beats, 2024). Nevertheless, the market is projected to grow by 6.05% annually from 2025 to 2028, reaching a market volume of $54.30 million by 2028 (Statista, 2024). The popularity of NFT fashion is swiftly rising in South Korea, providing innovative methods for fashion brands to engage consumers via blockchain-enabled digital fashion items (Yoo & Choi, 2022). These technologies not only transform consumer-brand interactions but also create new possibilities for marketing and communication in the fashion sector.

Various fashion brands conducting marketing and communication in traditional ways are adopting new marketing methods using the metaverse (Kim & Lee, 2022). Accordingly, N-gram analysis using big data has confirmed that the density of the keywords “fashion” and “metaverse” is high (Kim & Lee, 2023). Thus, many fashion brands are introducing NFT products representing assets such as digital fashion items and artwork, which are traded on various platforms (Y. J. Bae, 2023). Particularly, luxury fashion brands are expanding the scope of the metaverse and marketing communications in various ways (Kim & Lee, 2022), and both fans and collectors influence the creation of an environment where they can own unique digital assets related to their favorite fashion brands. Fashion brands are also increasingly interested in NFT-based games and virtual real estate. Various fashion companies now use NFTs to communicate with consumers; they increase brand awareness and promote deeper connections by recognizing the types of NFT products consumers prefer, creating digital products, hosting digital events, encouraging consumer participation, and collaborating with virtual artists through NFT technology. Additionally, fashion manufacturers introduce NFTs into products and collections and create anticipation for NFT drops, digital fashion shows, and collaborations through strategic advertising campaigns, teasers, and bulletins. As the fashion industry increasingly embraces digital transformation, the integration of NFTs will be central to reimagining product ownership, transparency in the supply chain, and new forms of marketing in both physical and virtual realms.

Various investors and global giants have recognized the metaverse’s importance and are aiming to create new business opportunities by leveraging interoperability and interconnectivity (De Felice et al., 2023); however, they are struggling to create meaningful strategies in a rapidly changing environment (Golf-Papez et al., 2022). Despite significant corporate investment driving advances in metaverse technologies, critical gaps persist in our understanding of the metaverse’s expansion, marketing frameworks, and its underlying influence mechanisms. To meet consumers’ needs, brands can use blockchain- enabled advances to present technology-driven service innovation, customer-centric service innovation, and product innovation (Hakkarainen & Colicev, 2023). Therefore, it is necessary to determine why consumers purchase digital goods despite limited property rights, as well as distinguish NFT-product consumers’ purchasing motivations (Belk et al., 2024). However, research in this field has been insufficient.

Recent research on NFT fashion has highlighted several trends and investigated various aspects of NFT fashion, including consumer perceptions (Jeong & Kim, 2024a), value creation (Jeong et al., 2024; Lee & Lee, 2022), and marketing or strategy (Jeong & Kim, 2024b; Kim et al., 2024). Kim et al. (2024) explored how promotional bundles combining physical and NFT fashion items affected consumer perception. Lee and Lee (2022) analyzed the NFT fashion industry’s structure and sustainable value. They identified various participation types, including NFT fashion makers, platforms, collections, and collaborations. They emphasized NFT fashion’s potential to expand beyond traditional physical consumption to include virtual content. Despite these promising studies, research on NFT fashion has several limitations. Many studies have focused on specific aspects of NFT fashion (e.g., consumer perceptions or promotional strategies) without considering fashion products’ artistic value. Moreover, most studies have been cross-sectional and

have not investigated NFT fashion's long-term effects on consumer behavior and industry practices.

As various NFT projects with proper business models and ecosystems gradually become a foundation for sustainability through the popularization and institutionalization of NFTs (Kim, 2022), Jeong et al. (2024) examined NFT art characteristics' effect on consumer perceived value. They found that decentralization, transparency, and scarcity excluding security, positively influenced perceived usefulness and enjoyment. However, there is insufficient research regarding NFT fashion products as artworks, measuring the value of such fashion products according to consumers' characteristics (Jeong & Kim, 2024a). Therefore, studies need to explore the relationship between consumer characteristics and NFT fashion products' artistic value. This research examines the intersection of artistic value and consumer perception in the NFT fashion industry, addressing Jeong and Kim's (2024b) identification of a need to consider experiential, personal, and value-driven factors—beyond intrinsic product attributes—in shaping consumer interpretations, responses to entry barriers, and strategic marketing directions for NFT-based fashion items.

Theoretical Background

NFT Fashion Products

In 2014, Kevin McCoy minted the first NFT "Quantum" on the Namecoin blockchain (Patairya, 2023). NFTs are unique digital assets representing ownership of real-world or digital items - e.g., art, music, collectibles, and fashion products (Statista, 2024). These tokens are stored and traded on blockchain platforms, ensuring their authenticity, uniqueness, and scarcity.

In March 2019, the digital couture house The Fabricant has collaborated with Dapper Labs and artist Johanna Jaskowska to create the world's first NFT fashion item, called "IRIDESCENCE" (Zhao, 2021) (Fig. 1). The fully digital costume was auctioned off on a blockchain platform for $9,500 and was custom-made to a portrait provided by the winning bidder. This event marked the beginning of NFTs' integration into the fashion world, paving the way for future innovations and applications in digital fashion.

NFT Fashion Products' Artistic Value

NFTs' value can be objective - i.e., that which all consumers agree on - or subjective - i.e., that which changes depending on other consumers' evaluation (Oh et al., 2023) and has different effects on consumers depending on the NFT's characteristics (Jeong & Kim, 2024b; Oh et al., 2023). Particularly, NFT products are unique and cannot be copied or stolen because they have a ledger record on the blockchain, while their uniqueness increases the work's artistic value, turning it into a valuable asset (Pilaniwala, 2023). These characteristics make NFTs valuable in the digital world (Jeong et al., 2024) - particularly in the fashion

Figure 1. The world's first NFT dress, "IRIDESCENCE," evokes the shine of soap bubbles (Zhao, 2021)

industry, where they can be used to create and trade unique fashion products (Jeong & Kim, 2024a; Jeong & Kim, 2024b).

To fully understand NFT fashion products, we must determine what properties and values are combined with technology in general NFT products. Analyzing existing NFT products by type from an asset perspective can be broadly divided into art, music, video footage, virtual real estate, collectibles, and in-game items (Verified Market Research [VMR], 2024). NFT products' art-type characteristics allow artists to monetize their creations by tokenizing digital art and for collectors to own unique items with guaranteed authenticity and provenance (Kim, 2022). Music-type NFTs tokenize music content, such as songs and albums, allowing artists to sell them directly to fans, thus creating new revenue streams and fostering closer relationships between artists and audiences. Video-type NFTs comprise video content, such as short clips and movies, which allows content creators to monetize videos and collectors to own rare or exclusive content (Kang, 2023). Virtual real-estate-type NFTs involve the ownership of real estate and virtual land in a metaverse environment; they have the potential to create a virtual real-estate market where users can trade and develop virtual real estate similar to the real-world real estate market (VMR, 2024). Collectible NFTs comprise digital collectibles such as trading cards; they may be bought, sold, and traded like actual collectibles (Jeong et al., 2022). Finally, in-game-item NFTs comprise in-game assets, such as game skins and weapon items, that players can buy, sell, and trade these items inside and outside a video game environment, thus creating a secondary market for virtual goods (VMR, 2024).

