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A study of NFTs (Non-Fungible Tokens).

Diagnosis through the lenses of
classical Economics.

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Master's Programme in Industrial Management and Innovation

Masterprogram i industriell ledning och innovation



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Abstract

A study of NFTs (Non-Fungible Tokens)

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NFTs (Non-Fungible Tokens) are digital assets representing real-world objects like art, music, videos, gaming items, etc., originally, they reside on a blockchain indicating a certificate of authenticity or proof of ownership deeming the uniqueness and scarcity of commodities. They have shown astonishing market attention and inconceivable price margins are being set for certain NFTs. The NFT phenomenon being in a nascent state, not much research has been conducted from the standpoint of value from the users and this thesis tries to fill the gaps in that area from a socio-economic point of view. The use of NFTs is on a rise with several companies delving in and speculated to grow even bigger bringing a transformative shift in the way businesses work today, using the blockchain technology NFTs are heralded as a new way to define ownership and property constructs. Going forward it is expected that they could be a gateway to a tokenised future through a new form of value assessment of commodities and transitioning economic functions. This dissertation ventures on to look at the value perspective from the masses on how they shape an individual's viewpoint. Through a classical economic intervention of theories as discoursed in the literature review, this research tries to infer nuances of users employing a qualitative study whereby unstructured interviews were the source for data collection and using a thematic analysis various themes are derived which are pointed out in the discussion section. The analysis gives us an indication that many people are indulged in the NFT space as a source of profit maximisation and several indications are portrayed towards community building as a means of value creation. The qualitative nature of the study relies on interpretivism and a radical structuralist paradigm shedding light on the thought process behind an individual's behaviour, trying to understand the context of 'value' as perceived by the people.

Keywords: NFTs (Non-Fungible Tokens), concept of value, value perception, classical economics, ownership, property, digital fetishism, community building.

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Popular Scientific Summary

The internet is taking new a new shape in this faced paced digital world. In the current phase of transition, blockchain has played an important role and evolves each day. Blockchain can be visualised as a universal ledger or a public spreadsheet and the entries in this spreadsheet are transactions. It uses a computer-based cryptographic algorithm to validate the transactions via computing power, to validate the transactions the blockchain simply uses electricity since the cryptographic algorithms are exceptionally difficult arithmetic puzzles and each time a new transaction is validated it is broadcasted on the ledger viewable to anyone around the globe. Most importantly, the transactions are immutable, tamper-proof and secure.

Paving its way from a universal banking system for digital money it has entered into multiple different spaces, NFTs (Non-Fungible Token) being one prominent area. As the word suggests, non-fungible means something that cannot be exchanged for instance a piece of art has its unique value and one piece of art is not equal to another. To extrapolate the idea of non-fungibility one can look at it this way, there are many copies of the Monalisa painting but only one true copy that is original and authentic, so certain attributes of the original painting makes it unique. Similarly, one can imagine fiat money, bank notes have a certain exchangeable value i.e., one can exchange a Euro for a Dollar, however supposing a bank note has a sequence of 0 to 9 printed as a serial number or perhaps the serial number is a palindrome, this makes it unique and rare and the bank note becomes valuable.

Having unique properties, non-fungible objects are always unique unlike fungible objects like fiat money that have exchangeable value. So, NFTs by definition are tokens on a blockchain representing ownership of unique items. NFTs are helpful in multiple ways as it allows the tracking of a digital file easily since they are prone to copying. Therefore, these tokens allow us to prove the ownership of an object, mostly digital objects at the moment. For instance, a digital art creator creates artwork and mints it as an NFT, then certain attributes of this artwork as a unique fingerprint are etched onto the blockchain under the creator's identity giving it a proof of authenticity or ownership. These NFTs can then be sold as transactional items to others for cryptocurrencies. An important thing to note is the artwork by the digital creator isn't stored on the blockchain however, its attributes are in the form of metadata as a thumbprint. Therefore, an NFT is a representation of a real-world object but not the object itself.

To exemplify this, one owns a house and has a housing contract that says the house belongs to them, in the real world the house is the property that has the value, but the contract is a mere paper or agreement that binds the individual with the house under as fixed set of criteria. So the value is in the house and one pays money for the house and not the contract but in the case of NFTs people buy the contracts or tokens that define an ownership structure and there is not much use-value in owning a token unless there lies utility in it, however, this new form of defining ownership is taking the Internet by storm, as of May 2021 a total of 34,530,649 USD was already entrusted in NFTs, some say it could be a new form of value machine since tokenisation of objects and property can create newer ways to perform trade and business. NFTs have proved to be a tool for identification, a digital credential based on which people can be

part of communities and also a symbol of fame, for instance, BYAC (Bored Ape Yacht Club), an exclusive community of people showcasing their unique identities and limited membership to a limited club. As collectables, these tokens have gained immense popularity and vast amounts of money are expended behind them. Similarly, there are more communities such as Doodles, CryptoPunks, VeeFriends, etc. The notion of ownership etched on a blockchain gives users the right to ownership over the digital tokens but to what extent, what value do users derive out of such tokens are interesting areas to be explored.

This dissertation is aimed at understanding the notions of value in terms of property, and ownership structures held by individuals. Using classical economic theories it tries to find the notions of value held by the masses. Several ideas are taken from the conception of *value* from the perspective of Karl Marx, community building theories from Tönnies, Durkheim, and notions towards digital fetishism are discussed and tied to the value perceived by the users. The thesis uses interviews as a mode of collecting data in the form of opinions, thought processes, and notions surrounding NFTs and their value for them. Often regarded as a newer form of economy or conducting business, NFTs have surpassed in the number of use-cases possible, and companies are focusing on building their business using NFTs as forms of derivative markets. From the thesis inferences, it is summarised that NFTs are valuable for people in general as a money-making technique, other inferences are shown essentially towards NFTs helping people to form communities of like-minded people, further some nuances are gathered towards dependency of people on intangible objects rather than real-world objects due to digital innovations. Time will tell how object tokenisation may create better business opportunities for the socio-economic advances of our time.

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I never realised writing this acknowledgements section would be such a tedious task, I mean reading literature and citing sources seems much easier at this point. Not sure how to start, well I type down something and hit backspaces. There are so many people to be thankful for, my deepest apologies if I missed you mentioning this here.

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List of Abbreviations

AR – Augmented Reality
BAT – Basic Attention Token
BAYC – Bored Ape Yacht Club
CE – Common Era
EUR – Euro
FOMO – Fear of Missing Out
ICT – Information and Communication Technologies
IT – Information Technology
MAYC – Mutant Ape Yacht Club
NBA – National Basketball Association
NFT – Non-Fungible Token
RQ – Research Question
SEK – Swedish Krona
USD – United States Dollar
VR – Virtual Reality

List of Tables

Table 1. Sampling table describing the participants' roles and sampling criteria.

Table 2. Questioning style is an example of the types of questions asked to the participants.

It's like buying a deed for land on the moon. It doesn't have value in the real world.
~ Wkimalters

1 Introduction

Human beings have evolved and so did the ways in which we conducted business. Early hunter-gatherers lived by a survival instinct and as a societal means used modes of exchange like favours or obligations. (Harari, 2015) For instance, a valuable skillset was exchanged for grains, precious metals, tools, or perhaps something not found locally was exchanged for something outside the tribe, etc. (ibid) Societal shifts have occurred in several ways and the concept of what is valuable has changed over time. Paper money was introduced in the 11th century CE by the Song dynasty in China and its introduction brought a further prevalence into Persia by the Mongols. (Pickering, 1844) Money in the Anthropocene has paradoxical notions of *'Value'*.

The barter system was the most primitive state of value exchange, even in today's context in prisons, inmates use cigarettes as a form of micro-economy. The *value* of value changes with context. The fact that the value of a commodity equates to the measure of its exchangeable value of all individual commodities combined. In other words, a person possessing something of value is presumed to be of 'real-value' provided the person can exchange it for another commodity. Arguably, in a barter economy, it would be easier to trade goods at ratios that reflect the labour required to produce them. The efforts or labour put is of the essence here which correlates to the real value behind the commodity. The determination of real value in a barter economy is revealed when the trading of goods is directly reflected by the labour required to produce them. (Smith, 1776)

The internet has been an influential innovation revamping industries in the 90s and soon something that started as a speculative profit-making industry saw a huge bubble burst. Web 2.0 promised a collaborative future and the transitions assured more democratisation and meritocracy. (Reich, 2008) However, the opposite happened where large tech companies tend to be at the forefront of this revolution and neo-liberal reforms of value creation which were meant to include public autonomy, however, established hierarchies rather than community collaboration (Starr, 2019), to highlight in this context neoliberalism in a contemporary sense is situated at reforming market practices of eliminating price control, reducing trade barriers through privatisation, Internet or Web 2.0 proved to be a rising influence over the global political economy and rhetoric arguments between actors' participation and pluralist consensus-building process where few dominant positions of elite institutionalisation led to a power struggle between common people and larger organisations. (Boas & Gans-Morse, 2009) (Chenou, 2014)

The early definition of the internet streamlines a huge network of computers connected all over the world facilitating information exchange, theoretically Internet is decentralised, but a small concentration of organisations influences unprecedentedly over a large faction of the Internet. (Dennis, 2022) But in the current context, blockchain is being hailed as a meritocratic technology promising power back to the people. With newer forms of algorithms, blockchains create reward-based incentives via a quantifiable performance of the actors in the network. Blockchain can be visualised simply as a transcript or spreadsheet of transactions between

people but the characteristic nature of it is the book-keeping mechanism that is publicly controlled and finally the ‘ultimate source of truth’. (Tapscott & Tapscott, 2016)

This thesis is aimed at questioning the nuances of NFTs (Non-Fungible Tokens) as a means to recreate ownership structures through the tokenisation of commodities, which have been recently included as an extension of blockchain utility. Through the subtleties of value creation using classical economic theories, this dissertation looks forth to understand the notions carried by people when it comes to the concept of tokenisation through NFTs. With the advent of NFTs new markets are springing up each day or called NFT projects such as the digital art market, enabling users to collect, and trade various digital collectables, etc., a famous example being NBA Top Shot by Dapper Labs selling tokenised video moments of basketball players in action. (DapperLabs, 2022)

Further, NFTs trickle down to the point where communities are built around them with each community having a different personality and purpose, users are provided ownership certificates to these digital assets and share a new form of ownership through blockchain and speculated to create value for users as well as companies delving into this area, this being novel envisions uncertainty. (Kaczynski & Kominers, 2021) Although we are in a phase of societal shift, this dissertation investigates the thought process of the masses and their inferences toward non-fungibility. With this conjecture, this article delves further into the arrangements between people, values, classical socio-economic theories and finally a discussion on the notions people have towards this radical innovation.

1.1 Topic justification

A blockchain research framework showcases the areas of research that are still unexplored. Questions on users and society are by far one of the most important topics that delve into user perception and interaction within blockchain characteristics which needs further investigation. (Risius & Spohrer, 2017) Also, NFTs being a recent topic not many papers are available connoting the connections of value and society. This research tries to unite classical economic theories with modern-day blockchain innovations and therefore is quite novel. Blockchain systems have great potential and a promising future however a small fraction of the world is using them as early adopters. Being identified as technology triggers, public attention is focused on the intricacies of NFTs but how far is it true and how can it really help society is a subject of question. (Park, et al., 2022) Despite the increasing popularity of NFT-based artworks and community-based tokens, little is known about people’s perceptions and experiences with NFTs. (Sharma, et al., 2022) Multiple research projects surround the quantitative studies of the NFT markets more specifically on the quantifiable aspect of value and reputation. (Vasan, et al., 2022) Research shows that difficult-to-quantify factors are important to consider value concerning art. (Beech, 2015) NFTs have shown promising discourse when it comes to the art industry however this research tries to shed light on NFTs in general from a meta-perspective. Community building through NFTs is yet another area that is explored in this research again being novel since it is connected to contemporary sociological theories. (Kaczynski & Kominers, 2021)

1.2 Thesis structure

The following thesis follows a chapter-based format and starts with a general overview in chapter 1 as the introduction, followed by a topic justification, and thesis structure of the current study. In Chapter 2, a literature review is formulated, giving a background on the principles of blockchain and non-fungibility through tokens, the literature further talks about the various classical economic theories concerning the notions of value through concepts like, commodification, property structures and ownership over them, certain nuances of value derived from digital labour are contradicted under alienation, commodities are fetishised with distinctions of value are discussed under commodity fetishism, lastly community formation has been a significant influence from NFT based token gains traction towards value creation is discussed under the literature of community building. In chapter 3, the situation of the current social order is problematised describing spin-offs of problematic areas that could hamper value. In chapter 4, the aim and research questions for the study are described and the methodology, starting with philosophical underpinnings, sampling, data collection, analysis, and questioning styles. Also, the merits, limitations, ethical considerations, validity and reliability of the research are discussed in this section. In chapter 5, the emphasis is on the findings which show the empirics and themes that are derived from the contexts are discussed. Chapter 6 is followed by the discussion which outlines the results deduced from the empirics, chapter 7 describes the concluding discourses with research outcomes, inferences derived from the research and future work. Ultimately, the references and appendices in the research are followed through in chapters 8 and 9 respectively.

2 Literature Review

2.1 Blockchain principles

Blockchain has proved to be a revolutionary innovation paving the way to enable the NFT marketplace. At the crux of blockchain, it serves to be a universal ledger that stores information across a network. Being decentralised every individual in the network partakes in the transactional processes, it is transparent allowing each individual in the network to view the transactions and it is verifiable thus preventing counterfeit transactions. (Tasatanattakool & Techapanupreeda, 2018) Blockchains are currently in many forms with the first being introduced as Bitcoin by the pseudonymous individual(s), *Satoshi Nakamoto*. Probably *Nakamoto* realised the importance of a decentralised infrastructure in the current sociological order and dissipated their idea through this brainchild, a payment system with no centralised actors governing it. They inherently proclaim the whitepaper in 2009 as a stealth innovation. (Nakamoto, 2009) The idea of a decentralised ledger wherein the distributed, transparent, immutable consensus nature of the algorithm of blockchain was put in place brought to the world a new societal structure of digital money without a central authority, redistributing power amongst the masses. (Boucher, et al., 2017)

With this technology the use cases are manifold. From peer-to-peer banking services, music royalties, and digital art, especially in the NFT sphere the use cases have grown very high. NFTs have become extremely viral on the Internet, from *Crypto Kitties* to *Crypto Punks* to *Bored Ape Yacht Club* as the starting point where massive amounts of money are entrusted already. Blockchain is being hailed as a technology that could revolutionise society, using a consensus mechanism as a central component, the technology ideally is simply a universal ledger or book-keeping instrument where transactions are broadcasted onto the ledger and independently verified by peers in the network. (Aste, et al., 2017) Transactions are interlocked as chains and stacked on top of each other in a chronological sequence using a cryptographic hashing mechanism that prevents fabrication. In the first instant, blockchain can be viewed as an ICT (Information and Communications Technology) innovation that can be used as an organisational technology to decentralise governance constructs and used for coordination of people and economic decision making. (Tasca, 2015) Starting as a financial instrument the technology has mingled into several nuances in the NFT space where works of art or intellectual property are tokenised and associated as an entry into the blockchain paving the way to the decentralised way of creating derivative works for commercial purposes. (Lee, 2021) The traction towards further utilising the use cases is growing rapidly with further inter merging into the Metaverse space enabling a proliferation of virtual economy wherein users can reap value through unique new markets. (Wang, et al., 2021)

2.2 Non-Fungible Tokens and the concept of Tokenisation

NFTs are data units stored on a blockchain ledger certifying the authenticity of a digital asset, it provides a certificate of ownership to the asset holder. (Nadini, et al., 2021) NFTs being unique has one identity only and are therefore scarce. The concept of scarcity creates a perfect marketplace for digital creators and consumers. NFTs are an identity on the digital ledger

proving proprietorship. How do we derive value from this NFT mania? This is where the non-fungibility aspect comes into play. Fiat money like USD, EUR, and SEK is fungible, it does not matter which banknotes are exchanged, the agreed values based on the exchange rates are the medium to exchange these currencies. Each banknote has the same value as imprinted on it and has a variable rate of exchange. But NFTs are unique, once minted they are on the public digital ledger, and each time the token is transferred its footprints or ownership changes. The important aspect to ponder upon the value analysis here is the original owner retains the rights as the creator of the NFT and each person trading or owning it is the respective owner who gets incentivised each time a transfer of ownership occurs.

