

# Analysing Perceptions of South African Digital Artists towards Non-Fungible Token (NFT) Use

Nathier Abrahams  
0000-0002-2719-5878  
Dept. of Information Systems,  
University of Cape Town,  
Rondebosch, 7701, South Africa  
Email: abrmog027@myuct.ac.za

Pitso Tsibolane  
0000-000 2-7888-1181  
Dept. of Information Systems,  
University of Cape Town,  
Rondebosch, 7701, South Africa  
Email: pitso.tsibolane@uct.ac.za

Jean-Paul Van Belle  
0000-0002-9140-0143  
Dept. of Information Systems,  
University of Cape Town,  
Rondebosch, 7701, South Africa  
Email: jean-  
paul.vanbelle@uct.ac.za

**Abstract**—Digital art has many major pitfalls, ranging from issues around tracking ownership to piracy. Non-fungible tokens (NFTs) can solve these issues and bring new benefits, such as access to larger markets. Despite this, South Africa’s digital artists have slowly adopted NFTs. This research aims to understand the values-based perceptions of South African digital artists toward NFTs. Fifteen South African digital artists were interviewed using semi-structured interviews guided by the updated Holbrook’s Typology of Consumer Value framework. Ten positive perceptions, three negative perceptions, three risks and one benefit were identified, explored and analyzed using the framework. This research can assist digital artists and other stakeholders in the NFT ecosystem to understand the values-based perceptions of South African digital artists. It can be used to help assist decision-makers, artists, intermediaries and other stakeholders in South Africa and potentially elsewhere. Additionally, the validated and updated Typology of Consumer Value can benefit researchers using this framework in future research.

**Index Terms**—Non-fungible tokens (NFTs), blockchain, consumer value, digital artists, updated Typology of Consumer Values.

## I. INTRODUCTION

DIGITAL art encounters significant challenges stemming from the intrinsic nature of its digital medium, which enables effortless replication, thereby blurring the distinction between the copy and the original artwork [1]. Another issue faced by digital art revolves around the difficulty in accurately tracking and verifying ownership of the artwork [2]. To address these challenges, non-fungible tokens (NFTs) have emerged as a potential solution, offering digital artists access to novel markets and alternative methods of selling their creations while bypassing conventional art institutions, such as galleries [3].

NFTs hold the promise of effectively tracking ownership of digital assets like digital art and providing artists with new opportunities in the art market. Despite these benefits, the adoption of NFT technology has been slow among South African artists. Hence, this study aims to explore the percep-

tions of South African digital artists toward NFTs from a values-based perspective.

The primary research question for this research is: “*What are the values-based perceptions of South African digital artists toward NFTs?*” The secondary questions for this research are: (a) *What are the perceived values-based benefits of NFT use by digital artists in South Africa?* (b) *What are the perceived values-based risks of NFT use by digital artists in South Africa?*

This research focused on the perceptions of South African digital artists toward NFTs. NFTs have a lot of applications outside of digital art, which is not part of this research. This research will not cover digital artists outside of South Africa, nor will other stakeholders within the blockchain ecosystem.

## II. LITERATURE REVIEW

The literature review discusses four key concepts: blockchain, non-fungible tokens, digital art (including perceptions of South African digital artists), and perceptions of value.

### A. Blockchain, Fungible and Non-Fungible Tokens

Blockchain serves as the underlying technology for Non-Fungible Tokens (NFTs) [22]. It operates as a cryptographically secured decentralized shared ledger, where data is transparent and visible to all network participants, and its contents are verified by all [4][21]. Utilizing blockchain eliminates the need for third-party management, as network participants collectively manage the ledger.

Tokens, generated by the blockchain system, act as digital assets representing products, services, or currencies through tokenization [5]. Tokens can be classified into three types: fungible, non-fungible, and semi-fungible. Fungible tokens are interchangeable, uniform, and divisible, while non-fungible tokens are unique, non-interchangeable, and indivisible, serving as a unique digital certificate for ownership of a digital or physical asset that cannot be replicated [5]. Non-fungible tokens adhere to the ERC721 standard, enabling the creation of tokens for both physical and digital assets, facilitating

their transfer between crypto wallets, checking wallet balances, determining token ownership, and ascertaining the total supply of tokens on the blockchain [4].

The integration of smart contracts within NFTs provides digital artists with novel revenue streams, such as programming the NFT to automatically pay them a percentage of each sale as a built-in royalty in the token's metadata, offering previously unavailable revenue opportunities [5].