Tables 1 and 2 show that if we subdivide NFT fashion product types, we can identify cases in which they are worked on as digital art from the beginning and issued as NFT fashion products; cases in which physical fashion products are issued as NFT fashion products through digital twin technology and implemented in the virtual world; and cases in which physical fashion products and NFTs are linked so that the physical artwork and the product made into an NFT fashion product are traded or serviced together (Kang, 2023). This way, NFT products create artificial scarcity to strongly attract potential buyers depending on the type and continue to add new elements to the continuously changing business model (Riechert, 2023).

To examine NFT art's historical value, it is necessary to first understand its artistic value. Traditionally, the value that characterizes art is aesthetic; however, currently, the need for the concept of artistic value - which is distinct from aesthetic

Table 1. Types of NFT products

Artwork Type	Collectible Type	Game Item Type	Service Type
The First 5000 Days	NBA Top Shot	#0d82165f 6f99 4063 91ed 2fa33b0c7b62	Spatial
			
(Ruhling, 2021)	(Browning, 2021)	(Eye of unity, 2023)	(Dotson, 2022)
NFTs digital artwork that Beeple has serialized	NFT trading card containing videos and information about players	NFT game items and characters can be traded	Metaverse platform that commercializes digital space as NFT

*Note. Reconstructed based on the research by Jeong & Kim (2024a)

Table 2. Types of NFT fashion products

Gucci	Balenciaga	Nike
		
(Gucci, 2022)	(Maguire, 2021)	(NSB BOT, 2023)
Release actual collection products as NFT items	NFT game items released as real clothing products	Nike's dunk 'Genesis', only available as an NFT item
REAL → NFT	**NFT → REAL**	**Only NFT**

*Note. Reconstructed based on the research by Jeong & Kim(2024a)

value - has been emphasized and supported by many scholars (e.g., Yang, 2018). Art's value is measured according to standard, anti-standard, and variable attributes (Walton, 1970).

Meanwhile, digital artworks are connected to NFTs through tokens; artists (producers) set an appropriate price for NFT artworks and issue tokens to sell one or more limited-edition NFT products (BRI, 2024b), which can be estimated as a factor promoting the growth of the NFT market. Fridgen et al. (2023) acknowledged that although the artistic value of art NFTs remains constrained at present, it nonetheless exists; they project that upcoming developments in the sector will drive art NFTs towards innovative directions that can more effectively support both creators and collectors in the digital realm.

Relationship between Consumers' Self-Perception and NFTs' Artistic Value

According to Meggert (2024), individuals have higher purchase intentions for human-created art compared with AI-generated art. This indicates that the type of art significantly influences consumers' decision-making. Moreover, authenticity and creativity strongly influence how artworks are perceived, also influencing consumers' purchasing decisions. Interestingly, the overall perception of AI-generated art is not significantly more negative than that of human-created art. Thus, it is necessary to adopt new perspectives to comprehensively understand the complex interactions between different types of art and consumer behaviors.

Consumers' and NFTs' characteristics significantly affect consumers' purchase intentions (Lee & Kim, 2022), while NFTs' characteristics affect consumers' satisfaction with NFTs and their intention to continue engaging with the NFT market (Jeong & Kim, 2024b); thus, consumers' characteristics and their perception of NFTs are closely related. Therefore, this study focused on factors related to the theory of self-perception to determine the influence of individual characteristics on consumers' perception of NFTs' artistic value.

Within the framework of self-determination theory, individuals achieve psychological thriving when their intrinsic needs for autonomy, competence, and relatedness are adequately met (Deci & Ryan, 1985). Further, this theory argues that people experience higher satisfaction and a sense of achievement when they make their own decisions and regulate their behavior. Autonomy refers to individuals' ability to make their own decisions without external coercion (Deci & Ryan, 2015); autonomous individuals' behaviors originate from self-reflection, not external sources (Martela

& Riekki, 2018). Meanwhile, relatedness refers to individuals' desire to have meaningful relationships with others (Deci & Ryan, 2015; Ryan & Deci, 2000). Lastly, competence refers to individuals' mastery and efficacy in their chosen activities, as well as their desire to recognize their own abilities and feel a sense of accomplishment through an appropriate level of challenge (Martela & Riekki, 2018; Ryan & Deci, 2000). Autonomy, competence, and relatedness, as delineated in self-determination theory, constitute essential psychological needs whose fulfillment enhances motivation, overall well-being, and vitality (Chen et al., 2015), thereby informing both self-acceptance and key aspects of consumer behavior and identity.

Fashion consumers' personal characteristics and tendencies influence their consumption attitudes and behaviors (Lee, 2021). Thus, if these factors are psychological characteristics from the perspective of self-acceptance and they predict consumer behavior (Chen et al., 2015; Martela & Riekki, 2018), fashion consumers' preferences will be reflected in their autonomous purchasing behaviors, which can create a tendency to evaluate the artistic value of the product more highly. Additionally, if consumers leverage their knowledge to understand a product and judge its value, they can consider its value to be higher, and they can share information about the product with their community (owed to their sense of belonging), thus encouraging others to jointly recognize and assess the value of said product.

Self-esteem constitutes a foundational element in how individuals assess their own actions and intrinsic worth (Lee et al., 2009), while knowledge and hedonic motivation are closely related to self-esteem. Knowledge helps individuals recognize and understand their own abilities, while products/services' hedonic characteristics (i.e., the fun or joy obtained when using such products/ services) comprise key factors in technology acceptance (Cho, 2015). These two factors are important in individuals' positive self-evaluation and their acknowledgment of their own values. The stronger individuals' self-directed narcissism, the higher their self-esteem tends to be, while the higher their self-directed narcissism, the higher their tendency to engage in rational consumption behaviors (Kim, 2017). Moreover, self-esteem positively affects rational consumption behaviors (Lee & Yu, 2019), while consumers' values and knowledge also affect their consumption behaviors (Suk & Lee, 2013). Thus, individuals with high self-esteem tend to display more prudent and self-assured decision-making in their consumption practices, reflecting stronger alignment with rational evaluation processes.