Vitalik Buterin creates Ethereum allowing users, and firms to independently develop decentralised applications through smart contracts, smart contracts are a way to build business use-cases on top of the blockchain. (Buterin, 2013) With the advent of Ethereum, the idea of a cashless, universal system of monetary exchange gave rise to a form of having applications built over the blockchain. The power of decentralised notions gave birth to a new era of utilising decentralised contracts that are present on the universal ledger, which is tamper-proof and prevent fraud, without interference from an intermediary. Using the idea of smart contracts which are essentially a set of software-based rules on a blockchain that runs when certain conditions are met. These contracts are mere lines of code on the blockchain. By law, these smart contracts function as *'self-contained, self-performed, self-enforced'* algorithms. Therefore, computer codes are extremely inflexible to allow contracts to be determined using algorithms however limit the need for a central authority. (Boucher, et al., 2017) Smart contracts are Turing-complete algorithms and can solve complex problems given the set of rules are satisfied. But the decentralised infrastructure as promised by the blockchain contemplates the aspect of community building and collaboration. It enables individuals to come together to collaborate and create value chains that were never seen before as envisioned in the NFT-based projects.

The concept of tokens has changed how we value objects in the real world. We use tokens in our day-to-day lives such as identity cards, driving licenses, and airline tickets. They can be of different types for instance some are permanent, and some are temporary. Each has an attribute, and these attributes are embedded on the universal blockchain-based ledger, for instance, Non-Fungible Tokens can vary from providing access rights to just a visual digital artwork proving authenticity to allowing users to access a certain business case, like an airline ticket; contemplating different types of tokens such as access tokens, security tokens, crypto-collectables, identity tokens, etc. (Voshmgir, 2020) The attribute of an airline ticket is that it allows us to use the services of an airline, once the job is done the ticket is of no use. In the case of NFTs, the same ideology is used but in a digital nature. On the blockchain, once an NFT is minted a certificate of authenticity is created which conveys to the world that no similar token exists. Thus, these tokens are unique and therefore scarce. (Chohan, 2021)

Drawing from the NFT mania that the Internet is going through right now, it is difficult to speculate its real value. Digital art mania has grown with the evolution of *CryptoKitties*, *CryptoPunks*, and so much more projects coming up every day, the authenticity, or the proof of ownership aspect of these digital assets is a mere certificate given to the asset owner. (Nadini,

et al., 2021) The concept of scarcity creates a perfect marketplace for digital creators and consumers. Thus, NFTs are aesthetically an identity on the blockchain ledger providing a sense of proprietorship. Significant use cases of NFTs are on the rise with inter merging of its markets and expansion into other territories such as gaming, metaverse, and the art industry. NFTs are prone to two major aspects, one is the perceived notion of authenticity behind the material object, and secondly an accumulation of value based on ownership. Trading cards have been in our societies for a long time, a barter means of collecting and exchanging value through this has created rarity which builds its value. The physical nature of trading cards allows masses to influence community formations and this phenomenon dates to the 19th century when baseball and photography amalgamated to create baseball cards. (Murray, 2021)

What gives NFTs their value lies in their rarity, expected future value, and provenance. Provenance is simply the certificate of ownership, history of ownership. A classic example of this is that the Mona Lisa painting has been in the hands of great kings and that gives it the right to be valuable. Not simply because it is a great work of art which it certainly is, the authenticity behind it has been certified by ownerships, and the hands of possession have transferred along with history. NFTs are blockchain-based tokens representing ownership over content creating value for many. Blockchain has immense potential and NFTs however being a small piece of the pie, there are significant ways this could refurbish societal shifts.

Contextualising value creation through ownership can be situated in theory as the roles and rights of an individual(s) implying irrevocable control over resources, archetypally this ascribed ownership over assets shapes those involved in value creation. (Foss, et al., 202) Scholars in this arena have regarded ownership as a force for economic value. (Barney, 1986) Acquiring potential rights of ownership asserts power over deploying resources in different ways, from acquiring, and investing to selling and ultimately huge potentials to maximise value creation. (Hart, 1995) But the question of ownership posed here is what tangible or intangible value the NFT holds in terms of tokenising it. Holding ownership over an object should ideally mean one has complete power over what they own and how they use it.

In this current state of transition, NFTs are becoming a gateway to digitalise everything into tokens or behave as a '*value machine of everything*'. (Wang, et al., 2021) It is anticipated that NFTs will bridge the value between the real and the digital worlds, they would connect physical and digital entities, thus pipelining value exchanges. The emerging parallel worlds are an interesting phenomenon to look at since linking real and digital worlds would reform the ways of perceived mass value. If ownership is transferred in the digital world, it holds tremendous perceived value in the real world, the corresponding ownership structures also change, and it is quite complex to determine. (ibid)

2.3 Commodification and Value

To contemplate the idea of commodification, Karl Marx idolised the concept of commodity as something that is outside the human consciousness, an object that satisfies the human needs or wants of some sort. A commodity is simply an object that fulfils human desires. There is no difference if it is derived from the workers' labour or as a means of production from a factory

through mass production, it simply satisfies the wants when purchased or traded. (Marx, 1867) Further two inductions are formed in the form of 'Use Value' and 'Exchange Value'. The utility of the commodity makes it usable, whereas 'exchange-value' is derived when the commodity can be exchanged for something of importance, which means the commodity can have any natural property but can be substituted for a significant usable value that is assessed by the societal standards. (Marx, 1867) Exchange value corroborates the purchasing power of a commodity through the means of exchange. Exchange value involves comparability whereas use values are non-comparable. From a Marxian standpoint, use-value tends to connote how purposefully an object can be used, the utility of the object's use case makes it valuable, also the use case of the object is realised only when the object is deemed fit to be used.

The meaning of value has evolved in philosophical notions throughout history from Aristotle to Adam Smith to David Ricardo. According to Aristotle, the notion of value is subjective, and he believed that commodities must be exchanged with a set standard of measure and the measure is to be implied by human wants. Contemplating this definition of value, Smith and Ricardo had similar definitions and stated that value is determined from the equivalent labour put into the creation of the object. (Ricardo, 1817) (Smith, 1776) The need to exchange goods for use cases were resolved when economies started to form. The need for physical money brought us a 'token' that could be exchanged for something we desired. The existence of such tokens in the form of coins has been in subsistence since ancient times dating back to the Lydians, Romans, Chinese and Mongols. (Neiburger & Spohn, 2007) (Pickering, 1844) Not just that, the hunter-gatherers' societies too used a similar form of exchange when it comes to tokenising objects or favours and obligations. (Harari, 2015) Now the usefulness factor of a commodity is characterised by the essence of a human-defined yardstick, or an external function serves as a universal equivalent of exchange that abstracts the reality between value created through labour and its possible exchanges. Here, according to Marx, commodities are definite quantities of coagulated labour and time expended in producing it. (Marx, 1867)

Further, the essence of a commodity is that it is produced for its exchange value, an object is created for it to be sold, Marx sees that commodity production for selling is the prime result of capitalism. Commodities being the fundamental units of capitalism, economies are formed from an intense accumulation and exchange of commodities. From Marx's lens, there is a difference between money and capital, in the sense that a commodity is transformed into money, which is again transformed back into a commodity and the cycle repeats. From this basic arrangement of the market system, people produce commodities to obtain money in order to further obtain commodities they deem valuable. Now from a capitalist's perspective, money is not a means of exchanging commodities but rather producing more commodities to convert them to produce money. For capitalists, money is used to obtain more money by relying on the means of production, the labour that is put by the workers is sold as a commodity to the capitalists. Since the commodity produced by the worker is not important to themselves, the capitalist sells it in the market for more money. (Marx, 1867) Marx accounts for the exploitative relationship between the capitalist and the labourer where the labour is reaped for the greater good of the capitalistic economic system.

In a nutshell, commodities such as air and water have extremely high use value but the least exchange value; diamonds, on the other hand, have extremely high exchange value but their use cases are limited to ornamental significance to the very least. This brings us to a point where we ponder upon the paradox of value where the context is important. The marginal utility of water is constant as it is a life necessity but buying a diamond ring before one's marriage is quite high as well, a day after the marriage, the marginal utility of the diamond substantially lowers for the person who just purchased it but its value in the market still stays the same.

From the classical economists, it has been evident that commodification is a social process, the value driven and the value perceived is bound to change. The commodification of an object is etched in the history of the object. The inscribed meaning attached to the object is what derives value in it. (Appadurai, 1986) It is seen in the art industry that there are objects that have attributes that have less or no utility, but the object is valued high in certain social circles. The interpretations may seem different for a common man to understand a particular kind of art, but the construction of value is greatly dependent on how humans interpret it. (Mackenzie & Bērziņa, 2021) Similarly, NFTs are objects with a social life whose meanings change with time or provenance. The interesting thing to note is the association of the NFTs value from the ownership and property aspect since it does not represent the commodity but rather a certificate that denotes the commodity.

2.4 Property, Ownership and Alienation

The concepts of private property and ownership have been debated widely by scholars quoting the different degrees of freedom that it involves. The word 'property' has several meanings, but it seems to connote something, an object forms a relationship between a person(s). Ownership is a virtue that sets these relations and is constituted by rights and duties among the person(s). Most dwell on the idea that property is something as a thing instead of a social relation embedded in the process of production. (Keyes, 1981) Marx tries to define property as an abstract or eternal idea, an illusion of metaphysics and jurisprudence. (ibid) Further, the context of production is in its broadest sense and the materialistic conception of property is contended through a series of active production and reproduction of human existence and property.

In other words, for a property to exist there is some presupposition of some other kind of labour in existence. This means that property is the realisation of man's labour. Marx correlates the idea of property as a fruit of labour and contextualises two thoughts; First '*property as a social relation*' asserts the fact that the object is recognised by a group or society and considered valuable, it has relations with its owners and exclusive rights towards possessions, use and disposal. Second, '*property has a historical significance*' which asserts continual historical development and changes. He ideates that the history of humanity must be studied in connection to the relation of exchange and the mode of production. (Keyes, 1981) Thus, to sum up, Marx's ideology of ownership and property we can say that ownership is the relationships that individuals hold with a reference to the material, and it is a product of labour. (Grunebaum, 1987) Also, Grunebaum describes in his works on private ownership that "*Private owners have the rights to use and manage what they own and as they please.*" (ibid)

Property is a general term that defines a set of rules that regulate people's access or control over land, resources, goods, ideas, intellectual products, etc. (Waldron, 2020) It is also argued over the differences between 'property' and 'ownership', several jurists have argued on removing these two terminologies from the technical discourse of the law. (Grey, 1980) These contentions appear on the aspect that calling someone the 'owner' of something never really portrays the exact information about their rights on the object. In a similar fashion NFTs as discussed earlier, point to an instance of the object but not the object itself. Many implications have been drawn towards the plurality of property arrangements, shedding light on the aspect that there exists one owner but several sub-owners with relevant rights. (Dagan, 2011) Correlating this to the NFT scenario, there is always the first owner of an NFT and as it is transferred or traded to others, they subsequently retain a certain royalty. The royalties come in the form of cryptocurrencies. Reselling of the NFT works allows the users to earn royalties and hence are valuable. (Mackenzie & Bērziņa, 2021)

One thing is certain the early adopters in this NFT space are making lots of money and the biggest question to ponder is whether NFTs are a gateway to making money through the cycle of exchanges. As NFTs incentivise based on the transfer of the asset, the rewarding mechanism is how people are making money. As the technology is new for it to succeed further it needs to be tied up with conventional property laws. A clear distinction between 'digital personal property' and 'intellectual property' would help buyers and sellers together. (Fairfield, 2021) At the moment, buyers of NFTs believe they are buying personal property, and the seller claim to be selling them. The value proposition of an NFT is based on the narrative that the owner can use, enjoy, display, and dispose of the assets without the need of any third party since it is easily broadcasted on the blockchain ledger.

This contrasts with the traditional case of intellectual property licensing wherein a movie or book purchased from Google Play or Amazon Kindle is never owned, rather a copy is licensed to the user. (Fairfield, 2021) A potential use case is for digital artists, and musicians to sell their works as NFTs and only the organic consumer base buys the high-priced artefacts building a community of shared beliefs and opinions. Other consumers flock to their celebrity-based channels, webpages that sell NFTs of their kind, this further flourishes community building.

Hegelian concepts on ownership have been extensively discussed in the political discourses along with Marx and there are accounts of both individuals with contrasting notions. Hegel sees private property as necessary for the self-consciousness of free will, for Hegel freedom is granted to individuals who by nature possess mind and will whereas Marx sees how a property influences the worker class and the capitalists, he analyses private property affects the workers (proletarians) and how the bourgeoisie controls the means of production. This association alienates individuals from the fulfilment of freedom. (Hidalgo, 2013)

Humans have represented ideas through works of art, music, and literature, through their creative process which demonstrates their individuality in a certain scape. They take possession of things or objects by creating them or marking them as theirs. (Hegel, 1820) According to Hegel, alienation occurs because an object is possessed by the person themselves and they can alienate from it since they have a command over the property. Marx on the other hand asserts

that the bourgeoisie owns the means of production and the worker's labour which for them is a commodity. Marx discusses that private property is the main cause behind alienation. Alienation is a state of estrangement or separation from products of labour. An alienation test is a major influence considered in the paper, where a test of the subjective experience of alienation was conducted. (Maddi, et al., n.d.) In this study, powerlessness was professed as a major element in contemplating despair over social or personal relationships. (ibid) Alienation of digital labour is portrayed by alienation from the product of labour as a means of production, i.e. characterised by private ownership and human experience under capital's control Alienation is a state of separation and in today's context takes the shape of digitalised labour, in the realm of digitalisation corporate platform on the internet bases the exploitation of user's unpaid labour whereby content creation for fun or social networking, etc. are activities creating value for the companies themselves.

An analysis of social media as a tool, objectifies labour as human experiences, Christian Fuchs goes on to describe the implications of these experiences as isolated and not connected, and social media uses human shared experiences for economic purposes. (Fuchs, 2010) Web 3.0 idolises a more peer-to-peer rationally integrated society but questions in this thesis portray whether such societies would create better value for people. Alienation from Marx's perspective is a form of surrendering control and separation from the self and the creative prospect. A society based on a capitalistic economy reduces an individual worker to become a mere commodity or an instrument of production who has less or no control over their aptitude. (Marx, 1844) Here, a similar connotation lies when alienation occurs in a digital scenario, alienation from the product of labour in a digital context connects to commodity fetish with dual value perception i.e. use and exchange value, in alienation from digital labour there is coercion by isolation and organic social connections, and as a means of production, humanistic experiences are reaped for profits by larger organisations making human actions alienated from the value perceived. (Fuchs, 2010) One of the major aims of this thesis lies in this conjecture whether NFTs create value for the individuals or are mere tools of alienation, hence the study tries to understand how much value is reaped from owning NFTs.