Recently, semi-fungible tokens have emerged, which operate more like wallets than individual tokens. Tokens of the same type are grouped together and considered fungible within their group [7]. In the context of digital art, these tokens can represent entire art collections or galleries containing multiple art pieces.

### B. Digital Art

Digital art, especially in South Africa, is a relatively new domain, resulting in limited literature on digital artists' perceptions of new technologies. In Africa, particularly in South Africa, technology adoption has followed a unique trajectory, with artists adopting mobile technology before acquiring desktop or laptop computers [8]. South African artists have utilized platforms like Instagram to promote their artwork, conduct business, and generate commission leads [9]. The authors concur that social media platforms, designed for ease of use on smartphones, have witnessed higher adoption rates in South Africa compared to desktops and laptops, indicating that South African digital artists are open to embracing new technologies.

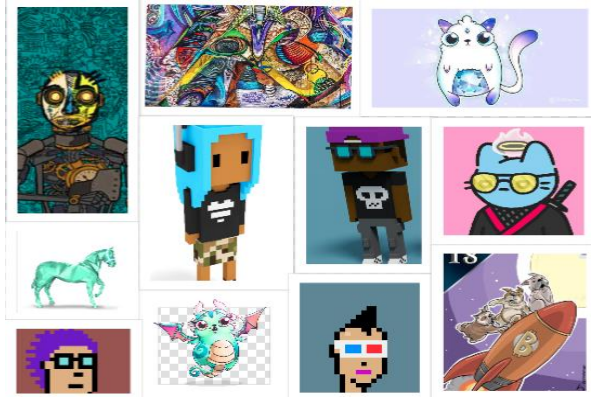


Fig 1. Sample popular NFTs (Sharma et al., 2022).

Before the advent of Non-Fungible Tokens (NFTs), selling digital art involved risks, with customers purchasing files from artists and potentially misusing them without consent. Crypto art refers to "limited-edition digital art, cryptographically registered with a token on a blockchain" [10] [11]. When an NFT is minted, it is added to the blockchain, and the art piece is linked to the token, serving as proof of ownership, origin, and a catalogue raisonné [1]- a record of ownership and the history of the art piece [1].

One of the main advantages of crypto art over traditional art and traditional digital art lies in artists' independence from galleries and art brokers, granting them self-determination.

Crypto art facilitates the formation of artist communities and enables a stable income through royalties from art resales facilitated by smart contracts [12]. Marketplaces like SuperRare and OpenSea have emerged, enabling direct buying, selling, trading, and exchanging of NFTs without third-party verification [12]. These platforms offer both primary and secondary markets for NFTs.

### C. Perceptions of Value

Holbrook's Typology of Perceived Consumer Value [13] served as the framework to gain insights into the perceptions of South African digital artists regarding NFTs. The framework examines the perceived benefits that digital artists experience through their use or non-use of NFTs. In this context, the digital artist acts as the consumer "consuming" NFT technology by utilizing it. Analyzing the perceptions of digital artists can be achieved by evaluating the perceived value they derive from employing or not employing NFTs. Holbrook's original Typology of Consumer Value comprised three dimensions, each with two options: self-versus other-oriented, active versus reactive, and extrinsic versus intrinsic (Table 1).

TABLE I. HOLBROOK'S TYPOLOGY OF CONSUMER VALUE [13].

Orientation	Activity	Extrinsic	Intrinsic
Self-oriented	Active	Efficiency: input/output, convenience...	Play: fun
	Reactive	Excellence: Quality	Aesthetics: beauty
Other-oriented	Active	Status: success, impression ...	Ethics: virtue, justice...
	Reactive	Esteem: reputation, possession...	Spirituality: faith, ecstasy, magic...

Holbrook's framework provides a comprehensive understanding of consumer value [14]. Over the years, the framework has evolved and gained strength, incorporating new value types and adaptations as fresh insights into consumer value emerged [15]. Table II illustrates the updated typology, categorizing value types into positive and negative, comprising 14 positive value types and 10 negative value types. The updated framework serves as a flexible "menu card," allowing for the selection of relevant value types that apply to specific contexts, as not all value types may be applicable [15].

TABLE II. UPDATED TYPOLOGY OF CONSUMER VALUE [15].