The consumer characteristics of autonomy, relatedness, and competence affect individuals' recognition of their own strengths and weaknesses, as well as their attitudes toward their lives (Deci & Ryan, 2015; Martela & Riekki, 2018); they also affect individuals' motivation and personality vis-à-vis their choices (Ryan & Deci, 2000). Therefore, it is expected that there will be differences in the perception of value depending on consumers' perceptions from the perspective of self- acceptance. Additionally, knowledge and hedonic motivation can affect various factors, depending on individuals' experiences, values, and personal goals (Kim, 2017; Lee & Yu, 2019; Suk & Lee, 2013). Therefore, consumers' self-perception is closely related to their recognition of the artistic value of NFT fashion products. Thus, the following research question was established:

Research Question 1. *How does consumer self-perception affect NFT fashion products' perceived artistic value?*

Lee and Shin (2011) found that consumers perceive culture-art products as valuable based on personal experiences, social interactions, and aesthetic enjoyment. Perceived value of art and cultural products directs the advantages consumers look for, which in turn influences their consumption choices. Thus, it is important point to understand these perceptions to plan effective cultural marketing strategies. Consumers' value cognition is a crucial factor in their consumption behavior and preferences, and it significantly impacts the benefits and attributes they seek culture-art products (Shin & Lee, 2012). Therefore, consumers' positive value cognition of culture-art products can be a key driver for promoting consumption and developing effective marketing strategies. Additionally, perceived benefits and sacrifices positively affect NFT purchase intention (Jeong et al., 2022). Prior studies highlight that consumers' understanding of consumer characteristics and value cognition shape their perception and consumption

of art products. This knowledge can inform strategies to enhance consumer engagement and promote NFT fashion products' artistic value. Thus, the following research question was established:

Research Question 2. *How does NFT fashion products' artistic value affect consumers' potential purchasing intentions?*

Barrier to Entry for NFTs

Advancing a collaborative and holistic paradigm in the creation and consumption of cultural and artistic works is crucial within blockchain and metaverse frameworks, as emphasized by Kim (2023). Nonetheless, the dawn and expansion of emerging industries have the potential to facilitate the rise of large firms by introducing barriers to entry, thereby hindering the participation and growth of smaller businesses and creative actors (Teague, 2022). When there is a large cost of entry, the risk of profit after entry becomes a particularly important factor (Pindyck, 2009), which ultimately leads entry not to be smooth.

Consumers often experience uncertainty before purchasing or using a product and service due to their risk perception associated with the purchase (Humphreys, 1983). Perceived risk, defined as the anticipation of possible adverse outcomes linked to a product or service, is recognized as a key determinant in shaping consumer behavior and decision-making processes within marketing contexts (Taylor, 1975; Musa et al., 2024). Meanwhile, a cost is incurred by a consumer when choosing a new brand, product, or supplier; it is usually monetary in nature, but may also be psychological, effort-based, or time-based, and is perceived more in the service dimension than in the product dimension (Colgate & Lang, 2001).

The uncertainty about the potential benefits, risks, and costs associated with entering a new industry is a barrier to industry newcomers (Pavlou, 2003; Zhang & Yu, 2020); thus, the risks, uncertainties, and costs consumers associate with NFTs affect their behavior toward NFTs. Particularly, technological boundaries consisting of scalability, interoperability, and consumer experience can cause difficult situations for fashion brands seeking to adopt NFTs, while blockchain scalability and complex user interfaces limit accessibility and usability for the main consumer base, thereby slowing down the adoption and use of NFTs within the fashion industry (BRI, 2024b). Therefore, the following research question was posed.

Research Question 3. *How do the barriers to entry into the NFT market perceived by consumers affect the relationship between NFT fashion products' artistic value and consumers' potential behavioral intentions?*

The final research model, based on all research questions, is presented in Figure 2.

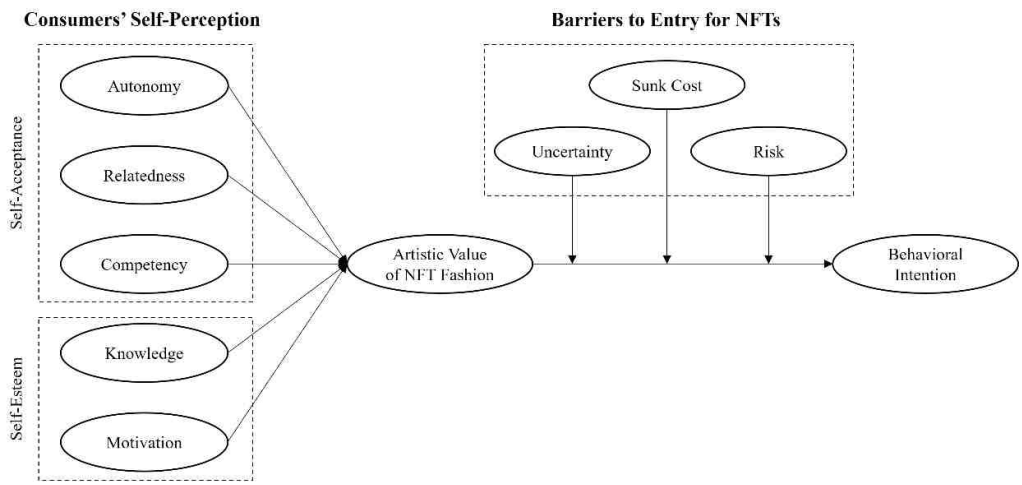

Figure 2. Research Model

Method

Data Collection and Measurement Tools

Data for the study were obtained from 300 Korean consumers with metaverse usage experience, recruited via a market research organization over the period of June 13–17, 2024, ensuring a relevant sample for examining user engagement and adoption in the metaverse context. The definitions and cases of general NFTs and NFT fashion presented in the consumer survey are shown in Table 3.

Table 4 shows previous research on each questionnaire item to confirm each variable and factor. The questionnaire items designed for data collection were modified to fit the topic and purpose of this study, with various measurement items that have already been proven to be reliable and valid in previous studies. All items except metaverse experience/ awareness, age, gender, and residence were measured on a seven-point Likert scale.

Analysis Method

The collected data was statistically analyzed using IBM SPSS and Amos software. The final results were derived through basic statistical analysis and various statistical analyses (e.g., descriptive statistical analysis, factor analysis, correlation analysis, SEM, etc.) that can verify the research model and hypothesis. The results are presented in Tables 4-11.

Characteristics of Research Subjects

Regarding the participants' (N = 300) demographic characteristics, 146 (48.7%) were female and 154 (51.3%) were male; meanwhile, 60 (20.0%) were 10–69 years old. They exhibited an average age of 34.71 years (standard deviation = 13.1). In response to the three questions about

Table 3. NFT-related definitions and examples presented in the consumer survey

Category	Definition	Examples(with each picture)
NFT Product	NFTs are unique virtual assets on the blockchain that can represent digital files like photos, videos, and audio. They tokenize existing assets such as games, art, and real estate. NFT products are categorized into art, collectibles, games, entertainment, and utilities.	The First 5000 Days, War Nymph, Crypto Punks, NBA Top Shot, Zepeto, The Sandbox, Spatial
NFT Fashion Product	An NFT fashion product is a fashion item created by a brand using NFT technology. It can exist as a physical product in the real world and as an NFT in the virtual world, or solely as an NFT in the virtual world without a physical counterpart.	Louis Vuitton's Via Treasure Trunks, 'Gucci Villa' in Zepeto World, Dolce & Gabbana's Collezione Genesi NFT