2.5 Commodity Fetishism

Fetishism towards commodities from a Marxian standpoint is described as relations between the production of labour as social entities rather than relationships between people. This social arrangement mediates through market exchanges, i.e., buying and selling of commodities. Marx describes that there is no absolute connection between the physical form of the objects in exchange for themselves, but they appear to the human brain as an attachment to the product of labour, this fetishism attaches itself to the product of labour once they are produced as commodities and thus non-separable from the production process of commodification. (Marx, 1867)

Fetishism according to Marx connotes a dual state, one that is a tangible or intangible commodity and the other that exists between the social and material relationships between people. However, in commodities in a capitalist regime, social relationships are not defined by people but rather by inanimate objects. Commodities in their truest form are derived from

multiple social relations, for instance, a wooden chair is built upon several social constructs by the person who cuts down the wood from a tree, gives it to a manufacturer, the designer of the chair and finally the end customer buying the chair from a retailer. Multiple social relationships exist throughout the lifecycle of this chair and the mysterious nature of the commodity thereby creates a fetish for each level of relationship between man and things, but the relations are meaningless, the person who buys the chair does not have any social relation to the wood cutter or the manufacturer. Manual labour, however, has taken the form of digital labour in today's context of digitalisation, consisting of a variety of online value exchanges the production of digital labour is contested through technological platforms. (Fuchs, 2014) And the fetish that existed in the form of physical and tangible objects takes the form of digital and intangible formats, in a similar fashion objects like NFTs are not valued until they are taken to the market for exchange or unless there exist business cases surrounding them. Private labour has taken the form of social labour at the point of exchange, for instance, an NFT creator is bound to sell their creation to earn value and thus the interaction is not social rather the interaction is between the exchange of those digital commodities. Commodity fetishism in its nuances counter argues any form of sexual fetish or Godly fetish but a form of invisible interaction of an object and the man himself, the objects develop an unfathomable, mysterious characteristic of private labour that stays hidden, a world of social relations exist between things and not between people. (Marx, 1867)

Under a capitalistic scenario, commodities are assigned some monetary value, and humans perceive or rather fetishise and believe an object has an intrinsic value for themselves. In this viewpoint, digital objects create substantial fetishism and bring humans to develop material relations, since human beings are already in an integrated state of digital materialisation where they succumb to digital objects subjected to algorithms. (Hui, 2016) A commodity can be a very trivial thing according to Marx however when it comes to NFTs, a polarised thought process is driving masses to cling to it, there are two groups of people, one that believes in NFTs can be a value machine and the others consider it a hoax. (Boom, 2022) David Harvey has discussed the concept of oxidisable money, which means an alternate form of money that prevents power accumulation and a fetish desire. (Harvey, 2010) From this standpoint, a new kind of NFT known as Oxidisable tokens was recently created and which oxidises at a rate of 1.5% annually and ensures ownership for up to 67 years only on the blockchain. The idea behind such NFTs is they prevent fetishism towards owning them and prevent users from value buildup or inheritance. (Libcom.org, 2022) As the valuation of these tokens increases, it however goes against the fetish desire of surplus gathering rather dissolves after a certain time, like Harvey in his works has said, monetary systems need reformation where excess money is either taxed away or dissolves and cannot be stored like air miles. (Harvey, 2013)

2.6 Community Building

Communities are built out of social relations and most communities are anthropologically derived from kinships and are important working nature of simple societies once societies become more and more intricate the social relations are substituted with more complex kinships. Presumably, kinship is a more natural and inevitably essential component in groups develop

connections based on this but as societies grow towards more capitalistic structures the relationships take the form of injunctions of modernity. (Alber & Thelen, 2022)

Further, individuals are connected to multiple communities at a single point in time, for instance, neighbourhood, workplace, church, hobby, political, etc. Being a part of a community varies between an individual's life span and can change according to an individual's needs. Local communities might not be as essential in the modern day as once they were when resources and economic needs were not met by the residential environment, but many rely on smaller local environments for social, emotional, and physical well-being. (Hyde & Chavis, 2008) Durkheim has observed implications such as communities developing around interests and skills, for instance, profession. (ibid)

In his works in *Gemeinschaft und Gesellschaft*, Ferdinand Tönnies describes two kinds of societies that exist in our teleological doctrines. *Gemeinschaft* refers to the natural or inborn state of affairs or membership in a society that is undeniable, for instance, one who is born in a country or tribe sticks to that throughout their life and such identities cannot be cut off, being born in a certain race or colour is just natural. *Gesellschaft* on the other hand are memberships in certain smaller communities where one looks out for their own well-being, such communities are created out of rational decisions and collective cultural intricacies between actors in that smaller community. (Tönnies, 1877)

The NFT scenario and blockchain have multiple underpinnings in bringing individuals into societies together and a major focus of this study relies on this aspect of figuring out how NFTs play out building collaborative societal constructs. In the case of Mutant Ape Yacht Club, merchandise can only be purchased if an individual holds a MAYC NFT. In order to reap value, club members flock together for multiple reasons from exclusivity, marketing air drops (meaning extra benefits from the NFT community members which are dropped into the accounts of the users' crypto wallets), voting and governance from community members add added value towards the direction of NFT projects. (Sirise, 2022)

Management and organisational changes have been put forward assuring there are shifts from traditional internal value creation to co-creation by going outside the organisation, this paper (Lopdrup-Hjorth, 2013) puts forth the benefits on both sides i.e., a win-win situation for both the organisation and end users, the common interests through the involvement of all actors together creates exploitative value and is a modern transition. NFT communities showcase a similar ideology by allowing people to partake in shaping a brand and building an internal economy through utility tokens. Further, a growing interest is shown in the possible evolution of communities through NFTs, in the Web 3.0 environment identities and tribes are forming and this perhaps brings a sense of satisfaction which is a value to the users of being a part of a community. (Sirise, 2022) As interactions are an important element in society building, NFTs are contested to be powerful tools in facilitating the active involvement of users with other co-creators enhancing value creation. (Majer, 2022)

3 Problematisation

This brings us to discuss the notions of NFTs from the theoretical viewpoints of philosophical literature stated above and develop the problematic areas shrouding it. NFTs use the blockchain technology that allows the idea of a universal ledger wherein the decentralised consensus nature of the algorithm was put in place and brought to the world a new societal structure without a central authority, this influenced redistribution of power amongst the masses, connoting a more liberal and meritocratic mindset among people. (Boucher, et al., 2017) At the crux of it, NFT are tokens specifying a notion of ownership to the person buying it. Once an NFT is minted on the blockchain they are on the public digital ledger permanently, each time the token is transferred its footprints or ownership changes creating a new transaction on the ledger. The important aspect to ponder upon is the value analysis, whether the original owner retains the rights as the creator of the NFT and each person trading or owning it is the respective owners who get incentivised each time a transfer of ownership occurs. This prompts the use value and exchange value of it.

Since NFTs are nothing but a certificate of ownership how does it sustain so much value and in exchange for it why do people invest so much into these assets? According to ownership structures, rules are set based on the commodity involved. Even on a social notion the term of ownership grants the rights to an object, this set of relationships with the person(s) owning the object may be either moral or legal or both. But what the NFTs provide is a sense of ownership over the commodity, not the commodity itself. The authenticity or proof of ownership aspect of the digital assets is a mere instantiation or tag underpinning the authenticity or just an ownership certificate. (Nadini, et al., 2021) NFTs are based on the concept of tokenisation which means the digital asset is identified on the ledger after being minted, and a credential or proof is imprinted on the token.

According to law, tokenisation as an idea has existed and is recognised by law, legal concepts have developed to recognise ‘objects’ to represent rights over something. Legal and financial instruments such as securities, deeds, contracts, etc. are asserted to fulfil transactions when conditions are met in the real world. As one tries to understand the property and ownership link between the tokens and real-life commodities studies on the various ‘Terms and Conditions’ of the companies offering blockchain assets management systems such as Foundation, MakersPlace, SuperRare, Mintable, OpenSea, etc. and portrays certain ownership issues. (Moringiello & Odinet, 2021) Several pieces of evidence show that platforms like this do not necessarily guarantee ownership, because if these websites disappear so does the NFT. These sites pose several bold claims, but none provide any link between ownership and rights to the creative work, or rather the rights to display are granted simply but not the copyright or IPs related to it. (ibid) Since the law does not govern the terms and conditions of companies like OpenSea, Rarible, etc. another problem lies here. (Steinfeld, 2016)

Further looking at the value perception a commodity’s value changes with context. Commodity valuation is a process derived from its intrinsic values under optimal market conditions. Considering the current scenario of the crazy NFT mania, if we consider it to be a capitalistic

mode of revenue generation, the triggering of new and new customers into this market simply adds to the fact that the value of these digital commodities will saturate at some point. Blockchain or Bitcoin to be more precise started as a means to democratise financial transactions, a universal cryptocurrency that can be spent anywhere breaking national boundaries, NFTs are just further applications of the same principle. Although this is a recent technology at the forefront are those initial people who already own the best NFTs and the power and property seem to reside in the hands of the so-called *bourgeoisie*, these initial actors who already possess a better share of the market are transcending the value-chain downwards. The NFT craze is thus again a pyramid structure, a Ponzi scheme speculated by some, thereby NFTs being essential to those wanting to gain a chunk of the pie look for another buyer and the chain goes on. The top-level actors in the NFT market look for baits and those baits look for more beneath them leading to a cycle of repeated buying and selling of NFTs since reselling of the assets allows them to earn royalties. (Mackenzie & Bērziņa, 2021)

As the cycle repeats, the properties or the so-called sense of ownership transfer brings in more money to the value chain. Marx refers to this as ‘fictitious capital’, akin to stocks of a company, as profits fall a desperate attempt is made through new ways of production, through new ways of capital investments to secure extra profits. He further discusses in the third volume of the *Capital* that fictitious capital represents accumulated rights and properties for future production. Fictitious capital could be defined as capitalisation on property ownerships, but it is money thrown into circulation without any material basis to it. Thus, these are simply non-tangible asset creation or tradeable paper wealth that moves around in circles. He adds to it stating that in the finances the movement and transfer of capital as a result of gambling. (Marx, 1867) In other words, the capital exists only in the form of ownership corresponding to a portion of the surplus value which is realised later. This phenomenon is emphasised as a means of the *bourgeoisie* concentrating capital while the *proletariats* are exploited from it perhaps. Examining the 2008 financial crisis where people concentrated on making money through mortgage-backed securities, a bubble was formed which Marx would compare to an overproduction of capitalism. This corroborates the fact that centralised economic systems lead to overproduction and eventually it would lead to chaos. The housing market crash is the best example of a virtual sense of money being churned and ultimately leading to a market collapse. (Corderman, 2019) Marx has been known to support socialism and believed that if capitalism continues the working class gets left behind. He believed that in a socialist society the want for profits is collectively based on the needs of the working class and power solely resides in the hands of the ruling class.

As NFTs are digital in nature users do not receive any physical or tangible items when they purchase them. In most scenarios, NFTs are only proof of ownership and not the wholesome right unless there are specific rights or businesses developed around a specific token. Owners do not hold exclusive rights to the content of the digital object. (Kapoor, et al., 2022) In most scenarios, a business case would be needed to establish further rights such as access tokens, rights tokens, etc. The buyers of NFTs are perhaps alienated from what they buy, this estrangement comes from the fact that they seldom have power over the purchased asset. This study will try to look for relationships if any exist between the buyer and the object and if the

buyers have any control over what they buy. However, the contrasting pieces of evidence also suggest that NFT trading allows reselling of objects thereby allowing users to earn royalties (Mackenzie & Bērziņa, 2021) being a reason for users to partake in the whole process of trading. But there are concerns here if someone is indeed a buyer, they are coerced into involving themselves in the trading because of the fear of missing out.

Since the metaverse is exploding to great heights or expected to grow to create virtual and augmented realities everything seems to be tokenised as a property in these metaverse worlds, there are interesting NFT projects with promising value but there are more springing up each day that produce value next to nothing probably, but then again value is a social construct and intrinsic to the context, hence it would be interesting to see how it is perceived by masses. The concept of the metaverse is well described in the novel *'Snow Crash'* which later became a movie *'Ready Player One'* which shows us a dystopian future breaking the digital and physical spaces. (Dionisio, et al., 2013) Once realities are uploaded into virtual reality the possibilities are endless. Considering a futuristic situation where Neuralink by Elon Musk allows individuals to conduct brain uploads in real life, brain-computer interfaces are highly promising, Musk's Neuralink has successfully addressed issues related to invasive human-computer interfacing, thus opportunities for brain uploads are a few years away in the future. (Pisarchik A, 2019) Interestingly this brings another application of tokenising brains, ideas are subjected to be intellectual properties and if one tokenises their minds where do the possibilities end. As a matter of question who owns the brains now, how does the chain of ownership work if this becomes a reality? These questions at a meta-level are put forth to realise how the concept of ownership and property could change by tokenising objects.

As Marx notes, the fetishism of commodities is a phenomenon built on social relations toward objects. Commodities, through their use-value, appear to be quite trivial and understood quite easily. But from this point of view when we look at the metaphysical subtleties if it is capable of satisfying human wants and desires, there are abstractions and mysteries involved. The fundamental complications arise when the product of labour takes a social form, the quantification of such labour seems implausible. (Marx, 1867) The peculiar social nature of labour value is loosely coupled with the case of NFTs. Metaverse for some critics is termed as a vague concept or called a *"feel-good place of the exciting future"* created by technology companies that might be useful to users but at the same time, several contrasting remarks shroud the virtual reality agenda which some call a fad, dangerous, and aspirational name for social media in another form. (Madison, 2018) (Bogost, 2021) Many also believe that it is not another buzzword but an evolution towards a new form of the Internet with companies like Meta, Microsoft, and Nvidia who are starting to entrust projects into the same. (Jooyoung, 2021)

The book on Digital Labour and Karl Marx by Christian Fuchs discusses several examples of alienation in social media, Facebook's mission is to connect people and make the world more open, similar notions are derived from other social media platforms as well such as Instagram, Pinterest, Twitter, etc. Each has a purpose-driven business, but their notions remain the same. (Fuchs, 2014) Fuchs tries to shed light on ICT companies' using human digital labour and how it has an impact on human lives, at a cellular level the illusion of building connections is formed

but at a societal level it is degraded, social media has never brought societies together. Further another paper on alienation and digital labour contextualised the scenario of how users have so little choice over how their data is being used and these datasets are used to predict and influence their behaviours. (Kruger & Johanssen, 2014)

If blockchain is a way to a decentralised infrastructure that aims to be directly applicable to socialism, which is an economic theory fostering community ownership. (Huckle & White, 2016) To contemplate the aspects of why a study in the NFT industry is important from an epistemological and ontological standpoint is that it is driving multiple markets and by May 2021 NFT sales reached a total sales volume of 34,530,649 USD. (Wang, et al., 2021) It is further attracting market integration to the metaverse. Metaverses and NFTs inter merging into this space enable a proliferation of virtual economy wherein users can reap value. Users can lease and buy virtual properties in blockchain projects such as Decentraland, Sandbox, etc. To extend further many fascinating use-cases such as playing games, showcasing avatars and trading digital objects i.e., trading digital assets and works of art. (ibid) Fetishism towards digital objects is quite common in the gaming industry or owning lands in the virtual world, an item purchased in a Metaverse land might corroborate the fact that you are an owner since you have an NFT etched onto the product you buy but disagreement to the license terms or getting banned from the metaverse platform does not really make any sense since the NFT product you own cannot be used anymore however you are still an owner of it. (Marinotti, 2022) To contextualise it is like you own a computer but are banned by the electricity department so you do not have access to use electricity in your home making the computer unusable.

Since this is a huge grey area with doubts and limited research shrouding around it, the research would be fascinating enough to find answers to these notions from how people perceive these concepts. There are credible explanations of why an individual might leap into the NFT markets one major reason could be to earn money. (Frye, 2021) Being in a nascent state the idea behind tokenisation is restricted to the space of digital arts and games at the moment but the immutability and uniqueness factor when combined with the decentralised infrastructure provides immense value in other areas as well. There might be a case where users might value NFTs and expand this to be a value machine for everything in the future, but the primal idea of this study is understanding the whys behind these notions held by the masses. The decentral nature of the blockchain works towards creating a libertarian society, a libertarian society's primary political values are the right to private property, moral autonomy, and similar collective notions negating middlemen and central figures. (Huckle & White, 2016) Contrary to this, innovations do not face the issues of crafting something new but rather create the necessary circumstances of exchange value. Capitalistic companies create value by driving the societal spheres in a new direction producing unseen value than before. (Rehn & Vachhani, 2006) Another area to contextualise is whether digitalisation is creating organic value, stays the same or might need reforms.