Value Type	Brief Description	Source
<b>Positive value types</b>	<i>The (perceived) extent to which the object:</i>	
Convenience (efficiency)	Makes the life of the customer easier	O T C
Excellence	Is of high quality. Depending on the context, this can relate to the quality of the product(s), service(s), or both. Depending on the context, this can include reliability, empathy, responsiveness, interactional quality, etc.	O E T H
Status	Makes a positive impression on others and thus leads to social acceptance	O T C

Self-esteem (esteem)	Positively affects the customer’s attitude toward or satisfaction with oneself	O E
Enjoyment (play)	results in fun and pleasure	O T
Aesthetics	Is appealing. This involves the attraction of the object’s design and atmospheric aspects such as layout, colour, etc. This can be related to all the senses (sight, smell, touch, taste, hearing)	O
Escapism (spirituality)	allows the customer to relax and escape from reality or daily routine	O E
Personalization	Is adapted to the individual customer	T C
Control	Can be commanded or influenced by the customer. This can relate to the timing, content, and/or sequence of the service delivery process or outcome	T
Novelty	Creates curiosity and/or satisfies a desire for knowledge (i.e. wanting to know more about it). This is only applicable for new objects (such as new technologies)	T
Relational benefits	Results in a better relationship with the service provider	T H
Social benefits	Results in a better relationship with other customers	C
Ecological benefits (ethics)	Has a positive impact on environmental well-being	O R C
Societal benefits (ethics)	Has a positive impact on societal well-being. This can involve CSR initiatives such as fair trade, community support, employee fairness, etc.	O R
<b>Negative value</b>	<b>The (perceived) extent to which the object:</b>	
Price	Is expensive	E T C
Time	Requires time to prepare, use, understand, etc.	E
Effort	Requires effort to prepare, use, understand, etc.	E T
Privacy risk	Can result in a loss of privacy	T
Security risk	can result in security issues such as losing personal information to criminals or hacking	T
Performance risk	Can result in a loss of performance: the object does not perform as expected or intended	T C
Financial risk	can result in a loss of money	T C
Physical risk	Can result in health issues or injuries	T C
Ecological costs	Has a negative impact on environmental well-being (pollution)	C R
Societal costs	Has a negative impact on societal well-being. This can involve issues such as child labour, poor working conditions, etc.	R
Source: O= Original value type mentioned by Holbrook; E= update of original value type in empirical work using Holbrook’s typology; T= value type related to technology; H= value type related to human contact; C= value type related to collaborative consumption; R= value type related to transformative service research		

From Table II, the following propositions (“P”) are proposed for assessment in this study.

1) Positive value types

- P1: digital artists find that it is more convenient to sell their art online as an NFT than to sell their works through a traditional art gallery.
- P2: digital artists find that they receive both service excellence by using blockchain-based services to buy and sell their art and product excellence by perceiving that their crypto art sold as NFTs is of higher quality compared to other digital art.

- P3: digital artists enjoy the fame (status) that comes with being a popular or fast-selling artist as their sales are trackable on the digital marketplaces.
- P4: digital artists derive enjoyment from the process of minting and selling their NFTs.
- P5: digital artists value being in control of the programming of their NFTs, such as being able to build in that they receive royalties from every subsequent sale of their art.
- P6: digital artists are creating NFTs because they are curious and want to learn about this new technology (novelty).
- P7: digital artists are using NFTs because they believe in the decentralization of art away from exploitative art galleries and middlemen (ethics).

2) Negative value types

- P8: The price of minting an NFT inhibits digital artists from creating NFTs.
- P9: The time and effort required to learn how to create NFTs make it difficult for digital artists to use and gain value.
- P10: Digital artists are worried that their sales and, thus, income were visible to the public due to the transparent nature of the blockchain (privacy risk).
- P11: Digital artists might be concerned about the security risk of not creating their NFT correctly or getting scammed.
- P12: Digital artists are worried that the NFT they create might not get sold or do not behave as intended (performance risk).
- P13: digital artists are concerned that they will make a loss when creating their NFTs (financial risk).
- P14: digital artists are concerned about the ecological impact of blockchain technology on the environment.

III. RESEARCH DESIGN AND METHODOLOGY

The research employed an exploratory approach to describe the perceptions of South African digital artists towards NFTs. Descriptive research, based on categorical schemes, was used to observe and understand the phenomenon [16]. An interpretive philosophy was adopted to gain insight into the subjective perspectives and behavior of the participants, specifically to comprehend the perceptions of South African digital artists regarding NFTs.