Table 4. Classification of variables and operational definitions

Variables		Operational Definition	References
Self-Acceptance & Self-Esteem	Autonomy Relatedness Competency Knowledge Hedonic Motivation	Freedom and self-determination in the Metaverse Desire for interpersonal relationships recognized in the Metaverse Level of achievement regarding one's abilities in the Metaverse Level of knowledge about the Metaverse Evaluation of the pleasure felt in the Metaverse	Chen et al.(2015); Jeong(2022); Karimi et al.(2015); Perez et al .(2023); Shavelson(2010)
Barrier to Entry	Uncertainty Sunk Cost Risk	Uncertain outlook for NFT Cost, time, and effort required to purchase NFT products Risks of NFT technology	Halim et al.(2023); Jeong(2022); Taylor(1975); Colgate & Lang(2001)
Artistic Value		Awareness of the artistic value inherent in NFT fashion products	Yang(2018); K.Bae(2023)
Potential Behavioral Intention		Behavioral intentions toward NFT-related industries and products	Gao et al.(2018); Ki & Kim(2016)

awareness and experience with the metaverse, which were set to determine the suitability of the research subject, all participants responded affirmatively, thus confirming that all the research subjects were suitable. Regarding participants' areas of residence, 103 lived in Seoul (34.0%), 73 in Gyeonggi (24.3%), 21 in Incheon (7.0%), 14 in Daegu (4.7%), 13 in Gyeongbuk (4.3%), 12 in Gwangju (4.0%), and 11 each in Busan, Daejeon, Chungnam, and Gyeongnam (3.7%). Gangwon- do and Jeonnam each had six (2.0%), Jeonbuk had five (1.7%), and Ulsan and Chungbuk had two (0.7%).

Results

Exploratory Factor Analysis and Reliability Analysis for Self-Acceptance, Entry Barrier, and Artistic Value

The results of the exploratory factor analysis and reliability analysis for the self-acceptance variables of autonomy, relatedness, and competence and the self- esteem factors of knowledge and hedonic motivation are shown in Table 5. The results of the KMO (Kaiser- Meyer-Olkin measure of sampling adequacy) and Bartlett's sphericity test performed with varimax rotation showed that the KMO was .933 and Bartlett's value was much smaller than .05; therefore, the use of factor analysis was appropriate. In the exploratory factor analysis, no relatedness, competence, knowledge, and hedonic motivation were deleted; however, two autonomy factors were deleted. All variables showed high reliability.

As a result of exploratory factor analysis of the entry barrier variables of uncertainty, cost, and risk perception, the KMO was .780 and Bartlett's value was much smaller than .05. The reliability analysis results showed good reliability, with an uncertainty of .859, a cost of .796, and a risk of .796. Table 6 shows the results of the exploratory factor analysis and reliability analysis for each variable.

The results of the exploratory factor analysis on NFT fashion products' artistic value and consumers' potential

Table 5. Exploratory factor analysis and reliability analysis: Self-acceptance and self-esteem

Variable		Items	Factor Loading	Cronbach`s Alpha
REL	3	It feels like communicating with someone who cares about me in the metaverse space	.844	.923
	2	Feeling loved and cared for when in the metaverse space	.814	
	4	People who are close to me in the metaverse space feel important	.798	
	1	A lot of intimacy with other users in the metaverse space	.763	
KNO	2	Have sufficient knowledge to explain the metaverse and NFT to others	.853	.910
	3	Confident in explaining metaverse and NFT	.845	
	4	More about the metaverse and NFT than the people around me	.805	
	1	Familiar with terms related to Metaverse and NFT	.723	
HeM	4	When doing something in the metaverse, forget all problems and focus on it	.741	.905
	2	Pursuing more fun and enjoyment through various metaverses	.707	
	3	Activities in the metaverse make me happy	.683	
	1	Being active in the metaverse is my favorite time	.646	
COM	3	Trade NFT products on the Metaverse platform	.784	.838
	1	Communicating with others through the metaverse	.691	
	2	Effectively use the Metaverse platform	.595	
	4	Evaluate the advantages & disadvantages of the Metaverse or NFT	.564	
AUT	4	Making my own choices and act in the metaverse space	.840	.831
	3	I have the freedom to work my way when in the metaverse space	.794	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .933				
Bartlett's Test of Sphericity. Chi-Square χ^2 = 4312.220(df = 153, p < .01)**				

*p < .05, **p < .01

Table 6. Exploratory factor analysis and reliability analysis: Barrier to entry

Variable		Items	Factor Loading	Cronbach`s Alpha
UNC	2	Difficult to judge the quality of NFT products in the digital space	.870	
	1	Not sure about NFT products	.866	.859
	3	Worried about uncertain situations that may arise in the future after purchasing NFT	.822	
SuC	3	Purchasing NFT requires a lot of effort	.901	
	2	It takes a lot of time to purchase NFT products	.895	.796
	1	Purchasing NFT products is likely to cost a lot	.633	
RIS	3	Hesitant to purchase NFT products due to high risk of fraud	.815	
	2	NFT technology has a negative impact on society	.792	.796
	1	NFT technology poses safety risks	.791	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .780 Bartlett's Test of Sphericity. Chi-Square χ^2 = 1230.690(df = 36, p < .01)**				

*p < .05, **p < .01.

Table 7. Exploratory factor analysis and reliability analysis: Artistic value and behavior intention

Variable		Items	Factor Loading	Cronbach`s Alpha
PBI	5	Plan to use fashion brands more frequently in the metaverse	.875	.955
	6	Increased consumption of fashion brands in Metaverse	.869	
	7	Buying more NFT from fashion brands for your metaverse avatar	.866	
	1	Plan to learn more about NFT fashion in the future	.842	
	4	I want to tell people around me about NFT fashion product	.837	
	3	I am willing to try using the NFT fashion	.815	
	2	Plan to continue to monitor NFT fashion-related information and NFT industry	.711	
ArV	4	Creative and new works of art	.824	.917
	3	Artistic and delicate	.824	
	2	Contain the spirit of art	.821	
	1	Rich aesthetic value	.791	
	5	Sufficient to be evaluated for their artistic value	.786	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .941 Bartlett's Test of Sphericity. Chi-Square χ^2 = 3392.262(df = 66, p < .01)**				

*p < .05, **p < .01

behavioral intentions are shown in Table 7. There were no problems with the KMO and Bartlett's sphericity tests, while both variables showed very high reliability.

Correlation Analysis and Confirmatory Factor Analysis Model Fit

As a result of conducting a descriptive statistical analysis of the variables used in this study, it was confirmed that there were no skewness or kurtosis issues under the assumption of normality for the response data. The results of the correlation analysis showed that most variables were correlated at a significance level of .01 or lower, as shown in Table 8.

Confirmatory factor analysis was conducted to verify the validity of the observed variables that constituted each latent variable. The results are shown in Table 9: χ^2 = 886.172 (df = 384, p = .000), TLI (Tucker-Lewis Index) = .928, CFI (Comparative Fit Index) = .937, SRMR

Table 8. Correlation analysis

	AUT	REL	COM	KNO	HeM	UNC	SuC	RIS	ArV	PBI
AUT	1									
REL	.516**	1								
COM	.608**	.577**	1							
KNO	.430**	.523**	.642**	1						
HeM	.577**	.747**	.636**	.639**	1					
UNC	.102	-.042	.075	.026	-.034	1				
SuC	.166**	.243**	.125*	.175**	.155**	.286**	1			
RIS	.081	.129*	.114*	.155**	.068	.450**	.426**	1		
ArV	.429**	.452**	.453**	.327**	.490**	-.098	.202**	.040	1	
PBI	.289**	.542**	.345**	.357**	.542**	-.154**	.204**	.124*	.659**	1

*p < .05, **p < .01

Table 9. Confirmatory factor analysis model fit

χ^2	df	p	TLI	CFI	RMSEA			SRMR
					Value	Lower Bound	Upper Bound	
886.172	384	.000	.928	.937	.066	.060	.072	.044

(Standardized Root Mean squared Residual) = .044, RMSEA (Root Mean Square Error of Approximation) = .066.