Sometime recently, Banksy who is a renowned artist from England, their authentic artwork called Morons was purchased for \$100,000, burnt in a live video and minted as an NFT to be and sold for over \$394,000 to be given away as charity. (Criddle, 2021) This has been termed

by multiple as a stunt to raise money however the group behind the event named 'Injective Protocol' contextualised the burning as the existence of the sole copy on the blockchain. Thus, it gets strange when original artworks are burnt and minted as NFTs. The aesthetic nature of art seems to be in question when certain concerned individuals expressed disheartening verdicts upon watching the live burning. Contrary to this, burning the artwork was physical destruction but stating that there is no duplicate copy of the object makes no sense technically since NFTs simply point to an object in reality or a virtual space but not the property itself. The current owner of the Banksy artwork does not own the real property but a certificate that says that they own the live burning event, however, the copy of this artwork is everywhere on the internet. The commodity that existed in physicality is lost and ensures that the NFT piece on the blockchain shall be tamper-proof, no more counterfeiting would be possible. Does this symbolise a libertarian era taking new forms or art is taking new forms through digitalisation? In this context it could be disputed to treat art for instance as a currency wherein it being abstract, detaches oneself from material reality, this could also serve to increase one's status, gain political power, launder money, etc. Digital objects embedded into the fetishism of human behaviour considers "*emotions, atmospheres, collectivities, memories, and so on*" by which they integrate and converge into newer functioning of socio-economic systems under the names of social upbringing. (Hui, 2016) There are several inquiries into considering new techno-economic market structures from an ontological proposition to find answers to these from the perspective of ownership.

Non-fungible tokens as the name suggests might have taken the shape of digital art currently but tokenisation could be a tool for organisational and economic autonomy as tokens of various kinds emerge in future. Many today argue that NFTs are the future or hype, either could be possible. As Rachel O'Dwyer rightly observes in the context of the infamous CryptoKitties, "*Like money then, the ownership claim lays claim to nothing more than the act of ownership itself. What's valuable is the information circulating around the good.*" These tokens thereby slip back and forth, and their performance relies on the hype encircling the commodity. (Lotti, 2019) Owing to the proprietorship constraints of NFTs they have been quite popular in community-building enterprises such as Bored Ape Yacht Club (stylish, the exclusive brand-based collaboration framework), Axie infinity (Play to earn based framework where users can plan and earn tokens), Vee Friends (NFT project surrounding intellectual property and great community with extraordinary perks), etc. (Coach, 2021)

These are certainly interesting use cases where people can flock together to produce value chains enabling meritocracy. Surrounding these multiple problematic scenarios this dissertation seeks to exemplify the value perception of the people engaged in blockchain-based infrastructures. The confusions surrounding ownership structures are in a naive state, further, to contextualise, NFTs do solve the problem of issues shrouding ownership retention and property however why value them so much when they are simply pointers to digital artefacts is a question to put forth, is blockchain going to solve the problems of rights to ownership? If so, what value is derived from NFTs, the thesis aims to find answers to these conceptions regarding NFT and its value.

4 Methodology

4.1 Aim & Research Questions

The aim of this research is to study the thought process of end-users that use or are associated with blockchain technology, NFTs being of prime significance. Ranging from blockchain researchers, enthusiasts and to traders in NFTs and crypto currencies, the concept is to derive their perceptions, ideally, the research follows a mix of interpretive and radical structuralist paradigms thereby trying to interpret the problematic areas and giving it a direction or how it falls in the current socio-economic constructs. Owing to a qualitative study, the following research questions are formulated,

1. How do users perceive value concerning NFTs?
2. How do NFT ownership structures create value for the users?
3. How does value in NFTs influence the users' understanding of ownership and control?
4. What value perceptions are essential for the users to contemplate NFTs as valuable assets?

4.2 Philosophical Tradition

Ontology is the philosophical perception of examining the nature of reality or what are the possibilities of knowing the world. (Crotty, 1998) It is mainly a concept concerned with the existence of and relationships between various actors in society, cultural and social constructs, and their intermingling with multiple aspects of metaphysics. (Denzin & Lincoln, 1998) Owing to the present research being more related to technology and social sciences it is important to place the study in the right domain. So furthermore the ideas bring the concept of social ontology restricting the research paradigms of social entities. (Bryman, 2008) It explores the nature of social constructions built from perceptions, actions, and interpretations of the actors in the society. This idea tries to digress whether social entities exist independently or if there exists an interdependent social nature of understandings between individuals in a society. To articulate the standpoint of this research, it tries to construct social meanings in new technological innovation and extrapolate the nature of reality in the shared social reality.

Epistemology can be conjectured as what elements of knowledge can be regarded as acceptable. (Bryman, 2008) As the area of research is novel there are few research papers available from a socio-techno-economic standpoint, this brings the study to develop a qualitative approach to build knowledge and find gaps from the perspectives of the people involved in the NFT uproar. Epistemological constraints rely on the kind of knowledge that deems relevant to the research thereby making a qualitative study to make the base for knowledge gathering. As this study goes about uncovering answers to knowledge on social behaviour that is the kind of method that is relied on greater involvement with the subjects to help in gathering discernments from them.

The methodological approach chosen for this study is interpretivism i.e., a system of studying constructs that have a shared meaning, consciousness, and social meanings and are mostly composed of human or social phenomena, it is the branch of sociological philosophy where

interpretivists argue that society needs to go beyond objective empirics which are not possible through binary answers. Interpretivism uses the technique of interpretation and trying to understand them. It also states social realities that are not trivial but are created by humans through their actions in different social constructs.

As social realities are difficult to study objectively, the philosophy of interpretivism uses the method of using contexts in which the phenomena occur. (Klein & Myers, 1999) The insight gathering in terms of social sciences can be traced back to Epictetus, the Greek philosopher who stated that actions do not worry a man but the opinions that shroud around. (Merton, 1995) The important aspect of this research is to understand the opinions, attitudes, and beliefs of individuals when it comes to virtual assets, to understand their perspectives on the concept of value when it comes to non-fungibility, the main idea of the thesis corroborates the fact that despite NFTs being a certificate of ownership how is it logical to pay money for something intangible, does ownership through non-fungibility create credible value for the users?

Schopenhauer noted that masses become elated or dejected at the way they looked at things or what things were for them and not because of how things were objective (Payne, 1974), the social meanings are realised by being an external body attempting to understand social action and building inferences from their point of view, (Weber, 1991) describes this as a means “*to give causal explanation of the way in which the action proceeds and the effects which it produces*”, the actions are the human behaviour towards an action. This thereby portrays the need to contemplate the value dimensions of how and why NFTs play a role in an individual’s life, since this study is situated at a stance to create meanings from the society’s actions the ideal sociological approach is finding connotations of abstract actions towards NFTs in general, the research streamlines towards finding the meaning of value when it comes to NFTs and people’s behaviour towards it in general. The characteristic gap here is how intangible objects gain importance in a person’s life that they pay so much to earn it. In video games for instance where in-app purchases allow users to buy virtual objects for themselves, the masses pay money to get a game skin or avatar of choice.

The quintessence of the study is realising why and what affects the psyche of the masses indulging in the blockchain sphere. The profound concept is generalising the thought process of the masses from the perspective of how they own an object, and how much of it they feel is real, these questions need to be addressed. As blockchain technology soars to become a piece of universal equipment and perhaps bitcoin as a universal digital currency, it is expected that people understand the notions surrounding these phenomena. The main aspect of using this philosophical approach is to identify human action and is well suited for areas with relatively less prior research or theory available. (Boland, 1991) Interpretivism thus makes use of qualitative research techniques throwing importance towards viewpoints from the people that take part in the research and encouraging their beliefs and ideologies. Interpretivism at its core nature encourages the value of qualitative data in the development of knowledge. (Kaplan & Maxwell, 1994)

Further, looking at Burrell and Morgan's sociological paradigms, the research model is influenced by a radical structuralist paradigm wherein the researcher tries to study the intrinsic structural conflicts within society, influenced by Marxist ideological intervention the paradigm extends to freeing people from the status quo. Contemplating those existing sociological notions are somewhat unnecessarily dominant arrangements, the study tries to shed light on the unequal or ambiguous power provisions which might likely continue, hence a better way to idolise the situation is to change laws, economic arrangements, etc. (Burrell & Morgan, 1979) In the case of blockchain as an innovation, the wholesome idea is to move from a hierarchical framework to more participatory constructs. Since the objective conceptions of the radical structuralist paradigm are leaned upon the concrete reality, sociologists in this paradigm tend to try to change the way organisations are structured. (ibid)

4.3 Methodological Approach

In qualitative research, the idea is to understand human behaviour, actions, and notions, in a certain social context. (Myers & Avison, 2002) Meaning is developed from what each of the participants in the research contextualises, their viewpoints are recorded and the meanings behind their thoughts are explored. Qualitative research again being subjective is suited for areas that try to understand grey areas and does not necessarily deal in binary contexts. Since we try to understand social aspects and behaviour, binary answers are difficult to discover in such a domain. The notion of a particular phenomenon would not be possible to define on a numbered scale or yardstick. Further, the collected data is explorative and undertakes in-depth analysis that is understood from the viewpoints of users by reiterative readings of the collected data through interviews. Interpretivism uses interviews or observations for collecting data. The meanings from the data are thereby emerged by the end of the research process.

As a general methodological philosophy, this research involves relativist ontology which effectuates that reality is human experience and vice versa paving the way to understand the subjective experience of individuals and multiple truths. (Denzin & Lincoln, 2005) (Guba & Lincoln, 2005) Qualitative studies make use of the inductive paradigm when there is less or no theory available, observed for patterns and finally theory is developed from collected data. Inductive reasoning thus starts on a subjective norm, collects data, and develops a generalised theory from it making sociological underpinnings easy to capture, unlike deduction which performs a constrained experiment in a controlled environment on existing theories.

There can be several positives and downsides of interpretivism, it is helpful to understand subjective constructs, and generate knowledge on relative affairs such as 'value', 'contexts', 'culture', 'emotion', etc. Further, this kind of research also focuses on understanding what people think about something, how they value something, etc. Contrary to the positivism paradigm, the downsides of interpretivism are it cannot be used to determine numbers, time, etc. Inductive thinking is how humans' reason, human psychology is excellent at recognising patterns and carrying out deductions based on hypotheses. The inductive approach condenses extensive raw data and establishes clear links between research objectives based on the structure of experience, and processes. (Thomas, 2003) Thus, the idea is to read immensely through the

data, identify important information segments, create categories of segmented information, and finally derive a model incorporating the categories and concepts. (ibid)

4.4 Sampling

A sampling of individuals is necessary to collect data for the research. For this study, a purposive form of sampling is chosen which is non-probabilistic. Since random sampling is difficult in this research owing to the fact that the NFT phenomena are relatively new and blockchain innovation keeps proliferating into newer spaces each day, the goal of having a purposive mode is to strategically sample participants who would be pertinent to the research questions posed. (Bell, et al., 2019) It is important to bear in mind to choose a sample that will have relevance to the area of research in this case. Therefore, along with purposive sampling, snowball sampling is also employed which is quite common in qualitative research, this allowed the researcher to start with a certain number of seed participants who in turn recommended potential participants for the study. (Parker, et al., 2019)

Discord groups were a great way to investigate NFT-based projects as it is one of the ideal platforms to sample individuals, however, the vast majority of individuals here were unverified, and their identities were not confirmed since it is not a strictly official platform, most requests for interviews in the Discord groups were ignored or criticised or not taken seriously. Therefore, LinkedIn was chosen as a mode to sample individuals since the identities of the people here are verified and official, it was made sure through initial conversation with the participants that they were part of certain known organisations validating their identities to prevent counterfeiting.

To gain a wider understanding of the phenomenon, a variety of individuals were contacted who have had experience in using blockchain technology or are associated with it in some way. The blockchain and NFTs industry being in a nascent state, individuals were chosen who had been familiar with the innovations in the area or were keen users of the technology. As a means to effectively sample the participants a priori was set that every member was familiar with NFTs specifically and had at least a year of knowledge or familiarity with blockchain and NFTs in general.

Below, (Table 1) is the list of individuals who were purposefully chosen for the interviews, and some were also sampled through snowballing, i.e., relevant individuals were contacted and they, in turn, provided suitable contacts for more individuals. (Goodman, 1961) Mainly in this research, developers, researchers, traders, blockchain enthusiasts, and technology enthusiasts are the participants, either way, it was confirmed that they were familiar with NFTs and concepts of tokenisation on blockchain. The names of the participants have been pseudonymised to retain anonymity. The roles of the individuals vary, and this is essential in qualitative research to sample a diversified set of participants for a comprehensive understanding of a phenomenon. (Patton, 1999)

<i>Samples</i>	<i>Pseudonym</i>	<i>Sampling Criteria</i>	<i>Roles</i>
<i>Person 1</i>	Saul	Purposive	Blockchain developer
<i>Person 2</i>	Mike	Purposive	Blockchain enthusiast
<i>Person 3</i>	John	Purposive	Blockchain enthusiast, NFT trader, NFT & Metaverse content creator
<i>Person 4</i>	Bob	Snowball	NFT trader, Gamer
<i>Person 5</i>	Arya	Snowball	Blockchain enthusiast, Metaverse enthusiast, & NFT content creator
<i>Person 6</i>	Kim	Snowball	Technology enthusiast
<i>Person 7</i>	Alex	Purposive	Technology enthusiast
<i>Person 8</i>	Esha	Purposive	Blockchain enthusiast
<i>Person 9</i>	Max	Snowball	Blockchain researcher, Blockchain developer

Table 1. Sampling table describing the participants' roles and sampling criteria.

4.5 Data Collection

The chosen method for collecting data for this research was unstructured interviews since they are a great way to collect data for a qualitative research strategy for this kind of business research focusing on a sociological phenomenon (Bell, et al., 2019). Unstructured interviews have room for spontaneity thereby allowing the researcher to collect descriptive data and wherever needed the interviewees are probed with more questions depending on their responses. Interview data is comprehensively large going over pages, the large sets of data are audio recorded during the interview as raw data, and this data was then transcribed. Also, the data is collected in real-time, being conversational, allows the participant to be more expressive, and bring in their ideas and thoughts. Keeping a doable comfort zone for the participant the collected data becomes more personal and the participant brings their perspectives into the discussion. This also helps in putting up follow-up questions and building a full picture of the participants' narratives. Several notions are captured by building a rapport with the respondent. For this study a conversational interview style was incorporated, conversational interviewing tends to be very similar to having a conversation. (Burgess, 1984) Here an aide-memoire (personal notebook) is also used which contains sets of self-prompts. (Bell, et al., 2019)

The style of questioning starts with simple, easy questions and subsequently proceeded into difficult and sensitive areas. This builds the respondent's confidence and builds a good ground for rich data collection. (Gill, et al., 2008) According to some researchers, unstructured interviews pick up certain issues and with an informal style of questioning, embracing both

semi-structured and unstructured kinds. (Mason, 1996) (Rubin & Rubin, 1995) Probing and prompting are effective when it comes to collecting data in an interview since it helps the researcher get more and deeper insights, and divulge extra information that might be essential from the respondent. Often respondents might not be open enough or might not realise what more to say but prompting helps in such scenarios. (Bell, et al., 2019) After each interview, the collected data was transcribed. Transcription helps in multiple ways, it is a reflection of the audio/video into text saving data, fact-finding through reading is easier and keeps the research accurate, empirical findings in the research are easier and protect the integrity by being able to share the textual data, quotes for instance from the interviewees. In this research most certainly, a software-based transcription is used like Otter.AI and then a manual transcribing for better accuracy. Also, transcription would allow the researcher to code the data, and highlight and tag parts of the text.