A qualitative strategy was implemented through semi-structured interviews, allowing for open exploration and adjustment of questions to suit each interviewee’s understanding [17]. The study utilized the updated framework of Holbrook’s Typology of consumer value, designed to understand consumer perceptions of value [14]. This framework, a synthesis of other value typologies, served as a guide for framing interview questions to explore digital artists’ perceptions of NFT use [15].

The research applied purposive and snowball sampling methods. Initial participants were digital artists accessible to

the researcher, who subsequently referred other artists for interviews. Additionally, purposive sampling was utilized to reach out to digital artists, resulting in interviews with fifteen South African digital artists aged above eighteen [18]. Thematic analysis, based on the phases developed by [18], was employed to analyze the data. The research protocol and study instruments were approved by the Ethics in Research Committee.

#### IV. ANALYSIS AND FINDINGS

This section will present the results found by analyzing the interviews.

##### A. Demographic Results

TABLE II. DEMOGRAPHICS OF INTERVIEW RESPONDENTS

Nr	G	Age	Overall Awareness of NFTs	Used NFTs	Minted NFTs	Sold NFTs	Digital artist experience
R1	F	33	Heard about it through twitter	No	No	No	12 years
R2	F	34	Heard about it through networks	No	No	No	7 years
R3	M		Uses NFTs	Yes	Yes	Yes	1 year
R4	M	40	Uses NFTs	Yes	Yes	Yes	20 years
R5	M	33	Uses NFTs	Yes	Yes	Yes	10 years
R6	F	18	Not much, just read a bit in the news	No	No	No	1.5 yrs
R7	F	23	Has traded in NFTs	Yes	No	Yes	5 years
R8	M	27	Does not know much	No	No	No	4 years
R9	F	29	Read a little	No	No	No	2 years
R10	M	26	Has sold artwork as NFTs	Yes	Yes	Yes	1 year
R11	M	32	Knows a little, has created art that was later sold on as NFTs	Yes	No	No	10 years
R12	M	23	Does not use NFTs	No	No	No	1.5 yrs
R13	M	32	Occasionally sells his art as an NFT	Yes	Yes	Yes	13 years
R14	F	30	Just aware of the term NFT	No	No	No	8 years
R15	M	30	Does not use NFTs	No	No	No	8 years

##### B. Positive Value Types

###### 1) Convenience

*Proposition 1:* Digital artists find that it is more convenient to sell their art online as an NFT than to sell their works through a traditional means such as an art gallery.

Respondents said that they would get better service by using the blockchain instead of a gallery for selling their digital art. R3 mentioned the faster turnaround time that they receive when selling through a gallery: *“I get better service through selling through the blockchain. In one weekend I could have a fresh project up for sale and sell it immediately for however much. With the gallery, you’d need to go through like a waiting process. They will take a cut. They’re going to see if it’s a good fit for the space. If they are waiting, list all that stuff on the blockchain. You can be ready in 24 hours or even less”*- R3. *“I think that I would have a lot more control of the process. Galleries have more control around the selling process”*- R15. *“Decentralization allows you to take the power into your own hands. It eliminates the middleman and replaces it with a marketplace. As a freelance artist you get screwed over a lot or people don’t pay you on time”*- R13. *“Access to a broader market”*- R2.

*“The blockchain itself is geared toward a target market that wants collectibles and investments. Instead of brick and mortar”*- R4. *“I’d get more value as I can sell more pieces. Whereas if you sell it through a more traditional means like Behance, you usually only sell it once off”*- R7. *“I think that digital art is more accessible than a gallery. You won’t be geographically limited.”*- R6. *“The bar of entry is lower when compared with a traditional institution. You only need a phone and wifi”*- R5. *“My work has been sold much better as NFTs than a traditional means such as a gallery. Galleries are difficult to get into as they have their own methodology for who’s art they display. You can attend Virtual Reality galleries in the metaverse to view digital art. During the lockdown, traditional artists struggled to sell their art due to galleries being closed.”* - R10

Less resources are perceived to be required when selling through the blockchain. *“I think its more accessible if you sell it through on the blockchain. Anyone with a phone and an internet connection could buy and sell the art. Its hard to get into a gallery”*- R12. *I imagine the experience would be better if selling through the blockchain, and it would give you more access to the niche demographic of NFT art purchasers. You can also get more exposure, if you don’t get lost in the sea of other people.* - R9.

###### 2) Excellence

*Proposition 2:* Digital artists find that they receive both service excellence by using the blockchain-based services to buy and sell their art, and product excellence by perceiving that their crypto art sold as NFTs are of higher quality compared to other digital art.