Among the incremental fit indices, the higher the CFI and TLI values, the better is the model fit. Generally, values above 0.9 are interpreted as a good fit. Meanwhile, RMSEA values were interpreted as a better fit as a smaller value. Typically, values < .05 are interpreted as very good fit, < .08 as a good fit, < .10 as a moderate fit, and > .10 as a bad fit (Browne & Cudeck, 1993). SRMR values > .08 are interpreted as a poor fit, < .06 as an excellent fit, and .05−.08 as adequate (Hu & Bentler, 1999). Generally, the lower limit of the RMSEA fit should be close to 0 and the upper limit should be less than .08, and the recommended criterion value for SRMR is .08 or less (Hooper et al., 2008), so the confirmatory factor analysis fit in this study was considered good.

The standardized path coefficient (β) of the factor loadings for the observed variables was found to be 0.5 or higher, indicating adequate conceptual validity. The AVE and correlation coefficients for each variable were measured to confirm discriminant validity. As a result of testing convergent validity, as shown in Table 10, the CR value, which is the convergent validity evaluation standard for all variables, was ≥ 0.7, and the AVE value was ≥ 0.5,

Table 10. Convergent validity

Variables	REL	COM	KNO	HeM	AUT	ArV	PBI
Construct Reliability (CR)	.925	.844	.912	.909	.832	.917	.956
Average Variance Extracted(AVE)	.754	.577	.723	.716	.712	.690	.755

indicating that the convergent validity of this study was appropriate and that there was no problem in verifying discriminant validity.

Path Analysis between Each Variable

As a result of checking the goodness of fit of the path analysis, chi-square = 633.180, CMIN/df = 1.759, RMR = .153, GFI = .877, AGFI = .841, CFI = .966, NFI = .924, IFI = .966, TLI = .958, RMSEA = .050 were shown. Table 11 presents the results for each path.

When examining the relationships among self-acceptance, self-esteem, and artistic value, relatedness' effect on artistic value was confirmed to have a positively significant effect, with a C.R value of 1.959 and a significance probability of $p < .050$. In contrast, hedonic motivation's effect on artistic value was confirmed to have a positive significant effect, with a C.R value of 2.343 and $p < .050$. This suggests that NFT fashion products' artistic value can increase by forming relationships with consumers and providing enjoyment to consumers. However, autonomy, competence, and knowledge did not significantly affect artistic value. This can be interpreted to mean that NFT fashion products' value is affected more by factors other than the autonomy, competence, and knowledge of consumers, and it is presumed that NFT products' characteristics, compared with those of existing products, are perceived differently by consumers. As a result of examining the relationship between artistic value and potential behavioral intention, the C.R value was 11.937, and the significance probability was $p < .001$, confirming that artistic value had a significant positive effect on potential behavioral intention. This aligns with the research of Jeong et al. (2022), who found that the perceived consumption value of NFTs has a positive effect on purchase intention; therefore, it can be interpreted that NFT fashion products with high artistic value can increase consumers' purchase intention or brand loyalty.

Measurement Identity and Moderation Effect Analysis

Measurement equivalence test. To perform a multi-group analysis, a measurement equality test was conducted to determine whether the measurement items were identical across groups. In the unconstrained model, the identity of the research model across groups was confirmed through the verification of morphological identity, while in the constrained model 1, the identity of factor coefficients from the latent variables to the measured variables was confirmed through the verification of factor coefficient identity. In the constrained model 2, the identity of covariance between the latent variables and the identity of the latent variable variances was confirmed through the identity of covariance. In the constrained model 3, the consistency of the factor coefficients and covariances was confirmed. Finally, in the constrained model 4, identity was confirmed by combining constrained models 1, 2, and 3.

The $\triangle\chi^2$ of the unconstrained model and constrained model 1 for uncertainty was 13.099, and the p-value was .110. The $\triangle\chi^2$ of the unconstrained model and constrained model 1 for costs was 21.935, and the p-value was .061. The $\triangle\chi^2$ of the unconstrained model and constrained model 1 for

Table 11. Path analysis result

Path			Estimate	S.E.	β	C.R.	p
AUT			.058	.108	.058	.541	.588
REL			.155	.079	.193	1.959	.049*
COM	→	ArV	.263	.172	.232	1.528	.127
KNO			-.134	.089	-.152	-1.499	.134
HeM			.253	.108	.293	2.343	.019*
ArV	→	PBI	1.012	.085	.719	11.937	.000***

*$p < .05$, **$p < .01$, ***$p < .001$

risk was 20.644, and the *p*-value was .073. Therefore, it was confirmed that multi-group analysis was possible because all the uncertainty, costs, and risk groups had a certain identity of factor coefficients between the latent and measured variables and models.

The moderating effects of entry barriers: uncertainty, sunk cost, and perceived risk. Table 10 shows the moderating effects of uncertainty, sunk cost, and risk in the relationship between artistic value and potential behavioral intention. When looking at the group with low uncertainty ($\beta = .675$, $p < .001$) and the group with high uncertainty ($\beta = .747$, $p < .001$) regarding artistic value's effect on behavioral intention, χ^2 was 12.503, which exceeded the statistical significance criterion of 3.84, and the additionally derived C.R. value was 3.487 ($p < .001$), which is higher than the criterion value of 1.96 considered significant; thus, uncertainty played a moderating role. Additionally, when looking at the group with low awareness of costs ($\beta = .579$, $p < .001$) and that with high awareness ($\beta = .798$, $p < .001$), χ^2 was 5.772 and the C.R value was 2.459, thus confirming the moderating effect. However, for the group with low-risk perception ($\beta = .729$, $p < .001$) and that with high-risk perception ($\beta = .708$, $p < .001$), χ^2 was .050, and the C.R value was .229, which is statistically insignificant; thus, the risk does not moderate the relationship between artistic value and potential behavioral intention.

Discussion

The present study demonstrated that relatedness and hedonic motivation significantly influence consumers' perception of NFT fashion products' artistic value. This finding suggests that enhancing the hedonic value of NFT fashion products can increase their perceived artistic value among consumers. However, factors such as autonomy, competence, and knowledge did not have a significant impact on artistic value perception, diverging from previous studies (Lee & Yu, 2019; Suk & Lee, 2013), which indicated that self-esteem positively influences rational consumption behavior and that values and knowledge shape consumption behavior. This implies that NFT fashion products' artistic value is influenced by factors beyond autonomy, competence, and knowledge, emphasizing the need for alternative considerations when developing marketing strategies for NFT fashion brands.