4.6 Interview Process

An interview guide was roughly prepared in advance with a set of questions or key points to touch upon while conducting the interview. Having an interview guide also helps in not letting the researcher go off-topic. These are referenced from the research questions mainly based on the areas of notions held behind the property and ownership structures of NFTs. The literature review and problematisation helped in developing the areas to question the participants. As an ideal language for conversation, the chosen mode for conversation is English. Before the interview process begins it was necessary to send out a consent form to the individuals consenting their permission to be audio recorded keeping anonymity. Also, the consent form describes the study a bit and briefly describes what the interview was all about. A tactic in qualitative interviewing is remaining aloof and trying to seek information from the respondent. Further going off at tangents and questioning significantly away from the constraints of the interview guide bring in new insights. (Bell, et al., 2019)

During the month of April-May 2022, a total of nine participants were interviewed. The duration of the interviews varied from 60 minutes to 70 minutes and the longest one took up to 120 minutes. The geographical locations of the participants varied and were undertaken over distance, the meetings were conducted via Zoom or Microsoft Teams. In certain cases, due to differences in time zones, some interviews were also rescheduled which was somewhat problematic but not impossible. The sourced participants were asked to fill out a consent form (Appendix 9.1) which ideally described the nature of the interview process, ethical considerations, and consent to be recorded during the interview for data transcription.

During the course of all the interviews, the questions followed a similar pattern more or less. After every interview, the transcripts were read through extensively and a few nuances were reiterated differently to bring out answers that could be of interest to the research. For instance, if something was of interest like discussing the burning of the Banksy artwork was common in all the interviews and the respondents showed great interest when this specific topic was discussed. The interviews being unstructured allowed the individuals to follow an informal fashion or more like a discussion where they could freely describe their opinions. A brief set of questions or interview guide (Appendix 9.2) gives an idea of the kind of discussions that took

place, being unstructured the questions followed this format however not entirely fixed to the guide, depending on the types of the conversation that took place, specific twists and turns were amended during the course of the interview flexing ways for the researcher to gain knowledge on specific and relevant areas.

Some questions during the interview were asked not to generalise the findings but rather to get opinions from the respondents, for instance, if Person 1 said something then Person 2 was asked a similar question to get perspectives of interest regarding the same situation. Also, as the interviews proceeded with a better structure towards producing information related to community building a later emphasis was put upon this area so out of nine interviewees, four of them were further invited and questioned on the aspects of community formation. By this phase, most empirics were already collected however the theme of communities was put forth at the end.

4.7 Data Analysis

Thematic analysis was the chosen strategy for this study. The research was constrained to determine rational complexity from the perspective of a sociological standpoint, this methodology was deemed suitable. Inductive thematic analysis is suitable primarily on the aspect that the evaluation is grounded in the data rather than existing theories and concepts. Pure induction is not possible in most qualitative research rather the study is shaped by the researcher's theoretical assumptions, experience, and ideas to be as close as possible to deriving meaning from the data without any bias. (Clarke, et al., 2015) As the qualitative study allows an in-depth understanding of observed societal contexts, the notions surrounding NFTs from the perspective of how much power, and control users have and other relevant viewpoints with elicit details can be conjectured, it also focuses on the ethnographic context, thus qualitative studies typically yield theoretical explanation behind a phenomenon. (Kaplan & Maxwell, 2005) Inductively the ethnographer tried to interpret it and refine the data categories, as the process was non-linear nor logical but rather reasonings based on themes. (Agar, 1982)

There was often a cyclic reiteration of moving up and down trying to find meaning from the collected data. Using the 3Cs (Codes, Categories, Concepts) approach (Lichtman, 2009), Qualitative coding is a method to index the data collected from interviews to establish a structure from the information. The coding process involved a method to recognise patterns in data. The purpose of coding was to establish a framework by labelling the data and linking it back to the research questions. (Gibbs, 2018) A code is often a small word, or phrase representing the raw data. For this research, the method proposed by (Saldaña, 2016) is where preliminary codes are applied to the raw data while reiterative reading of the interview transcripts. Later the process was repeated by attaching more general or high-level codes as final codes.

In this study, initially, the researcher started by putting the transcripts in a Word document and colour-coded the words or phrases or sentences that were found relevant for answering the research questions, those colour-coded words in the document were then commented differentiating preliminary codes represented in lower case, later the final codes were

represented through upper case characters in the (the lower and upper case characters were for personal convention and easier identification of the data). In-vivo coding was the technique applied during the initial method of coding, focusing on the words and speech of the interviewees as it were, in-vivo ideally means ‘something that is alive’, aiming that the data used by the participants as themselves (Strauss, 1987), no analysis or judgement on the data was focused at this phase except marking the data points of interest towards the research questions. Further, a descriptive strategy of qualitative analysis was used while indexing the data to a more general format, since descriptive coding helps in summarising a part of the datum falling under a certain category or group of categories. (Gibbs, 2018) Further, a deductive format mixed with an inductive format was used in describing the concepts. The deductive nature of coding is a top-down approach where a predefined set of interesting points to look for were chosen and the approach was to identify the excerpts that fit into the process whereas the inductive format allowed looking openly at the data without any pre-cognitive notions and the narrative theory emerges from the raw data itself. (Saldaña, 2009)

Thematic analysis falls under an inductive nature which was the major analysis tool utilised in the research study, this was helpful since at multiple points throughout the research questions were changed as new data was starting to emerge, and as it is more flexible it proved to be beneficial for the study. (Braun & Clarke, 2006) Initially, the researcher started with each of the transcripts and marked the parts of the speech that seemed interesting, giving it a small word or phrase on the responses given by the interviewees an example of this can be found in (Appendix, 9.3) and keeping the interview guide and research questions on the side constantly overlooking both of it.

After the initial codes were developed for all the interview transcripts, categories were formulated, categorising in qualitative data analysis is developing clusters or similar patterns and putting them together. (Saldaña, 2017) The categorisation of different codes has been classified under different categories (Appendix 9.4); the categories have further been classified into six themes which pertain to the research questions. Themes are ideally the last method of constructing summative meanings from the data, codes are often single words or phrases representative of a datum, however, themes are interpreted and manifested as the underlying meaning of the data. (Saldaña, 2017)

4.8 Questioning Styles

The nature of a qualitative style entails amorphous questions which are undecided, and the stage is instantly set as the interview unfolds. As a result, each interview is somewhat unique as questions change over time. However, it is necessary to formulate the type of question-based on what the researcher wants to study. A success factor is through having a list that suggests the needs such as behaviour or experience, opinion, beliefs, feelings, etc. Questions can be asked in a particular order, for instance, one can start with opinion or beliefs trying to probe for experience and lastly move into more detailed and sensitive areas. Special attention to body language and structural wordings to and from the researcher is essential to prevent any misunderstandings. (Patton, 2002)

Being a qualitative study, the types of questions followed (Patton, 2002)'s style to enunciate abstract notions like experience, behaviour, opinions, feelings, etc. The qualitative questioning methods can be found in (Appendix 9.5) describing the kinds of questions, what can be derived from the kinds of questions and a few examples, following the same pattern this research made use of the similar connotations in designing the style of questioning as see below in (Table 2). The type of questioning also varied greatly depending on the responses gathered from the participants.

<i>Types of questions</i>	<i>Description</i>	<i>Examples</i>
<i>Experience, behaviour</i>	Questions under this category try to elicit actions and activities the interviewer wants to capture.	<ol style="list-style-type: none"> 1. Give an example of what your best NFT trading went like. 2. In what ways does blockchain make your life easier? 3. What is your experience as a user of NFTs in particular and blockchain as a whole?
<i>Opinions, values</i>	Questions aimed at capturing the cognitive processes invoking intentions, desires, and judgements.	<ol style="list-style-type: none"> 1. What makes you believe blockchains will thrive and make the world a better place? 2. Do you think the current NFT projects are good enough? 3. What would you like to see as a good NFT use case? 4. What is your opinion on burning Banksy's artwork? 5. What value does it bring to you from an ownership standpoint?
<i>Feelings</i>	Following cognitive understanding, these types of questions evoke the emotional dimensions of human life.	<ol style="list-style-type: none"> 1. How do you feel about the value derived from NFTs creating an impact in your life? 2. How do you perceive an NFT object? 3. How did you feel when you made your first NFT sale? 4. NFTs are non-duplicable assets but it is valuable only if people value them. How do you think it would play out in future? 5. On the grounds of sustainability, is it worthwhile to mint NFTs and use blockchain since it consumes so much energy?
<i>Knowledge</i>	These are ideal when a concrete fact is necessary to know from the interviewee.	<ol style="list-style-type: none"> 1. Do you realise NFTs simply are an instance of a commodity and not the commodity itself? 2. Considering a case of 'trash art' do you realise the aesthetics of real artwork are lost or perhaps art needs a new definition?

Sensory	Sensory-based questions are in line with physical reality and thought processes	<ol style="list-style-type: none"> 1. You cannot own the NFT object, you cannot touch or feel it. What according to you lies in the value of NFTs? 2. When you sign up for an NFT marketplace, do you read the Terms of the agreement, since you could always lose what you own?
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Table 2. Questioning style is an example of the types of questions asked to the participants.

4.9 Merits

Qualitative research is useful for studies that are resistant to observation. This kind of research framework is highly suitable for dealing with perceptions, ideologies, beliefs, attitudes, etc. Subjective notions are very well captured from these studies. It can further help a researcher in reconstructing an event, or scenario and ask questions based on that. Contrary to participant observation or surveys one cannot recreate a scenario and pose questions based on it. The framework allows fluidity based on the incoming data. As the questions are open-ended and unstructured the scope can be determined as the interview proceeds allowing greater leeway for more interactions. Since a purposive sampling format was followed, the researcher was less constrained and was allowed a greater breadth of coverage at the same time they were also able to maintain a specific focus on certain specific issues throughout the discussion. Responses were non-binary so the depth of data collected was unique and the subject materials had deeper meanings that are not captured in a survey. Since the focus is less on the metrics and more subtleties of the responses, the connotations were helpful to build unseen meanings, and the grey areas are understood well in a qualitative study domain.

4.10 Limitations

In an interview format, the study being informal had a gap wherein the normal flow of events was disrupted therefore it is relatively less naturalistic. Since the participants through the interview process were self-aware, there seemed to be less possibility that they say what they were willing to say, in such a scenario they may likely censor their speech and not speak how they would normally speak. Qualitative research entails studying the social interactions and behaviours concerning a societal context but the limited nature of studying only the speech is not the perfect way to capture the behavioural features in their real life. Here the researcher thus relied only on verbal cues limiting the revelation of the facts of one's life. Qualitative studies are unstructured at least in this study thus the boundaries are not set and are likely to go off track. Lacking a strict structure in qualitative studies often humour, jokes, etc. are involved to create a sense of comfort for the participant thereby breaking a stringent flow. Collecting data from interviews, which are time-consuming the gathered amount of data is a lot to manage and thematic analysis provides an abstract notion of the subject area. The responses are difficult to compare, and the mixed information is difficult to analyse unlike structured questionnaires where insights collected are binary and provide concrete answers. Open-ended conversations being non-binary is challenging and requires data to be coded and analysed thematically which was tedious as well.

4.11 Validity and Reliability

Validity and reliability are important parameters in research since it advocates the quality of research. Validity being primal to any research is relayed through the appropriateness of research value considering the philosophies, processes, and techniques inculcated in the study. (Mohamad et. al., 2015) Thus, to ensure that there is an arch play between societal rules of ethical research a qualitative means is adopted owing to the fewer research available. Implementing in-depth interviews allowing contrasting comments, spontaneity and flexibility allows researchers to triangulate better (Carter, et al., 2014). To keep the study stable and on the right track, the highest importance was given to the study to not compromise the research by effectively collecting enough literature relevant to the study. Validation was also connoted to having a closer connection with the researcher and participants thus this strategy was employed to keep unbiased accounts of information gathering from researchers. (Creswell & Poth, 2013)

Reliability in qualitative research is difficult to measure since it takes in notions rather than numbers, but grey areas do convey richer knowledge, this is where it is realised that the qualitative data needs to have replicable outcomes. To keep things reliable, refutational analysis is a solution which means the collected insights are explored and contradicted through individual studies. Furthermore, data must be organised and established formally to corroborate credibility, transferability, and confirmability. Lastly, a co-iterative means of validity and reliability standpoint was structured in tandem with the ongoing research adding a newer layer of authenticity as more and more interviews were conducted. Hence, constantly testing, and using inclusive deviant cases were important for the qualitative nature of the study in order to retain reliability. Also, detailed field notes and proper transcription were good means to establish the credibility, authenticity, and integrity of the participant's responses. (Whittemore, et al., 2001)

4.12 Ethical Considerations

The ethical implication is part of any research since the ultimate outcome of it is to develop epistemic trustworthiness. For the scientific research to publish any conceptual notions it is peer-reviewed, and many ethical aspects are considered so that the truest form of research is portrayed to the world and the episteme. For this research, there are several notions of ethics considered. Articles from the web are plentifully available but only popular ones were taken and referenced. For the literature reviews, books, published works of scholars, and peer-reviewed journal articles were considered as a source of knowledge to retain facts to their truest essence.

Since this research involved understanding and collecting social phenomena, often in real-life experiences from people it is necessary to consider ethics. To maintain ethical integrity, protecting the rights of the interviewees, keeping them anonymous, and hiding confidential information are important to enhance research validity. As the sample space of this research is small, to retain validity a good population was selected through purposive and snowball sampling. Ethical implications directly relate to scientific integrity along with human rights and dignity hence the interviewees had every right to withdraw from the study before or during the interview. Also, a strict code of conduct was followed to exclude any bias that could influence

the study from the researcher's perspective. For instance, the researcher partakes in multiple discord discussions, videos, articles, and podcasts in relation to NFTs and the blockchain but for the sake of the research, did not involve in actual trading personally to avoid any bias. Lastly, as part of this research highest efforts were put to prevent any falsification of information, and manipulation of data as it could lead to academic fraud and would not be correct for scientific integrity. Further, it was made sure that no harm or deception was exerted on the participants.

5 Empirical Findings

5.1 Theme 1 – On making money from NFTs.

The main aspect of why people got involved in the NFT business is to make money as a mode of value creation for themselves. This was seen as a very prominent theme and great emphasis was put on this topic of discussion since most of the respondents had similar notions about this theme. As it was observed, people were trying to use NFTs as a means to maximise their gains. From the words of one of the traders that were interviewed the following claims were portrayed,

“I was like, Oh! NFTs are really cool. Like, there seems to be a lot of potential for growth and potential for profit here, I had some extra cash saved up. Like, let's try it out and see what happens. And then, yeah, so that's how I got into it. The main reason is the profit behind, and which is why I also thought it was cool, you know, I think the profit definitely is like a large part of it.” (Bob)

A blockchain researcher also had a similar notion where they believed that when the market moves into the Metaverse space they could reap profits from their digital assets and they would be valued more when more people start to engage in blockchain-based metaverses, this notion guides toward a fact that value can be perceived through virtual realms,

“So, for me I feel I am quite late in the NFT game now, I should have started earlier. In my perspective, when Facebook launches its metaverse, Microsoft launches its own, a large chunk of people will start to trade and that's where things get interesting. I agree I don't have any utility value for my NFTs right now but what if tomorrow someone wants to buy something rare and scarce and I own something valuable, there is a profitability factor there, so why not start early in the game, however, these markets are prone to speculation.” (Max)

An avid gamer and trader believed investing in NFTs was important since it was an investment, again talking about NFTs being a means to making money,

“Because it's an investment. It's your money, you want to make more money.” (Bob)

A blockchain programmer who was interviewed had the following notions about NFT trading practices where they seemed to signify the notion of fear of missing out and hence participated in NFT exchanges, this corroborates people not understanding the concepts behind ownership and value,

“It is basically a town full of people that are trying to buy garbage from an auction and try to sell to someone, it's like finding a bigger fool to sell the garbage for much higher prices and earn profit from it. At the moment the NFTs are just a small piece of the whole blockchain puzzle, and we are not realising the potential of it. People misinterpret the idea of ownership; the digital art industry is not realising the potential of etching ownership to unique identities yet.” (Saul)

They further said that NFTs are a gateway to the future of the economy since they can change the way we look at owning something, with the right use-cases multiple derivative markets can be created leading to value creation,

“I think the most powerful feature of NFTs is the use cases other than crypto art. Crypto art industry I feel is not sustainable and balloon in a sense, but I am speculating like everyone and see how it turns around. I am sure NFTs are useful and have great use cases but I'm also unsure that digital art is not so practical either, it is a great opportunity to make money through trading art in a digital art space” (Saul)

Another blockchain enthusiast, trader, and content creator in the NFT and Metaverse arena had similar conceptions too,

“Newer communities that will surround something and you have derivative markets surrounding it, then it's okay, there are newer markets forming and producing value. But right now, people are just betting their money on something that is fictitious, something they feel that prices will inflate in the future and bet money on it.” (John)

Another important aspect that was observed was people contested NFT buying and reselling as a means of side income a nuance portraying profit maximisation,

“Many people are in this trade for side income, they want to invest something to get a return. Many people from low-income nations are using NFTs as a tool for money-making as a side business. It's quite simple to play a game and earn money. For example, the Axie infinity game allows you to earn as you play.” (Arya)

Similarly, Facebook and Google monetise our data and build businesses by projecting advertisements on the choices we make through their algorithm. The brave browser allows people to get paid for watching the advertisements, one can earn BAT (Basic Attention Tokens) by watching ads when browsing the web. BATs albeit being tokens and not fiat money signify value in alternative contexts.