Excellence can relate both to products (product excellence) and service (service excellence). Non-fungible tokens have both a service component and a *product* component. In terms of service excellence, many respondents have said that they receive better service through the blockchain when compared with a gallery: *“I get better service through selling through the blockchain”*- R3.

R10 mentioned that his product sold better as an NFT, as they felt that galleries are *harder* to get into. They also mentioned that galleries were closed during the COVID-19 lockdowns in South Africa, and artists could not make an income selling their art as a result. *“My work has been sold much better as NFTs than a traditional means such as a gallery. Galleries are difficult to get into as they have their own methodology for whose art they display.”* *“During the lockdown, traditional artists struggled to sell their art due to galleries being closed”*- R10.

In terms of product excellence, some digital artists that used NFTs felt that their art was of the same quality regardless of whether their art was an NFT or not. *“It hasn’t influenced my style in any sense. I sold art that I created before I started using NFTs in 2019 as an NFT in 2021. People are open-minded, depending on who is willing to collect your artwork. Collectors aren’t stuck in a specific style. You don’t need to change yourself to make it. If you really on trends, you won’t*

*have a style that people will appreciate. You can end up becoming a one hit wonder.”- R10.*

### 3) Status

*Proposition 3:* Digital artists enjoy the fame of being a popular or fast-selling artists as their sales are trackable on the digital marketplaces.

Two of the respondents felt that they are enjoying the anonymity they get from using a pseudonym, as they do not like that their transaction history is traceable but felt that it didn't improve their status as digital artists. *“I don't think it improves my status, just puts lots of money in your bank account, you get known in the NFT circles. I use an alias, and people know my alias and not me personally, which is great”- R4. “So far, I can't say it improves my status as an artist. Some of the online accolades I received, doesn't translate into real life accolades. I enjoy the anonymity that I get.” - R10.*

Two respondents felt that it negatively affected the social status of an NFT artist. The first mentioned that it can negatively affect a digital artist's status due to negative perceptions surrounding NFTs: *“I don't think it improves your status as an artist. People will categorize you as an NFT artist. I think it limits you to a certain community. A lot of people don't see NFTs as a positive thing.” - R12.* The second mentioned that NFTs have a negative impact on the planet and being associated with that impact can have a negative impact on a digital artist's status: *“It leaves a negative impression, people think NFTs are destroying the planet”- R3.*

Some digital artists said that they would be perceived in a more positive light: *“Not many people understand Blockchain and NFTs, so if you say you're an NFT artist, they see you as a tech-savvy person that's ahead the times”- R7. “I don't know. Maybe they would say that you are more in tune with what's going on society today with Bitcoin and NFTs and the digital space”- R8. “If I look at the more professional audience, their perceptions of me might become more positive like I'm trying something new. Putting your eggs in many baskets.” - R11.* Even though this might seem like it contradicted his previous statement, in this case he was speaking hypothetically: *“You may be perceived as more forward thinking or on the cusp of something... “It could improve your status as an artist. I think it's quite niche, however.”- R14.*

Although the data did not fully support proposition 3, it did support the construct and the literature surrounding status as a value type as respondents felt that using the technology would improve their status.

### 4) Enjoyment (play)

*Proposition 4:* Digital artists derive enjoyment from the process of minting and selling their NFTs.

Many respondents felt that minting and selling NFTs brings some level of joy. Two respondents mentioned the minting aspect of the proposition. One mentioned the joy of free minting *“Platforms that offer free minting, give me a lot of joy”- R10.* Another respondent mentioned the joy of minting in and of itself. *“There's that instant gratification, and impulse*

*where you've worked on something from scratch. Like a farmer taking his crops to market”- R4.*

Another respondent mentioned that they enjoy having control of the process and being able to create art that they enjoy creating to be sold on the marketplace. *“Just having the ability to have control of the process, allowing for self-expression as opposed catering to what the client would like...”- R15.*

### 5) Control

*Proposition 5:* Digital artists value being in control of the programming of their NFTs, such as being able to build in that they receive royalties from every subsequent sale of their art.