When interpreting these findings from the perspective of NFT technology and the fashion industry, the study highlights that establishing strong consumer connections and providing pleasurable experiences can enhance the artistic value of NFT fashion products. This underscores the importance of fostering personal connections and offering unique and enjoyable consumer experiences. Therefore, NFT fashion brands should focus on strategies that enhance artistic value by prioritizing these elements. Furthermore, the study found that artistic value significantly affects consumers' behavioral intentions, aligning with the results of Jeong et al. (2022), who reported that the perceived value of NFTs influences purchase intentions. This suggests that NFT

Table 12. Moderating effect results

Moderating Factor	Path	Estimate		χ^2	C.R	*p*
		Low	High			
UNC		.675**	.747**	12.503	3.487	.000***
SuC	ArV → PBI	.579**	.798**	5.772	2.459	.016*
RIS		.729**	.708**	.050	.229	.823

*$p < .05$, **$p < .01$, ***$p < .001$

fashion products with high artistic value can increase purchase intention and brand loyalty, reinforcing the need for brands to develop marketing strategies that enhance artistic value and ultimately drive actual purchasing behavior.

Additionally, the study confirmed that NFT fashion products' artistic value had a greater impact on behavioral intention in consumer groups with high uncertainty and high cost awareness. These consumers place greater importance on artistic value, possibly as a way to mitigate uncertainty and justify costs. Consistent with Kim (2023), these findings highlight the importance of enacting tailored legal structures to both advance blockchain-driven innovation and ensure robust governance within the evolving NFT trading platform landscape. This suggests that artistic value plays a crucial role in reducing uncertainty and cost concerns, further driving consumer engagement in the NFT market. However, the moderating effect of risk perception was statistically insignificant, indicating that consumers with high-risk perception may prioritize other factors over artistic value. This suggests that while artistic value influences purchase intentions for some consumer groups, those who perceive high risks in NFT transactions may consider security, reliability, or financial stability more important than artistic value. Therefore, alternative strategies should be developed for consumers with heightened risk awareness, allowing brands to refine their marketing approaches and address various consumer concerns effectively.

Conclusions

In conclusion, this research advances our understanding of how consumers' self-perception shapes the artistic value they assign to NFT fashion products, while highlighting the significant impact of uncertainty, costs, and perceived risks on both artistic valuation and purchase intentions. By identifying essential psychological and market determinants, our findings provide actionable insights for NFT fashion brands seeking to elevate artistic value as a means to foster deeper consumer engagement and drive sustainable market expansion.

A key theoretical implication of this study is that it is the first to examine self-acceptance and self-esteem as key factors from a consumer perspective, confirming their impact on the artistic value of NFT fashion products. As such, this research establishes a novel link between these psychological factors and artistic value within fashion studies, offering new insights into consumer behavior toward NFT fashion. Future research should further explore these psychological influences to enhance our understanding of NFT consumption behavior. Additionally, this study has significant practical implications, as it identifies key consumer characteristics that NFT fashion brands can consider when developing products and marketing strategies. By recognizing the importance of establishing strong consumer connections and offering enjoyable experiences, NFT fashion brands can develop strategies that enhance artistic value, ultimately promoting brand success and fostering long-term consumer relationships.

Furthermore, as cultural and social trends influence market demand (Song et al., 2018), factors such as digital identity, virtual economies, and online social interactions are shaping the demand for NFT fashion products. As specific cultures, social movements, and social causes resonate with consumers (Torelli & Rodas, 2024), NFT fashion may increasingly be adopted as a means of self-expression and cultural representation. This aligns with the broader shift toward digital lifestyles, virtual engagement, and heightened self-expression, further driving interest in NFT fashion. Based on these findings, future research should investigate generational differences in consumers' perceptions of NFT fashion products' value. Moreover, an exploration of NFT fashion's innovation, creativity, and cultural relevance at their intersection would provide deeper insights into the factors shaping the NFT fashion market. This would allow researchers to develop strategies that foster the growth of the NFT market for fashion brands, ensuring its continued expansion and relevance in the evolving digital landscape.

Acknowledgements

This work was supported by the Ministry of Education of the Republic of Korea and the National Research Foundation of Korea(NRF-2023S1A5A8080096).

References

Bae, K. (2023). *A study on the influence of the artistic value of Korean Dance on the intention of global consumers to watch and act on Korean Dance.* [Unpublished doctoral dissertation], Sejong University.

Bae, Y. J. (2023). Classification and values of alternative Metafashion ecosystems and strategies for activation. *Journal of the Korean Society of Costume, 73*(2), 99-116. https://doi.org/10.7233/jksc.2023.73.2.099

Barrera, K. G. & Shah, D. (2023). Marketing in the Metaverse: Conceptual understanding, framework, and research agenda. *Journal of Business Research, 155,* 113420. https://doi.org/10.1016/j.jbusres.2022.113420

Belk, R., Humayun, M., & Brouard, M. (2024). Money, possessions, and ownership in the metaverse: NFT, cryptocurrencies, web3 and wild markets. *Journal of Business Research, 153,* 198-205. https://doi.org/10.1016/j.jbusres.2022.08.031

BlockBeats. (2024, September 13). The silent Korean NFT market: Where is the next outbreak point? *Bitget.* https://www.bitget.com/news/detail/12560604206261

Browne, M. W. & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136-162). Sage.

Browning, K. (2021, May 13). How 'Put That on Top Shot!' became a new N.B.A. mantra. *The New York Times.* https://www.nytimes.com/2021/05/13/business/nba-top-shot-moments.html

Business Research Insights. (2024a). *Fashion Brands NFT Market Size, Share, Growth, And Industry Analysis, By Type (Game, Collections, and Others) By Application (Primary Market and Secondary Market), Regional Insights and Forecast From 2025 To 2033.* https://www.businessresearchinsights.com/market-reports/fashion-brands-nft-market-113311

Business Research Insights. (2024b). *Non-fungible token (NFT) market size, share, growth, and global industry growth by type (art and collectible, game, and others), by application (primary market, and secondary market), Covid-19 impact, latest trends, segmentation, driving factors, restraining factors, key industry players, regional insights and forecast from 2025 to 2033.* https://www.businessresearchinsights.com/market-reports/non-fungible-token-nft-market-100382

Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E. L., Deeder, J., Duriez, B., Lens, W., Matos, L., Mouratidis, A., Ryan, R. M., Sheldon, K. M., Soenens, B., Petegem, S. V., & Verstuyf, J. (2015). Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion, 39,* 216-236. https://doi.org/10.1007/s11031-014-9450-1

Cho, Y. -K. (2015). The effect of self-disclosure on the intention to use of SNS in the digital convergence environment. *Journal of Digital Convergence, 13*(5), 139-150. https://doi.org/10.14400/JDC.2015.13.5.139

Colgate, M. & Lang, B. (2001). Switching barriers in consumer markets: An investigation of the financial services industry. *Journal of Consumer Marketing, 18*(4), 332-347. https://doi.org/10.1108/07363760110393001

Congruence Market Insights. (2024). *Fashion brands NFT market size, trends, share, growth, and opportunity forecast.* https://www.congruencemarketinsights.com/report/fashion-brands-NFT-market