“I do not want Facebook or Spotify or Google to own everything, the way that you know Brave browser which pays people for watching focused ads. Yeah, I love it. I get money to watch ads. I mean, that's great. I've been using Chrome for the last 10 years. Why did no one do it back then? You know this is great if I'm watching an ad, pay me money, man, I might buy a product. So, it's just brilliant.” (Arya)

One of the developers had similar notions on why advertisers, as well as the people, could monetise their efforts through these use-cases,

“Brave browser is giving you basic attention tokens as you view more commercials while surfing the web so you can monetise your own data, contrary to the saying if you are not paying for the product, you are the product, this use case seems to be a great way of monetising ownership or retaining rights over your own data.” (Saul)

5.2 Theme 2 – On community building.

The majority of the interviewees agreed on the notion that communities create value for everything. Some of them had a desire to be part of communities where they had like-minded people to talk to, share ideas with, and so on. They wanted to be a part of an exclusive club,

“My favourite NFT products are those which give the power back to the people, which allow people to be decision-makers, with some good well-run communities. For instance, if you own a Bored Ape Yacht club NFT, you get to be a part of an exclusive community with excellent utilities, from real-life events with celebrities to owning t-shirts and coffee mugs to boast with imprints of the face of your own bored ape NFT.”
(Max)

On asking questions regarding their favourite clubs, they described they needed to be part of something, have an identity of their own, a unique identity through the blockchain as NFTs are the only way to create non-duplicable credentials,

“I was exploring the idea of buying an electric car. I wanted to speak to the owners of being in a group of community where a lot of EV car owners were there. So, I tried joining a community and they said that you must prove the ownership that you own an electric car. Tomorrow, a car company might just produce an NFT that this NFT goes with the ownership of the car, if you own the NFT you can be a part of that community.”
(John)

Another verdict from an enthusiast who is very much into the digital technology space shared similar intuitions on what creates the value of being in an exclusive club. Being part of a community has been a significant viewpoint from the eyes of the users.

“The important thing here is the community. It's like you need to be a part of a community. You can buy it if someone is selling an NFT which is making me a part of a good community who are gathering once every month to discuss fan theories about Star Wars and I'm a huge Star Wars fan, I'd love to buy that token because it helps me to feel the sense of belonging to a community with a similar mindset. It helps me to be closer to like-minded people who share a common interest. So yeah, that is also a use case.” (Arya)

When questions were posed on what value was derived from artworks that were simply token certifying ownership of a digital object, the following notions were derived. Value from art can have subjective meanings however NFTs being representative of artwork, or an authenticity token might not seem to have any utility value,

“While you do see a lot of value in someone's art point of view, but if that has no utility and community, I don't think people are going to buy it. People are going to buy it just for the sake of art, but nothing beyond that probably to sell it to a buyer for money.”
(Mike)

In discussions about the utility of the NFTs most agreed that digital art pieces have no utility as such. Several participants discussed examples of value-based tokens and tokens that were once deemed valuable and the ones that lost value,

“Talking about the utility factor of these digital art that are being sold crazily or being bought crazily, you do not see or own anything on these marketplaces what is the utility sector? That depends on the community, The beauty of right click and save is still possible, the first tweet by Jack Dorsey was initially bought for nearly 3 million dollars but now the price is less than 14,000 dollars. Did the value of it stay in millions, I’m afraid it did not.” (John)

The same perspective was seen by another trader implying the importance of utility,

“It’s just a tweet it has no utility, or nothing has been declared, so nothing. It is just a tweet. I do not see any value in buying that.” (Arya)

On being asked if they had essential motives to being a part of a community for the fulfilment of their selfish purpose these were the remarks, one central aspect common to the responses was the need to have an identity,

“If I am at a party and someone approaches me with a Star Wars fan theory I am obviously going to talk to that person because we have a common connection. We both like something that most others do not. And that’s why NFTs being unique ownership tokens prove this identity. Also, for me, identity is necessary since I can express myself to the community that I am part of.” (Arya)

Along with identity creation, being able to express was another as an individual was common in some of the responses. Identity and exclusivity were substantiated as value parameters for the people.

“Identity in my opinion is something about me or you that stands you out of the crowd. The definitions of it can be somewhat complex and subjective but I think when you are around a group of people with common interests or maybe they share common experiences they are together because they both can understand each other, you see. Let’s say for example LGBT groups show their identity through the rainbow flag, it has a meaning you see it’s about gender not being binary but a spectrum. That can be an example of identity. So, people just like to be part of something, you don’t necessarily have to identify as a non-binary gender, but you can always support the LGBT community and that itself is your identity as a strong supporter of LGBT.” (Alex)

On being asked about the necessity to project through their expression and identity one of the enthusiasts had the enunciation towards humans having an innate nature to showcase identity,

“Maybe it’s an innate characteristic of human beings, they just want to express themselves. I think I read it in this book Sapiens, a great book. So, in that there is this chapter of human beings in old times used to wear flowers, leaves, etc to show their individual belonging to a tribe. Logically it may not make sense, but people do it today

as well, wearing a hat shows an impression of yourself. I think it is something natural to humans” (Esha)

5.3 Theme 3 – On the notions of ownership or sense of ownership.

On being asked from the perspective of the developer since NFTs provide us with a certificate of authenticity or certificate of ownership. Even though people do not own the digital assets they are provided with a sense of ownership of the commodities per se. Many informative outlooks from different participants were seen here. Several meanings were seen when ownership was discussed, some believed that having a certificate of authenticity qualified them as being the sole owner of the digital object. Other contradicted saying that unless a use case through smart contract surrounds the digital artwork there is no meaning in owning them.

“Yeah, I think about that a lot but most of the time when you have or own an asset in the physical world you physically have the copy but in the case of an NFT actually you don’t own it, you have the asset written to your account in the blockchain, it is more of a proof of authentication basically. The uniqueness of having a record on a universal ledger makes all the difference.” (Saul)

To contextualise this further the above developer was asked how efficient it was for the society to rely on these assets to this they had the answer on how NFTs are not useful without linking it to an application that serves some purpose,

“In order for that authenticity and ownership notion to work you need to build a use case that sits on the blockchain itself, so it is not really the most practical notion or use of ownership. So, when we buy an artwork on the OpenSea sometimes it is like people don’t get what the ownership actually is, I mean it is not the blockchain’s problem, it is not NFTs problem, it’s a problem of communication, but it what people think about them when we say ownership, without a practical utility value there might not be any point in owning a piece of work.” (Saul)

Another blockchain developer and researcher said the following when asked similar questions describing that value is derived when scarcity and rarity are in place, akin to rare earth metals where the prices of gold and platinum are high, NFTs seem to create intrinsic value through rarity.

“People can say I can own it and I can copy it but that is not the case. NFTs give you the proof that you have the original copy of something, and it creates scarcity and that’s why crypto art was booming in the first place, as creating scarcity makes it valuable it is a use case, creating scarcity is a use case. Games create legendary skins that are very valuable and rare, and people think they own it, it is paradoxical; they own and they don’t own depends on how we see it.” (Max)

One of the interesting answers was given by a technology enthusiast, ultimately the digital artefacts are merely electricity as 0s and 1s flowing through the networks of computers,

“People value assets in multiple ways, they tend to quote value to perhaps nothing i.e., 0s and 1s or a piece of code, I sometimes think it is ridiculous that so many digital

images of fancy cats and apes are just codes and if they really mean anything, but if society creates a meaning who am I to question.” (Kim)

An individual who was interviewed gave some opinions about how a notion of owning can create so much value, yet they contextualised the notion of lacking legal aspects around NFTs as ownership over private property.

“The notion of owning property has long been discussed in our society, the papers or contract of ownership that you hold behind owning a house is legally bonded. You own a house and pay money for the house but in contradiction, if you own an NFT, you don’t own anything except paying money for a certificate. Although it seems absurd now, we need to see how new markets form around this non-fungibility concept. Can I go to a cafe tomorrow and instead of paying cash, I pay for my coffee through a unique piece of artwork that I created? Will non-fungibility be a new form of economy, that’s the question, time will tell.” (Mike)

One of the enthusiasts who are very much into the blockchain and NFT space gave the following answer, they compared the viability of NFTs to having a blue tick on one’s Instagram or Twitter profile. They had the notion that the factor of uniqueness that is derived from having a blue tick makes all the difference, again creating rarity.

“Let’s say you are an influential person on social media, your uniqueness will only be derived if you have a blue tick next to your name. NFTs are very similar, the ownership or the blue tick is analogous and if a person has a blue tick, they are the greatest player with the highest followers. Maybe there are similar people with similar achievements but the person with the blue tick has the highest influence.” (John)

5.4 Theme 4 – On power and control over the assets.

With this theme, the participants were asked how much ownership they had over their assets and holding in their digital wallets. Most interesting answers were derived from the NFT traders since they were mostly involved in the trading side of things, the developers however had neutral answers on ownership structures. They could realise the potential that without subtle use-cases NFTs were simply a credential that did not necessarily mean anything.

Through the tenets of the discussions, this was contextualised through various viewpoints of the participants in myriad answers, in the case of NFT owners who had digital artworks in the form of NFT holdings described that had limited power and control over their digital commodities. They described the main utility for them was to make profits out of what they owned, and they relied on reselling their holdings to another buyer, they tended towards factoring an aspect of the speculative increase in price and received a profit from the royalties by selling the assets. The main reason why they indulged in the NFT marketplace was because of profits as discussed above. When they were asked if they could control their assets in any way, for instance, what value was produced in owning a digital artwork, several viewpoints sprang up. Multiple participants had multiple perspectives. Most decreed that unless there was a business case surrounding their NFTs, it was pretty much useless to own them.

“Yeah. So, I think like you have as much control over it as always and it depends. So, it depends on whether or not the business gives you the rights to it, like the two biggest projects, there's bored apes, and there's crypto punks. Crypto punks do not give you the rights. So, you can't make T-shirts with it, but Bored Ape does. If you own it, you can do anything with it because of the rights they allow.” (Bob)

The notions seen by another individual contested that depending on the NFT projects the power varied,

“Yeah, so you see this project every time, all the time on Twitter, like all these NFT influencers or people are talking about it, then you're like, okay, you have the ability to choose yourself to have more control over this NFT project on what you're investing in or perhaps influencing the NFT project in some way. But outside of that, no, you do not really have any control. You are there to look for another buyer so that they buy it from you.” (John)

The perspective of one of the developers was however constrained to whether or not you create business cases out of NFTs. Smart contracts are unique ways to recreate the ways of how businesses operate in a decentralised mode however smart contracts with the perfect use cases are still not in place or in the early stages of development, better use cases can then be derived.

“Sometime in the future maybe you want to sell you digital artwork let's say but it doesn't matter what is really important is that you have the ownership of your own data and that is useful only if you can do something with your data, for that you need better use-cases.” (Saul)

One of the technology enthusiasts being in the blockchain space for some time discussed how things could turn out in the future through tokenisation,

“So at the moment I do not really trust these assets that I have because there is no governing body to audit it, I am not sure if blockchain or through blockchain having a unique identity will ever give me a chance to showcase what I really own, I might own a house and want to publicly put it on the blockchain that is not possible since you cannot link a physical property to the blockchain directly, but I can do the same if I own a digital art. Then again if I lose my house tomorrow, I can file a case, the same is not possible when it comes to NFTs, I think.” (Kim)

A trader claimed that whatever assets they had bought did not suffice their needs, incurring losses a feeling was interpreted from them that they were always on the lookout to find another potential buyer,

“I started out in the NFT industry because I realised there was some potential here but facing losses, I realised the market has great potential but, to be honest it's a bidding war out there and hunting for opportunities to sell out the bad NFTs that you once purchased.” (Bob)

They talked further about their control and power over the assets they had,

“At the moment I have to rely on looking at the price points every day and perhaps a potential buyer to sell my worthless NFTs. Some holdings that I own are quite valuable I think but some are of no value. To answer your question, I don't really have any power of utility over them, since I can no longer sell them. Maybe I would have owned a CryptoPunk I would have had some power since those are valued very high.” (Bob)

5.5 Theme 5 – On losing the aesthetics of real-world entities.

When it comes to physical art pieces there are multiple copies of it available, yet it is not easy to copy a Dali painting or the Monalisa, several viewpoints were contextualised when the Banksy artwork burning was discussed, and interesting insights were uncovered from the blockchain developer,

“Ha ha, it's great marketing. But I don't know I never thought about it in this way, it is weird. I mean you can come up with some different social and cultural aspects about this act and what digitalisation creates for us. I really need to think about it. I think they can do whatever they want after they are buying and mint it just like once you buy an artwork you can hang it, sell it, give it to a museum, they have the freedom to do that. I think society is really into digitalised everything now a days. So, it can be art!” (Saul)

One of the interviewees, a fanatic of conventional art and into trending technologies, on discussing the related parallels between art and aesthetics the subsequent dialogue was captured,

“What I think of it is okay, yeah, sorry. I personally, I love it. I think it is so cool. That you can, that you can own because someone did something very creative, buying this artwork and doing this, they had an idea. So, in a way, the people who burned it will always be the owner because they, they were the ones doing it. But then someone else can buy it and own it as well. The important thing here, I would say is that you can be a registered owner of this incident of Banksy artwork burning.” (Kim)

Digitalisation has had an impact on humans lately, in certain ways it influences the emergence of existing contemporary cultures. Digital cultures and technology have had a significant impact on brain function, mind, and behaviour patterns. In similar way questions relating to digital labour were put forth in front of the participants to understand what they felt about this.

“A few decades back the use of film camera was prominent but now in the age of digitalisation, we see a new era of digitalised items being produced, millions of images are clicked through your phone camera or digital cameras but with a film camera you could click thirty odd images and get them processed, so yes digitalisation does influence humans in many ways, it trickles down on how we as a society see it, there was rarity in developing a photograph from a film but today you could capture hundreds of images of the same person or the same landscape. I do not think we lose aesthetics through excessive digitalisation; it rather takes a new form.” (Max)

Another response was the following dialogue contemplating the conventional approach to photography and digitalisation,

“Yeah, my family bought our first digital camera when I had my younger brother. So, if I compare him and myself, there are thousands of more pictures of him being taken. Because you can take, you could take thousands of photographs in a day, you just had to buy more memory cards, compared to pictures from when I was a kid, it's like one picture of me doing something and but now when I'm at home, there are physical photo albums of me but there's no physical photo of him, yes, you win some you lose some aesthetics through digitalisation.” (Kim)

5.6 Theme 6 – On fetishism towards digital products

An ambiguity arose when the respondents were asked why they valued intangible objects more than real-life products. At this stage, the respondents were questioned about why they needed to be a part of a community or why having a digital identity or credential was important to them. The following quotations describe their notions on their subject of belonging and showcasing individuality.

“I am into a lot of gaming, and for me having my own avatar is simply comforting, it simply gives me a sense of identity. I know none of it is real, but I like to customise my gaming character with new skins, guns, pets, and clothes. I feel a sense of bringing out my personality in the game.” (Bob)

One of the respondents who are into Airsoft guns wanted to showcase their collection online. They think by having an NFT collection online they can build a distinctive persona in front of the world.