Proposition P5 was supported by a respondent that mentioned that enjoy the flexibility and control that digital artists get when programming the smart contracts for their NFTs. *“So far, I'm extremely happy about it, you can also develop your own smart contracts. You can put your own stipulations in the contract, that gives you the power to mint from that contract and release the art on multiple blockchains at once. It also allows you to reward the people that support you through exclusive collections. You can airdrop art to your collectors, which you can view. There's also no censorship when it comes to content, as an artist you need to know which red lines not to cross.”- R10.*

Other respondents mentioned the protection and control that artists can get when writing smart contracts. *“Designers are short changed when it comes to work as work is often stolen and if there are processes in place to control who it is shared with and if the original creator has some control, it's a good thing.”- R1. “Because there's no middleman, you have a lot more control of the decision-making process, such as pricing and royalties, and galleries can be greedy”- R15.*

### 6) Novelty

*Proposition 6:* Digital artists are creating NFTs because they are curious and want to learn about this new technology. Although none of the respondents mentioned that they are creating NFTs specifically because they are interested in learning about the technology, most of the respondents were curious about the technology, for various reasons.

Some respondents were interested in the technology itself. *“...technology that's growing behind it, especially smart contracts. When you wanted to create a smart contract, you had to pay around \$5000 dollars for a developer to create it. Now you get platforms that make the contract easier to create.”- R10.* Another respondent was interested in applications of NFTs outside the scope of art. *“Mostly the application aspect and what we can use it for in the future, outside of art”- R3.*

Word of mouth was mentioned by respondent R12. *When I first started as a digital artist, NFTs were popular, and everyone was telling me to make NFTs. Then I went to do my research on it- R12.* Similar to word of mouth, respondent R13 became interested in NFTs due to online groups that he belongs to on social media. *“I'm in a couple of NFT groups and spaces and I pay attention to when people are talking*

about it on Clubhouse. Nowadays it moves so fast. It's interesting, it's fun, we need to get educated about it and everybody needs to learn."-R13.

### 7) Societal benefits (ethics)

*Proposition 7:* Digital artists are using NFTs because they believe in the decentralization of art away from exploitative art galleries and middlemen.

Decentralization enables self-determination: "Decentralization allows you to take the power into your own hands. It eliminates the middleman and replaces it with a marketplace. As a freelance artist you get screwed over a lot or people don't pay you on time" – R13. One respondent mentioned protection against piracy and plagiarism. "If you can protect people's intellectual property, how their work gets distributed and if it can prevent plagiarism, then I am very pro NFTs. Piracy is a big problem for us."- R1. Another respondent mentioned the transparency that comes through selling on the blockchain instead of a gallery. "There's 100% transparency, you know what you're getting yourself into. You know what the commissions, and there are no hidden clauses. There are no trade secrets, you can divulge information without having to worry about breaching contract."- R10.

### C. Negative Value Types

#### 1) Price

*Proposition 8:* The price of minting an NFT inhibits digital artists from creating NFTs. The exchange rate from rands (ZAR) to dollars (USD), as well as the exchange rate from rands to the various cryptocurrencies affected the price of minting. "That's a barrier, the minting process and the minting fees can be very expensive. The exchange rate in dollars can also affect the cost as well". - R12. A similar sentiment was shared by another respondent "...the exchange rate also needs to be taken into account."- R4.

To work around the high cost of minting, R13 mentioned that artists would get investors fund their NFT art projects and split the risk and subsequent profit or loss. "It's insane, it's good that the price tanked, we can all afford Ethereum, Solana and Tezos now. At the peak, minting and NFT would have costed around R4000. It made it less accessible. Artists are going to investors and splitting the risk and profits, which takes things back to the way it was before with freelance contracts"- R13.

Another respondent mentioned that they work around high minting fees by using blockchains with very low gas fees. "Theres some blockchains like Solana use very little gas fees. On Ethereum, the gas fees are much higher which can affect the minting cost. The cost of creating the smart contract, is like buying painting materials"-R7.

Respondent R6, who does not use NFTs, mentioned that the costs were inhibitive for using the technology. "I was quite shocked when I saw how much it was to upload and even just create a profile for the NFT, so I think that cost is a bit out of out of reach, especially for smaller and newer digital artists, especially since it's in dollars as well, it's quite pricey, which makes it unattainable for some people"- R6.

#### 2) Time and Effort

Due to *time* and *effort* being similar in the context of the study, the two dimensions were combined into one. *Proposition 9:* The time and effort required to learn how to create NFTs makes it difficult for digital artists to use and gain value from.

The language and jargon take time and effort to learn and is a barrier to using the technology. "You would need to put in a substantial amount of time to understand it, such as terms and conditions, what is allowed, terms of trade etc", "When I tried to Google it, the language used was not comprehensible was not useful for a layman. If you can't explain it simply, I am less likely to be interested in it. A lot of time, people use convoluted language to exclude people. Like academia, it separates on a class basis."- R1.