De Felice, F., De Luca, C., Di Chiara, S., & Petrillo, A. (2023). Physical and digital worlds: Implications and opportunities of the metaverse. *Procedia Computer Science, 217,* 1744-1754. https://doi.org/10.1016/j.procs.2022.12.374

Deci, E. L. & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality, 19,* 109-134. https://doi.org/10.1016/0092-6566(85)90023-6

Deci, E. L. & Ryan, R. M. (2015). Self-determination theory. *International Encyclopedia of the Social & Behavioral Sciences, 91,* 486-491. https://doi.org/10.1016/B978-0-08-097086-8.26036-4

Dotson, K. (2022, May 5). Spatial partners with ready player me to bring enhanced avatars to its Metaverse. *SiliconANGLE. https://siliconangle.com/2022/05/05/spatial*-partners-ready-player-bring-enhanced-avatars-metaverse/

Eye of Unity. (2023, November 16). NFT gaming collectibles on the Polygon Network. *Medium.* https://medium.com/@eyesofunity/nft-gaming-collectibles-on-the-polygon-network-d7bd25be2045

Fortune Business Insights. (2024). *Metaverse market size, share & Covid-19 impact analysis.* https://www.fortunebusinessinsights.com/metaverse-market-106574.

Fridgen, G., Kräussl, R., Papageorgiou, O., & Tugnetti, A. (2023). The fundamental value of art NFTs. *CFS Working Paper Series, No. 709.* Goethe University Frankfurt, Center for Financial Studies (CFS). https://doi.org/10.2139/ssrn.4337173

Gao, W., Liu, Y., Liu, Z., & Li, J. (2018). How does presence influence purchase intention in online shopping markets? An explanation based on self-determination theory. *Behaviour & Information Technology, 37*(8), 786-799. https://doi.org/10.1080/0144929X.2018.1484514

Golf-Papez, M., Heller, J., Hilken, J., Chylinski,M., Ruyter, K., Keeling, D. I., & Mahr, D. (2022). Embracing falsity through the metaverse: The case of synthetic customer experiences. *Business Horizons, 65*(6), 739-749. https://doi.org/10.1016/j.bushor.2022.07.007

Gucci. (2022). ZEPETO x Gucci. https://www.gucci.com/uk/en_gb/st/stories/article/zepeto-x-gucci

Hakkarainen, T. & Colicev, A. (2023). Blockchain-enabled advances (BEAs): Implications for consumers and brands. *Journal of Business Research, 160,* 113763. https://doi.org/10.1016/j.jbusres.2023.113763

Halim, E., Denny, A., Simanjuntak, K., Christian, & Putra, R. (2023). Analysis of factors that influence non-fungible token(NFT) digital content purchase intention. *8th International Conference on Informatics and Computing,* 1-6. https://doi.org/10.1109/ICIC60109.2023.10382023

Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural equation modelling - Guidelines for determining model fit. *The Electronic Journal of Business Research Methods, 6*(1), 53-60. https://doi.org/10.21427/D7CF7R

Hu, L. & Bentler, P. M. (2009). Cutoff criteria for fit indexes in covariance structure analysis - Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1-55. https://doi.org/10.1080/10705519909540118

Humphreys, M. A. (1983). Uncertainty and communication strategy formation. *Journal of Business Research, 11*(2), 1878-199. https://doi.org/10.1016/0148-2963(83)90027-9

Jeong, D. & Kim, Y. (2024a). Exploring the direction of NFTs(non-fungible tokens) fashion marketing strategy through analysis of NFTs fashion product type. *Journal of the Korean Society of Costume, 74*(4), 21-36. https://doi.org/10.7233/jksc.2024.74.4.021

Jeong, D. & Kim, Y. (2024b). The impact of Metaverse's social presence and NFT product characteristics on consumer satisfaction and continued engagement intention. *The Research Journal of the Costume Culture, 32*(4), 453-467. https://doi.org/10.29049/rjcc.2024.32.4.453

Jeong, D. (2022). A study on consumer behavior on online luxury platforms using the unified theory of acceptance and use of technology- Focusing on the extended UTAUT(2) theory -. *Fashion and Textile Research Journal, 24*(4), 386-398. https://doi.org/10.5805/SFTI.2022.24.4.386

Jeong, K. S., Seo, M. -H., Park, D. -M., & Bae, H. -S. (2022). A study on the effect of NFT's perceived consumption value on purchase intention. *Journal of The Korea Society of Information Technology Policy & Management, 14*(2), 2923-2931.

Jeong, Y. S., Jeong, J. E., Lee, C. H., & Park J. W. (2024). Investigating the influence of NFT art characteristics on consumer perceived value: Insights from purchasing experience. *Journal of Korean Society for Quality Management, 52*(2), 255-274. https://doi.org/10.7469/JKSQM.2024.52.2.255

Kang, H. (2023). *NFT art tech that anyone can do* [누구나 할 수 있는 NFT 아트테크]. Arachne.

Karimi, S., Papamichail, K. N., & Holland, C. P. (2015). The effect of prior knowledge and decision-making style on the online purchase decision-making process: A typology of consumer shopping behaviour. *Decision Support Systems, 77,* 137-147. https://doi.org/10.1016/j.dss.2015.06.004

Ki, C. -W. & Kim, Y. -K. (2016). Sustainable versus conspicuous luxury fashion purchase: Applying self-

determination theory. *Family and Consumer Science Research Journal, 44,* 309-323. https://doi.org/10.1111/fcsr.12147

Kim, D. & Lee, J. (2022). A case study on metaverse fashion marketing of global fashion luxury brand. *Journal of Art & Design Research, 25*(1), 12-23.

Kim, J. -K. (2023). Prospects and Issues of NFT art contents in blockchain technology. *Journal of Information Technology Application Management, 39*(1), 115-126. https://doi.org/10.21219/jitam.2023.30.1.115

Kim, J. -Y. & Lee, S. -Y. (2023). Analysis of meta fashion meaning structure using big data: Focusing on the keywords 'Metaverse' + 'Fashion design'. *Korean Fashion & Textile Research Journal, 25*(5), 549-559. https://doi.org/10.5805/SFTI.2023.25.5.549

Kim, M. (2022). *NFT Art: 그 무엇으로도 대체 불가능한 예술* [NFT Art: Non-fungible art]. Artbook Press

Kim, S. E., Lee, J. E., & Youn, S.-Y. (2024). Effects of promotional bundles with non-fungible token (NFT) fashion on consumers' perceptions. *Journal of Theoretical and Applied Electronic Commerce Research, 19*(4), 3331-3351. https://doi.org/10.3390/jtaer19040161

Kim, Y. -J. (2017). *A study on the relationship between self-love, self-esteem and consumption behavior of youth* [Unpublished master dissertation]. Chung-Ang University. https://doi.org/10.23169/cau.000000214027.11052.0000495

Lee, E. -J. (2021). The effects of fashion consumers' moral identity and empathy propensity on ethical consumption attitude and donation behavior. *The Research Journal of the Costume Culture, 29*(3), 307-327. https://doi.org/10.29049/rjcc.2021.29.3.307

Lee, J. H. & Lee, E. J. (2022). Structure and sustainable value of NFT fashion industry based on the case analysis. *Journal of the Korean Society of Costume, 72*(4), 70-89. https://doi.org/10.7233/jksc.2022.72.4.070

Lee, J., Nam, S., Lee, M.-K., Lee, J.-H., & Lee, S. M. (2009). Rosenberg' self-esteem scale: Analysis of item-level validity. *The Korean Journal of Counseling and Psychotherapy, 21*(1), 173-189.