“You know these Airsoft guns. I have been a big fan since my childhood. I like them a lot and if it is incorporated in some way in my social media profile to show to people, I would love to, those guns fascinate me a lot, I have a nice collection of those, perhaps NFTs can help me share it to the world that I own some nice collection.” (Esha)

Some of the respondents stated the importance of having individuality since it created a sense of being exclusive in a community of people,

“What I feel is NFT is an equivalent to a social media blue tick. It gives people a sense of belonging perhaps, they want to be a part of something they like. And once you have some unique characteristics it is easy to portray that to the world. It's nothing more than that, it's just for one's own pleasure, if I like something and want people like me to be in the same zone, I try to own those traits so that I can share those identities with them.” (Arya)

A great business for the gaming industry partakes in the use of in-app purchases, exemplifying players and gamers can buy skins, characters, pets, and other digital objects, the avid gamer articulated the following discourse,

“I have paid lots of money for avatars and skins in the games I play, literally lots of money but in centralised games, I don't own those characters, NFT will help me own those characters permanently, I can then maybe sell the avatars if I don't play the game anymore. Right now, there are many games I don't play and the money I spent to buy

stuff is lost. Probably in an NFT game I can sell it. It may be my character, something I have built over the years but it's fine I can still sell it.” (John)

On being asked, how can immersive technologies be of the essence to their social lives,

“As you can see, we are moving fast in a digital age and metaverses are the future, where you play, live, earn, and do almost everything digitally in your small world, it becomes an alternate reality for you. You can build and own something in the physical world but in a metaverse, it is the same thing only the experiences change. Years back Second Life was the first virtual world where people could live a virtual second life.” (Alex)

Interestingly, the following answer from the other respondent was collected, and they were asked why a need for them was there to move to a digital realm, so experiential feel was deemed important here,

“I mean it's fun, it is exciting. I cannot touch, feel something that I would own in the digital realm, but it is within itself an experience on its own. Gaming industry would boom and that is because technology is becoming more and more experiential. Don't you think experience is all that matters?” (Max)

6 Discussions

When it comes to the research questions the answers formed from qualitative research vary in multiple dimensions. Various themes emerged when the data from the interviews were read through. In this thesis, several subtleties of classical economic theories were considered, and the prominent empirics are discussed in this section. The themes are discussed in the sections to follow in relation to the tenets of the extant literature and inductions as formulated. At the beginning of this thesis, the research questions were posed to answer the value perception by users, the notions of ownership formed over NFT-based assets, and community formation through NFTs.

For the analysis section, the themes are connected to the research questions. Based on the initial research questions the generated empirical evidence is tied to the research questions.

For RQ1 i.e., ‘How do users perceive value concerning NFTs?’, themes 1 and 2 are relevant as they portray profit maximisation and community-based identities as the essence of value production.

Under RQ2 i.e., ‘How do NFT ownership structures create value for the users?’, theme 3 is a valid scenario as it imposes the users’ thinking towards NFT-based ownerships.

Further, RQ3 i.e., ‘How does value in NFTs influence the users’ understanding of ownership and control?’, theme 4 is conferred providing evidence on what kind of power and control the users might or might not have over their digital artefacts.

Finally, through RQ4 i.e., ‘What value perceptions are essential for the users to contemplate NFTs as valuable assets?’, themes 5 and 6 explicitly reveal the significance of digital fetishism and the transition from conventional systems to digital systems deemed important to the users. Further, each of the themes is discussed by connecting to the literature diving into the nuances held by the masses.

6.1 Theme 1 – On making money from NFTs.

In a capitalistic society, Marx describes alienation as a form of estrangement from the aspects of our human nature, as a consequence human spirit is considered as an embodiment or acting through an object outside their control. The object is believed to be inhabited by a metaphysical construct and the person possessing it believes the object is independent of their conscious actions, a fetish towards such objects is developed, the objects themselves control the human rather than them having control over it. (Marx, 1844) When talking about alienation, it seems most of the traders are into NFT buying and selling because they can make money out of it, although they do not make sense of their labour nor they can control it, they simply tend to be controlled by a capitalistic mechanism towards profit maximisation. Further, buyers of NFT-based communities or gamers discoursed this analysis by portraying that if there lacks a value in their assets, they could simply resell them. For instance, the Bored Ape Yacht Club apart from providing exclusive rights to a special club grants NFT owners unlimited rights to commercially exploit, display, and copy the possessed artworks, this allows Bored Ape owners

to commercially use their digital avatars in their own derivative business ventures. The BAYC business model follows a decentralised collaborative framework through blockchain and NFTs. (Lee, 2021) Commercialisation has been central a central theme of this new architecture of a collaborative framework of doing business.

Some of the participants also stated that in low-income countries NFT trading is treated as a means to earn money. In the first part of the money-making aspect, they seem to indulge in the trade because they believe they can reap profits out of it due to speculative increase in price in future. In a capitalist society a person gets alienated because they express their labour as a fundamental form of social expression i.e., they are an instrument of the capitalist system. As some of the respondents mentioned, people are on the lookout for another buyer in the market. They talked about how NFTs are a way to bring in money for themselves. There are multiple ways to do so and there are instances where people think NFTs are investments, like stocks. The traders and experts in blockchain had similar yet differencing ideologies in terms of how they valued these assets. Some of them had the notion to make money by trading, finding another person in the market exchanges to buy their asset, some believed in fictitious capital and speculation that in future the money would grow, and high profit margins would be conquered, further one of the respondents talks about NFTs creating derivative markets, which seems true provided smart contracts are used to build business cases as stated by the developers.

It was also noted that digitalisation tools would help in attaining tokens from browsers like Brave where people could earn tokens for their digital data. Digital labour is an interesting theory in today's context on how social media and advertising use our data and monetises them. It emerges from the type of labour produced through digital interactions. (Fuchs, 2014) Ultimately, the Brave browser is a great way to monetise the attention span spent on watching advertisements (Lund, 2021) so why not earn some extra money while you watch ads, quoted one of the respondents. The nature of economic growth is well contested through the works of David Harvey where globalisation is seen as a spatial fix, capitalism tries to describe that it has an unquenchable drive to resolve the crisis, where fixes are part of the society and once the problems are fixed, the desire vanishes, or perhaps new parallels of fixing things becomes the need of the hour. (Harvey, 2001) The case of blockchain as a decentralised system has resonance with socialism, and Marx would argue and support that the contemporary method of democratisation and decentralisation is the key aspect of the blockchain. (Corderman, 2019)

NFTs however have turned to be a spatial fix towards a capitalistic method of profit accumulation through a newer form of establishing ownership, this devalues the central nature of democratisation and opens new space for its ways of functioning only to destroy the newly created space devaluing the already invested capital. In his essay Harvey discusses how the building of physical immovable infrastructure such as roads diminishes the liberty of movement (Harvey, 2001), NFTs were created for a better structure of ownership but it seems people use it as a key means to proliferate their capital being alienated from it and perhaps a gateway to the future. Money has been hailed as a crucial parameter in one's life revealed from a survey conducted by (Reuters/IPSOS, 2010), money being a necessity in capitalistic societies has been deemed important, however excessive preoccupation with money is seen as problematic. Humans have a basic need for connectedness and attachment toward materialism

and a survey tested the tendency of alienation in society due to money and materialism and showed statistically significant results. (Sunwoo, 2014) NFTs contemplate a similar scenario where the perception of increasing value through monetisation alienates an individual involved in the process where NFT owners are coerced in the process of buying and selling ultimately losing the creative nature of the process itself and rather being materialistic themselves.

6.2 Theme 2 – On community building.

Gemeinschaft und Gesellschaft are two important terminologies when discussing social constructs. Roughly translated to English they particularly mean ‘community’ and ‘society’. Ferdinand Tönnies highlights this notion in his work *Gemeinschaft und Gesellschaft* in 1887, as he asserts that *Gemeinschaft* (community) refers to the organic existence and people are held by a social order due to the nature of their birth in a community, the nature of this social order is prominent to their natural existence in the environment they grow up in, such as being born into a certain family, tribe, a country or a common language, the existential nature of belonging to that is seen as unconscious, something that builds a natural identity and not under our control or volition. *Gesellschaft* on the other hand is the creation of an artificial group which is held together by some common conscious purpose. Unlike *Gemeinschaft* the latter is non-reflexive, it is more rational and belonging to this group has a certain ulterior motive, the members in this particular group share commonalities built through a common rational goal. (Tönnies, 1877) Most of the participants thought that they needed to be a part of a certain community where they could share ideas, and thoughts, discuss and culturally be associated with something. French sociologist Durkheim believed that societies have a powerful force over individuals, People’s belief systems through collective consciousness created value and social integration. (Durkheim, 1964) However, when looking at the perspectives of the participants they believed through tokenisation and the formation of communities are a great way toward a better economy and segregation into smaller societies of organic people sharing common interests. Identities and standing out were other important aspects that they discussed are important to them.

Contrary to having natural identities under *Gemeinschaft* the respondents expressed a need to categorise themselves under a smaller social circle, it was interesting to see the urge they had to be unique or be able to identify themselves as part of something under their volition. Self-categorisation theory constitutes a cognitive basis of social identity where individuals define themselves under common or unique personalities, the levels of self-category, however, are dependent on the relative salience i.e., the aspect of feeling important or noticeable. (Turner, 1999) Going by the theory of self-categorisation, respondents tended to act, value, and reflect on certain societies. Individualism has been a prominent discussion in socio-economic theories, having its roots in economic liberalism, the terminology has been used to denote social dissolution however, Herbert Spencer’s works are rooted in individualism being good, and most of his works synthesise the growth of society is through economic and acts of the spontaneity of social individuals in a circle under a social self-consciousness. (Spencer, 1859)

Exclusivity was another factor the respondents talked about as an important element of their personalities. Then again dominating factors of individuals towards selfishness and social consciousness and a sense of camaraderie can be seen in NFT-based communities, most

respondents agreed upon the sense of being or having a connection with people sharing the same traits akin to Tönnies' *Gemeinschaft*, despite having a sense of belonging in a certain community they shared a differentiating opinion to sell out their NFTs if they lost interest or did not deem to own their NFTs any longer.

Max Weber describes orientations of social actions in four major ways, i.e., actors are instrumentally rational meaning their behaviour is determined by rational means owing to selfish actions to maximise their stake, actions are value-rational meaning they contemplate a value notion of common behaviour, actions are affectual meaning they are determined by feelings and emotions and lastly, actions are traditional or behavioural actions through habits. (Weber, 1968) When the previous theme discussed the decentralised collaborative framework the innate nature of these exclusive communities like Bored Ape Yacht Club (Lee, 2021) seems to have a greater interest in using a community to impact profitability thereby losing the social aspect of community building to discuss fan-theories like Star Wars, which was discussed by one of the respondents, having a fanatic virtual identity imbibed their affectual need to own virtual identities and it pertains to Weber's description of instrumentally rational behaviour also hold true since NFT holders had every intention to give up their assets by selling it when they no longer had the need.

The blockchain and other technology enthusiasts looked up the value perspective of tokens and how they are essential in the creation of secondary markets. A study on communities and values describes communities do not necessarily require members to do something together and act in accordance with an intention, rather the '*virtus unitiva*' or unifying virtue is the value that is wielded upon the individuals to constitute a community. (Salice, 2016) Most respondents had an emotional and habitual infatuation with their NFT holdings and the technology in general on increased production of value for them. Community creation and new customer value creation models are being heralded through IT networks which are rapidly bringing in competencies and collaboration in the form of virtual communities. (Kodama, 1999) The goal of community building adds value to both the individuals and the companies, akin to BAYC collaborative model through co-creation, value is produced on both sides for the club owners themselves and the individuals owning the BAYC NFTs. (Lopdrup-Hjorth, 2013) (Lee, 2021) The empirics show that individuals would perceive value by being able to exploit the collaborative framework of the BAYC and maximise their value through ownership over rights and use it in their own derivative business ventures.

6.3 Theme 3 – On the notions of ownership or sense of ownership.

Ownership and property from a Marxian standpoint are the relationship of an individual in conjunction with its material essence and product of labour. It is in an essence a set of relations constituted by the rights over something. (Marx, 1844) For many years, securitisation of assets has been a traditional way of monetising future values, businesses use securitisation as a means to generate cash flows by tokenising assets. For instance, singers like David Bowie have used securitisation to monetise rights to music royalties. (Schwarcz, 2022) NFTs have permeably acted as a means to recreate ownership structures however with proper business use cases, there exists a lack of true ownership according to the respondents. In this case, it was agreed by most

people that having a token was useless unless there was an application shrouding it giving an injunction that owing itself is useless without a smart-contract-based application. For instance, the token that you own should have options like going to an exclusive club or enjoying some rights beyond simply owning a digital object in your crypto wallet. One might be an owner of something, but they must have use cases to exploit their rights over something. An airline ticket is useless unless one gets to travel with it. Or having a ticket to a mega-concert is useless till one gets the chance to be in the concert. Likewise, it was contested that NFTs even though build notions of ownership must provide value by giving the owner certain rights which can be reaped after owning it.

Several articles are surrounding the internet and trying to educate NFT owners, which asserts the fact that multiple projects pop up now and then and millions of people invest in them, however, *“Only 16% of all traders achieve profits while the average loss of a trader is 49%.”* (Jaap, 2021) Predominantly, this is somewhat right as one of the respondents mentioned that the first tweet by Jack Dorsey has no utility value and hence ownership over it makes no sense since one cannot produce value out of it even if one holds ownership over it. (Bobrowsky, 2022) In a similar fashion, most of the responses from the traders specifically seemed to reflect on an aspect that they had no real value when it came to owning their NFT artwork collection.

Citing examples from Marx’s examples of use-value and exchange-value, it is quite ironic that commodities have two ways of value production, either via using it or being able to exchange it for some other form of consumerism. (Marx, 1867) Thus, the NFT holdings were merely useless for the traders since they said they did not have any use value for them and essentially looked for potential buyers in the market to be able to sell them for profits. NFTs also do not have legal underpinnings noted by one of the respondents, the property laws of token economics do not display legal aspects or ownership structures by law thereby making it vulnerable to be contested in courts of law, essentially the legal aspects are yet to be defined. (Moringiello & Odinet, 2021)

6.4 Theme 4 – On power and control over the assets.

As per the discussion in the previous theme, NFTs were portrayed useless unless people had real-life applications to problems, then their assets were not useful except for the sake of displaying their artworks on the web. The traders proclaimed that they had almost null power or control over their commodities. Property is viewed as the object(s) rightful to man. To own, to possess, to control and master, to acquire and utilise are motivations for owning property. Private property further contests the fact that property rules are decisional to a particular individual. (Merrill, 2012) This was a contradicting factor, the traders possessing them had no control over their assets whatsoever. The menial dependency on being able to sell it out for some exchange value was their major concern, reliance on a potential buyer was all they looked for in the NFT marketplaces. The developers and enthusiasts fixated on having use cases for NFTs to show their true potential. An interesting paper discusses how NFTs’ proliferation can be called a bubble, it discourses how NFTs are not Dutch tulips or Beanie Babies, rather people are keen on earning a buck but in the case of NFTs is just a representation or indication of something, a pointer to an object. (Frye, 2021)

It was also realised that NFTs by themselves had no context of ownership structures since they were only a mere tag of credentials over which the users had hardly any control. However, if a person had been a part of some exclusive club with an NFT commodity they were able to control their rights just like a person buying an airline ticket gets the access to fly on the plane. Mostly the traders said owning their NFTs was not much of value since they always looked for another buyer in the market to sell their artworks otherwise their NFTs were just dwelling in their crypto wallets signalling signs of digital alienation, where a worker an actor is forced to be a part of an economic arrangement despite having any meaning over their possessions. (Marx, 1844) Thus, without a serious business case, a utility value, these tokenised objects had no meaning for their owners like Jack Dorsey's first tweet as an NFT.