There were a wide variety of responses relating to time and effort it would take to learn the technology. Answers ranged from hours to weeks and to *months*. Some respondents felt that NFTs did not require a lot of effort to understand. One respondent compared understanding NFTs with understanding banks, "I don't think NFTs are more difficult to understand than banks." – R7. Another respondent said that social media can give digital artists the perception that it requires a lot of effort to understand the technology and compared it with cryptocurrency. "I don't think it's hard to understand, just people and social media makes it hard to understand. Its just like crypto."- R12.

#### 3) Risks

##### Privacy risk

*Proposition 10:* Digital artists are worried that their sales and, thus, income are visible to the *public* due to the transparent nature of the blockchain. Proposition 10 was supported by a respondent, saying that they did not like that their hypothetical purchase history would be visible to others. "If the purchase of the NFT is made public, the transparency is helpful when making a purchase decision, but if other people can see what you have bought, then it isn't nice."- R1.

Another respondent also mentioned transaction history, but provided a solution to the problem, by suggesting using a secret alias."If someone has access to your Wallet ID, they were able to access your transaction history. You can use a secret alias to cover your wallet ID, and no one would know who you are."-R10. Respondent R10 also mentioned that they use an alias so that they can protect their privacy. "I don't know, the whole point of the blockchain is a public ledger does not result in a loss of privacy, it depends on what you put out. I use a pseudonym"- R5.

Other digital artists shared a similar sentiment regarding transaction history but did not mention using pseudonyms/aliases. "You can track the owners of the art, as everything is on the chain."- R3. "People have access to other people's wallet addresses and can see their transaction history. You must give away some information, but you also get the benefit of receiving ease of access." - R13. "People can see where my money is going, its public information on a ledger"- R11.

### Security Risk

*Proposition 11:* Digital artists might be concerned about the security risk of not creating their NFT *correctly* or getting scammed.

Respondent R3 mentioned that there are bugs in the security of the NFT system that can have negative implications. *“Losing information to criminals is not relevant. The hacking issue is relevant. If there’s issue in the code then you could maybe steal someone’s NFT, maybe steal the money, you could maybe change the code, you could maybe destroy the art- that is one of the bugs that I found where I could basically take someone else’s NFT and redeem it for money...”*-R3.

Many of the respondents felt that the security risks attached to NFTs are the same as using any other online platform, service, or product. *“The possibility of getting hacked is there with anything online”*- R11. Respondent R12 also shared a similar view *“I think it’s the same risk as using the internet. You can protect yourself in many ways, but a criminal will always try to get around the protection you have.”*- R12.

Phishing was another issue brought up by respondents. Respondent R10 mentioned how criminals could potentially access your NFTs, *“Should someone send you a link, you should be cautious about opening that link. It can be very difficult for someone to access your account without your knowledge. There’s a 12-word secret phrase to gain access to your wallet in the case you forget. If someone access those words, then they could potentially gain access.”* -R10. Respondent R13 mentioned using 2-factor authentication and not using public Wi-Fi as it is unprotected, *“A lot of phishing situations and results hacks, you just need to cover yourself with 2 factor authentication. Don’t use public Wi-Fi for personal banking or NFTs, it’s not secure”* -R7.

### Performance Risk

*Proposition 12:* Digital artists are worried that the NFTs they create might not get sold or does not behave as intended.

There were a wide variety of responses to the question, with most answers not relating to the proposition or value type. Respondent R8, however, made a statement that related to the question, stating, *“It depends on the NFT you purchase. What I do know is that some NFTs are linked to real world things such as events and groups. The negative thing is that if the NFT does not allow you to do those things then it would be disappointing”*. Another respondent felt that the performance of NFTs is tied to people’s interests in it, and people manipulating the market.

### Financial Risk

*Proposition 13:* Digital artists are concerned that they will make a loss when creating their NFTs.

Bad *purchasing* or minting decisions were mentioned by a few respondents. Purchasing or minting at the wrong time, will cause a loss if the item is sold at a price lower than what it costed, or even worse if there is no buyer for it. *“It depends if there are costs involved, and if someone doesn’t buy it and you would sit there with money you spent on something no wants to buy”*-R1.