Lee, S. H. & Kim, S. -Y. (2022). An empirical study on factors affecting NFT purchase intention. *Journal of the Korea Industrial Information Systems Research, 27*(4), 93-104. https://doi.org/10.9723/jksiis.2022.27.4.093

Lee, S. J. & Yu, N. S. (2019). Influence of self-esteem and consumer socialization agents on rational consumption behavior of middle school students. *Journal of Korean Home Economics Education Association, 31*(4), 115-128. https://doi.org/10.19031/jkheea.2019.12.31.4.115

Lee, Y. S., & Shin, E. J. (2011). Qualitative study about value cognition and benefits of consumer on culture-art products. *Korean Journal of Marketing, 12*(4), 27-54. https://doi.org/10.53728/2765-6500.1268

Maguire, L. (2021, September 20). Balenciaga launches on Fortnite: What it means for luxury. *Vogue.* https://www.voguebusiness.com/technology/balenciaga-launches-on-fortnite-what-it-means-for-luxury

Martela, F. & Riekki, T. J. J. (2018). Autonomy, competence, relatedness, and beneficence: A multicultural comparison of the four pathways to meaningful work. *Frontiers in Psychology, 9,* 1157. https://doi.org/10.3389/fpsyg.2018.01157

Meggert, F.-M. (2024). Art in the age of AI: Consumer perceptions and purchase behavior towards human-created and AI-generated artworks [Master's thesis]. *Universidade Católica Portuguesa.* https://repositorio.ucp.pt/handle/10400.14/44753

Musa, H. G., Fatmawati, I., Nuryakin, N., & Suyanto, M. (2024). Marketing research trends using technology acceptance model (TAM): a comprehensive review of researches (2002–2022). *Cogent Business & Management, 11*(1). https://doi.org/10.1080/23311975. 2024.2329375

NSB BOT. (2023, January 5). Sneaker NFTs – A 2022 recap to kick the year off right!. *NikeshoesBot.* https://www.nikeshoebot.com/sneaker-nfts/

Oh, S., Rosen, S., & Zhang, A. L. (2023). Digital Veblen goods. *SSRN.* Advance online publication. https://doi.org/10.2139/ssrn.4042901

Patairya, D. K. (2023, May 20). Who invented NFTs?: A brief history of nonfungible tokens. *Cointelegraph.* https://cointelegraph.com/explained/who-invented-nfts-a-brief-history-of-nonfungible-tokens

Pavlou, P. A. (2003). Consumer acceptance of electronic commerce: Integrating trust and risk with the

technology acceptance model. *International Journal of Electronic Commerce, 7*(3), 101-134.

Perez, W. D. D., Prasetyo, Y. T., Cahigas, M. M. L., Persada, S. F., Young, M. N., & Nadlifatin, R. (2023). Factors influencing non-fungible tokens(NFT) game engagement during the COVID-19 pandemic: The theory of planned behavior (TPB) and hedonic motivation system adoption model (HMSAM) approach. *Heliyon, 9*(9), e19847. https://doi.org/10.1016/j.heliyon.2023.e19847

Pilaniwala, P. (2023). Systemic review & analysis of the current and future state of NFT as an artwork. *International Journal for Research in Applied Science & Engineering Technology, 11*(1), 530-546. https://doi.org/10.22214/ijraset.2023.48613

Pindyck, R. S. (2009). Sunk costs and risk-based barriers to entry. *National Bureau of Economic Research,* 14755. https://doi.org/10.3386/w14755

Riechert, R. P. (2023). *Art Collecting* (G. Hwang, Trans.). Nikebooks

Ruhling, N. A. (2021, February 16). Christie's to auction monumental work by digital artist known as Beeple. *Barron's.* https://www.barrons.com/articles/christies-to-auction-monumental-work-by-digital-artist-known-as-beeple-01613505281

Ryan, R. M. & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68-78. https://doi.org/10.1037/0003-066X.55.1.68

Shavelson, R. J. (2010). On the measurement of competency. *Empirical Research in Vocational Education and Training, 2*(1), 41-63. https://doi.org/10.25656/01:5235

Shin, E. J. & Lee, Y. S. (2012). The effects of consumer value cognition on benefits and attributes of culture-art products. *Asia Marketing Journal, 14*(2), 177-207. https://doi.org/10.53728/2765-6500.1484

Song, R., Moon, S., Chen, H., & Houston, M. B. (2018). When marketing strategy meets culture: The role of culture in product evaluations. *Journal of the Academy of Marketing Science, 46,* 384-402. https://doi.org/10.1007/s11747-017-0525-x

Statista. (2023). *Metaverse: Market data & analysis.* https://www.statista.com/study/132822/metaverse-market-report/.

Statista. (2024). *NFT – South Korea.* https://www.statista.com/outlook/dmo/fintech/digital-assets/nft/south-korea

Suk, H. J. & Lee, E. -J. (2013). The Value, knowledge, and sustainable consumption behavior of fashion consumers. *Journal of the Korean Society of Clothing and Textiles, 37*(3), 424~438. https://doi.org/10.5850/JKSCT.2013.37.3424

Taylor, S. E. (1975). On inferring one's attitudes from one's behavior: Some delimiting conditions. *Journal of Personality and Social Psychology, 31*(1), 126-131. https://doi.org/10.1037/h0076246

Teague, M. V. (2022). Barriers to entry: An empirical account of business creation difficulties in the United States 2011. *Journal of Entrepreneurship and Public Policy, 11*(2/3), 167-191. https://doi.org/10.1108/JEPP-02-2022-0034

Torelli, C. J. & Rodas, M. A. (2024). Cultural frameworks in business. In *Globally-Minded Marketing: A Cultural Approach to Building Iconic Brands* (pp.45-63). Springer International Publishing.

Verified Market Research. (2024). *Non-fungible tokens market size and forecast.* https://www.verifiedmarketresearch.com/product/non-fungible-tokens-market/

Walton, K. (1970). Categories of art. *Philosophical Review, 79,* 334-367.

Yang, M. J. (2018). Two concepts of "Artistic value" and their limitation. *The Korean Journal of Aesthetics, 84*(1), 253-287. https://doi.org/10.52720/MIHAK.84.1.7

Yoo, Y. & Choi, J. (2022). Types of non-fungible token fashion utilization and internal value. *Journal of the Korean Society of Costume, 72*(5), 17-35. https://doi.org/10.7233/jksc.2022.72.5.017

Zhang, X. & Yu, X. (2020). The impact of perceived risk on consumers' cross-platform buying behavior. *Frontiers Psychology, 11,* 592246. https://doi.org/10.3389/fpsyg.2020.592246

Zhao, K. (2021, August 10). The devil wears pixels: 8 landmark moments in fashion's NFT revolution-and what comes next. *Vogue.* https://vogue.sg/fashion-nft-revolution/