Buying on speculation was mentioned by respondent R10, *“When you get into NFTs as a collector, you can lose money if you buy abruptly without making crucial decisions, trying to make quick money. If you’re trying to buy and sell through speculation, it can cause a huge loss of money”*-R10.

Exchange rates when converting from rands (ZAR) to dollars (USD) when selling can be expensive. *“I think as South Africans, the rand to dollar conversion is quite a lot. Even if you do manage to sell your NFT’s for a reasonable price, but like when you’re converting that currency back to the dollars and then back to Rands.”*-R6. The same problem was mentioned when converting from rands to Bitcoin *“...If you buy it in Bitcoin and the price of Bitcoin drops, then you can make a loss”* -R8

### 4) Ecological Costs

*Proposition 14:* Digital artists are concerned about the ecological impact of *blockchain* technology on the environment.

Many of the respondents cited a concern for the ecological impact of blockchain technology on the environment. *“The mining of NFTs. For the transactions to be processed, it gets done through electronic mining rigs, which takes a huge amount of electricity. If that electricity is generated through things like coal, it can have a negative impact on the environment.”*- R10. Respondent R13 mentioned using alternate blockchains with less environmental impact: *“It’s a big problem, with Bitcoin or Ethereum. Solana and Tezos are alternatives that are not as expensive, they have a lower impact on the environment, and are less of a burden on your wallet.”*- R13. Respondent R15 echoed the same sentiments as respondents R10 and R13, *“The power usage it takes to mint NFTs can have a negative impact on the environment. I do think that a power-hungry platform is very damaging. The extra need to generate power will damage the planet”* -R15.

## D. DISCUSSION

South African digital artists validated the updated Typology of Consumer Value, confirming the plausibility of the identified value types in their perceptions towards NFTs. The framework encompassed positive and negative values-based perceptions and values-based perceptions related to risk and benefits. Even digital artists who had not directly interacted with NFTs offered valuable insights, considering their roles as creators who can potentially benefit from the technology.

The primary research question aimed to explore the values-based perceptions of South African digital artists towards NFTs. Data analysis revealed ten positive perceptions, including convenience, excellence, status, self-esteem, enjoyment, aesthetics, escapism, control, novelty, and societal benefits, along with three negative perceptions related to price, time and effort, and ecological costs. Time and effort were significant inhibiting factors.

Regarding the perceived values-based benefits of NFT use, the data indicated that digital artists valued societal benefits, as the technology decentralizes art away from exploitative art galleries and intermediaries.

Digital artists identified privacy, security, performance, and financial risks as perceived values-based risks of NFT use. Privacy risk was significant, leading some artists to conceal their real identities or use pseudonyms to maintain separation from their art on the blockchain. While security risk was a concern, it was not uniquely associated with NFTs, resembling risks encountered on other internet platforms.

## V. CONCLUSION

The research explored the values-based perceptions of South African digital artists towards NFTs, analyzing both positive and negative perceptions. Additionally, the study aimed to understand the perceived benefits and risks associated with NFT use among digital artists in South Africa, using the Updated Typology of Consumer Value framework.

The findings contribute to the literature by demonstrating the robustness of the Updated Typology of Consumer Value framework for analyzing values-based perceptions in the context of digital art, shedding light on the reasons for the low adoption of NFT technology among South Africans.

This research holds significance for South African digital artists and other stakeholders in the NFT ecosystem, helping them understand the values-based perceptions of digital artists and aiding in decision-making and policy formulation. It provides a deeper understanding of the views of South African digital artists, identifying opportunities to reduce inhibiting factors and demystify NFT technology for them.

Furthermore, this study addresses a gap in the literature concerning the perceptions of South African digital artists and NFT users. It stands as one of the first papers to apply the updated Typology of Consumer Value framework in this context, validating its utility for analysis.

Despite these contributions, the research has certain limitations. Firstly, the study was confined to South African digital artists, and conducting a similar study in different locations could yield diverse results. Secondly, due to the cross-sectional approach, a longitudinal study could be conducted to observe how values-based perceptions of South African digital artists evolve over time. Thirdly, the sample size was limited to fifteen digital artists, and expanding the sample to include other stakeholders in the NFT or blockchain ecosystem could offer broader insights. Lastly, the study was confined to the updated Typology of Consumer Value framework, and exploring alternative frameworks with different respondent groups may yield different outcomes.

In conclusion, this research makes a significant contribution to understanding the values-based perceptions of South African digital artists towards NFTs. Nonetheless, the outlined limitations provide opportunities for future research to deepen our understanding of the subject matter.

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