6.5 Theme 5 – On losing the aesthetics of real-world entities.

Art forms allow humans to build a sense of satisfaction and build emotional connections. Witnessing certain forms of art develops an experience and creating art is a cathartic expression of emotions that cannot come out otherwise, it also brings communities of art together. (Noy & Noy-Sharay, 2013) The Banksy artwork burning was discussed explicitly with all the participants and the context was to understand how they thought of the aesthetic nature of art as a whole. Two kinds of responses were gathered here, one that talked about the aesthetics of art being lost through digitalisation and at the same time some contradicted saying that the owner of an NFT has the most rights over their assets and hence gets to do whatever they want to do with it, thereby concluding that if there is a shift towards the cultural dissipation through digitalisation it is perhaps the way to go forward.

Collective consciousness is essential in community creation, but it is argued in Durkheim's theories that as people engage more in economic activities the traditional bonds of family, culture, religion, and solidarity are lost, he heralded modernity might lead to a disintegration of societal attachments. (Sung Ho, 2007) While the conversations went on, the respondents liked the artworks a lot but if the world was moving toward digitally curated norms, they would abide by them rather than go against them. Some also believed that through digitalisation the world was taking a new pattern of value production. A new way of looking at things and digitalisation acted as a transition to new world orders.

6.6 Theme 6 – On fetishism towards digital products.

Fetishism according to Sigmund Freud poses the idea of a more sexual allusion representing a pattern of the human psyche and physical needs and primarily a natural and animalistic desire. (Freud, 1927) Marxian theories and other classical works described the fetishism towards the substituted nature of commodities being a desirable entity, the intimacy towards digital products in the hyper-accelerated digital age is based primarily on social interactions rather than physical intimacies. (Lepkowsky, 2013) In the digital age, one can click and check out items on Amazon and have the package delivered to one's doorstep. (ibid) The discussions with the respondents were heavily focused on the nuances of immersive technologies such as metaverses and shed light on the aspect that these digital technologies were a mere escape from reality. Virtual reality experiences are a mere cognition to make individuals spend hours in immersive technologies and aid towards an escapist route from reality. (Han, et al., 2022)

NFTs in the gaming industry have the ability to create digital ownership viable to be used across platforms, the right to retain digital ownerships was seen as an inherent opinion towards having digital token-based identities. Once an NFT is on the blockchain its identity can be moved across multiple platforms to be displayed elsewhere. As gamers buy digital artefacts, and characters they can showcase them, play with them, or ultimately sell them.

In today's society, digital innovations have paved the way in which digital media contributes to modern consumerism practices, more and more people buy digital objects and succumb to their desires for virtual fetishism. (McAllister, 2011) In mass-produced capitalism, the true nature of commodities is hidden. However, an object produced with no exploitable feature contests newer meanings and is often mystified. (Jhally, 1987) The commodity in that sense shares multiple meanings sharing the contexts of consumption rather than production, the commodity however gets reified in the eyes of the consumer and contradicts the subtle process of production. NFTs share a similar reality as they can be important for some individuals albeit having significant use or exchange values.

7 Concluding Discourse

7.1 Research Outcome

To contextualise the research from a socio-technical point of view the academic impact of this study is aimed at benefiting society, technology, the market, and economic reforms. The current knowledge around NFTs and blockchain is quite a niche, at least it is likely in a phase of speculative or fictitious nature of value production and efforts were put towards filling the gaps of how end-users perceive the notion of value through ownership of NFTs.

The collaborators and stakeholders of the research would be academicians, public and private companies in the blockchain industry seeking to build products around NFTs, students, technology enthusiasts, and anyone looking forward to building knowledge from a meta-perspective trying to understand the value behind NFTs. Blockchain innovations being multidisciplinary has impacts on the societal and economic impacts, specifically, NFTs are a tool through which ownership structures can be better established. From a technology perspective, the study sheds light on the improvement of the current products and processes enabling blockchain developers, and entrepreneurs to carefully select and build use cases that provide the true *value* of NFTs. Albeit being a ‘value-machine’ through unique ownership businesses can gain an advantage from this study in aligning towards newer ownership designs and how it could bring value. As contested through the study it can be seen that legal underpinnings are still not structured for NFTs so law and policy-making bodies may also gain knowledge from this research to fix the legal implications behind tokenisation.

7.2 Inferences

Through extant literature available in terms of Blockchain, Non-Fungible Tokens and the concepts of ownership, property, community building and classical economic theories the research questions were tied to the empirical findings. After an extensive review of the collected data from the interviews interesting insights were formulated in this study. As the research started with an ardent interest in understanding the perspectives of individuals’ notions on value underpinning NFTs, through an interpretive paradigm, the aim was to recognise the conceptions of the sampled interviewees and extrapolate knowledge on the research questions,

1. How do users perceive value concerning NFTs?
2. How do NFT ownership structures create value for the users?
3. How does value in NFTs influence the users’ understanding of ownership and control?
4. What value perceptions are essential for the users to contemplate NFTs as valuable assets?

In order to develop knowledge, an initial literature review was conducted to map out the existing contexts, however, the area being in the nascent stage, not many papers directly related to value notions of non-fungibility from society were found. By problematising the contexts through a landscape of the current body of knowledge in blockchain technology an empirical investigation was conducted during this research. An unstructured format was followed by which nine interviews were organised, the data analysis was performed using a thematic analysis

methodology and six themes central to the research questions were identified i.e., On making money from NFTs, On community building, On the notions of ownership or sense of ownership, On power and control over the assets, On losing the aesthetics of real-world entities, On fetishism towards digital products.

The data analysis revealed that most users considered NFT trading practices as a means of secondary income, they also realised the potential of non-fungibility as a better form of allowing ownership structures to give power back to the people, however reaping the best use cases was only possible provided NFT business had proper utility factors with the use of smart contracts.

Also, the value was derived from commercialisation and as market derivatives by utilising community-based collaborative business models like BAYC. Most trading of NFTs by the users was portrayed as a means of profit maximisation and thus alienating them from the process of labour production, innately the users were forced to be a part of the process despite reaping any utility values from what NFTs they owned in their crypto wallets. It was also seen that the value notion of conventional art was taking the form of digitalisation, to contextualise this perspective, value in art seems to be no longer a contextual process rather it is in a transitioning dimension affected by continuous digital innovations.

Eliminating the need for third parties for verification and authority which blockchain tries to solve had immense potential in this aspect however, the power and ownership paradigms still had certain trade-offs due to the absence of legal structures currently, although the owners seemed to own something valuable or not valuable, they had less utility or exchange value in a sense. Contrary to how NFTs redefined ownerships by etching credentials on a blockchain face no utility and the power to control these assets however had less to no significance as discussed by the NFT traders. The responses from the interviewees were positive with regard to the technological possibilities but at the moment the NFT trading practices seemed coerced. To contextualise this further, many individuals felt they needed to be a part of a community, exclusive identity was seen as a commonality in their responses, and they believed that NFTs were a means to create digital identities and collaborate toward value creation, the essence of identity and co-creation is of significant value for the individuals however they had certain rational motives that meant they could sell their assets to another buyer is need be.

Further, a fetish towards digitalisation was seen as a growing need, a desire to be recognised in a digital world was noted as significant, and perhaps community formation in a *Gesellschafts* structure is taking place in a more digital context. As the study started by problematising the ongoing NFT phenomenon from the lenses of classical economics, this seems to be ideal for a capitalistic fix rather than solving a real problem. From the Marxian lenses, the users looked towards profit maximisation and in turn losing organic social bonds, even the exclusive nature of communities in a collaborative business model tended towards earning profits. It is, however, noteworthy to mention that blockchain is a means towards better forms of governance, removing central authority, making the world more libertarian and it could aid in mitigating several problems in the society yet being in its infancy more structured reforms are necessary for this wholesome transition toward a better society.

7.3 Future Work

In this research, the ethnographer has tried to showcase the value factor perceived by the people uniting it with classical theories and underpinning that to the overall blockchain infrastructure, particularly the NFT arena. But several layers of the NFT scenario are still underexplored such as the adoption rates. Additionally, the linking of on-chain and off-chain data structures through blockchain oracles is yet in the phase of infancy, technical challenges lie underneath this area but future work on NFT use cases and linking oracles can be proceeded with.

In this research, the sampling was done considering the knowledge of those who have foundational knowledge in the area and are involved in the NFT business, along with this a holistic understanding of non-fungibility from the general public through quantitative study is also a way to go forward. Further, usability challenges lie when using crypto wallets, not many users are very familiar with transactions of digital wallets and hence a problematic area that probably prevents mass adoption could also be explored.

Certain practical recommendations from the study are also put forth that users are often biased and fear of missing out makes them look for opportunities towards money-making in NFT based businesses, studies on this fear of missing out can be explored further as to why people indulge in such practice despite the consequence of losing money. Community building through NFTs shows promising evidence that can be tested through a more qualitative analysis based on constructs of individuality and exclusivity. Community formation was not an anticipated theme in the research and turned out to be an interesting insight, in the end, studies on community formation are important areas to look at, are organic societies developing into smaller and smaller communities of like-minded people, if so why and how are NFTs responsible for this.

The model of the current research was qualitative and hence non-replicable but a similar format can also be undertaken using a quantitative strategy. The chosen samples in this research were people related to or having knowledge of blockchain or being in the NFT trading circle and hence a certain bias is developed here in terms of generalising the scenario of value creation, however despite mass adoption sampling general masses is a difficult task at the moment. Future studies can reinspect on a similar problem by expanding the theoretical framework or by constructing the same research context from a classical economics perspective and providing more evidence on the same. Few unaddressed areas are this research was based on classical lenses from a meta perspective, so a strict boundary could be set for specific themes and can be studied further individually. A potential study would also be towards evaluating NFT uses cases as well in the current market.

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9 Appendices

9.1 Interview Consent Form

Uppsala University, Department of Industrial Engineering and Management

Research Title: A study of NFTs (Non-Fungible Tokens), Diagnosis through the lenses of classical Economics.

Researcher/Ethnographer: Subham Swastek Dalai

Email: subham.dalai.0235@student.uu.se / subhamswastekdalai@gmail.com

Aim: To investigate the value notion of masses surrounding NFT bases assets. How it derives value for the current socio-economic constructs.

Procedure: Sampled participants are interviewed. The interview format is unstructured at least a minimum of 60 minutes is requested from the participants. The interviews are recorded for transcription under your permission.

Dangers, Ethics & Confidentiality: There are no dangers in this research. On ethical grounds, the data shall be collected only with your permission. As an interviewee, you have the voluntary right to refuse, to participate and(or) withdraw at any point in time. On the grounds of confidentiality, your data shall be accessed only by the researcher and your names will not be linked with any of the empirical findings, after the presentation of the final thesis approval, the transcripts will be deleted. You have the right to ask questions during or after the interview.

Consent: I agree to take part in this research study conducted by Subham Dalai on, 'A study of NFTs (Non-Fungible Tokens). Diagnosis through the lenses of classical Economics.'

I agree to be audio/video recorded.

Yes / No

Name of the participant _____

9.2 Interview Guide

Questions

1. What is your experience with the NFT space?
2. How long have you been trading?
3. As a digital creator have you ever thought of turning your artworks into NFTs and selling them?
4. So which is your favourite NFT project at the moment in the market?
5. How do you perceive an NFT object?
6. NFTs are non-duplicable assets but it is valuable only if people value it. How do you think it would play out in future?
7. What do you think about the ownership structures? Who owns it? Is it exchanges like OpenSea, Rarible?
8. What happens when these trading sites suddenly disappear, consider a scenario where one person owns the OpenSea and suddenly they dissolve their website. What happens then?
9. How much power resides in the hands of the owner?
10. Are they able to control their assets?
11. How much utility lies in your hands when you own an NFT?
12. What is the real-world value of it just having a certificate of authenticity?
13. Are the conventional aesthetics of art getting lost?
14. Are we in a state right now where the money in NFTs is pumped only because people keep buying and selling the artworks or digital objects?
15. Let's take for instance trash art is valued in millions of dollars, what real-world utility do we derive there?
16. Can we consider that you can make money through digital artworks only by the change of hands?
17. Is FOMO driving the whole NFT market at the moment?
18. How do you think smart contracts are important in the NFT business?
19. In actuality, NFTs are just a pointer to an object, and not the object itself. Does it make sense to own something like this?
20. Do you realise NFTs simply are an instance of a commodity and not the commodity itself? How much of the ownership lies in the sense of owning something and not the object itself? Is it a case of FOMO that this market is thriving?
21. What makes a person buy an NFT? Do you think tokenisation or will be a new form of the economy of the future? If that's the case do you think tangible objects will stop having value or it shall decrease?
22. Considering a case of 'trash art' do you realise the aesthetics of real artwork is lost or perhaps art needs a new definition?
23. Is digitalisation a new way of the future?
24. Why are people collecting more and more of digital works although they are intangible?
25. You talked about community building, why do you need to be in a community?
26. What values does a community give you?

27. Are real world communities no longer sufficient for your sustenance that you need virtual communities?
28. Is exclusivity and being respected necessarily a factor in having an NFT on your name?
29. Why are NFTs helpful in building communities?
30. Are immersive technologies like VR, and AR shaping a new social world?
31. If so, what is NFT's role in defining them?
32. Do you feel your life would be better if you owned a specific NFT of your choice?
33. The ownership certificates through NFTs and regular real-world contracts, how do you differentiate these two?
34. Why do you think the NFT market is a bubble?
35. If you owned a BAYC, how do you think it would influence your personal business?

9.3 Coding

<i>Excerpt from the transcript</i>	<i>Preliminary Codes</i>	<i>Final Codes</i>
<p>Interviewer How much control do the owners have over their digital artefacts in these community based NFTs. As you see there are not many community based NFTs yet, except CryptoPunks or Bored Ape or maybe not as good as these.</p> <p>Interviewee Well, that's true. We don't have much communities at the moment. That's just one part of it. Because some are very well built communities, when you get to be a part of many events, people give you a lot of respect, it is moment of pride. So that's example of a great community. I think a community done right is a good community. The important part is a community should be able to give power to the people in their product decisions maybe.</p> <p>Interviewer So there is no power owning these NFTs unless the community gives you the rights.?</p> <p>Interviewee It depends but in case of the digital artwork industry just the collection part is what matter. But for an NFT to have derivative markets, it should be able to provide value to the customers. As I said before, there are good and bad NFT project, good projects have certain business cases or derivative market and can commercialize their rights, but bad project don't give you anything, except the NFT itself. So in having power over rights is more to do with how the project governs its practices.</p> <p>Interviewer How would you define a good community then?</p>	<p>community</p> <p>facilities or gains from the community.</p> <p>power distribution of the community and people.</p> <p>digital artwork is different than community-based projects.</p> <p>good and bad projects based on usecases</p> <p>creating derivative markets and commercialization</p> <p>more rights=good governance</p>	<p>COMMUNITY</p> <p>POWER</p> <p>DERIVATIVE MARKETS, COMMERCIALISATION</p> <p>USE CASES</p> <p>RIGHTS EQUATES POWER</p>

<p>Interviewee My favourite NFT products are those which give the power back to the people, which allow people to be decision makers, with some good well-run communities. For instance, if you own a Bored Ape Yatch club NFT, you get to be a part of an exclusive community with excellent utilities, from real life events with celebrities to owning t-shirts and coffee mugs to boast with imprints of the face of your own bored ape NFT. So, yeah that's the case if it's well run you can have good NFTs but these are expensive but there are so many items on Open sea which are not even valuable enough but prices high yet people buy them.</p> <p>Interviewer Does it mean there are more NFTs that are of less value and few with good use cases?</p> <p>Interviewee Yes exactly that's the case for now people are still not aware of the value of ownership in these terms but buy these like NFTs for a short term monetary gain. To dig further good use cases will bring good commercialisation and derivative markets. In BYC, sorry BAYC you get rights to copy the avatar you buy. The company gives you unlimited rights, so those are interesting use cases. I really wanted to have a Bored Ape man, it's very cool. So to answer your question time will tell but I am sure there will be good use cases of NFTs in future.</p>	<p>giving power back to the people.</p> <p>bayc club</p> <p>community should give benefits such as utilities.</p> <p>not all NFTs are quoted valuable in the current scenario.</p> <p>value and people's practices.</p> <p>awareness among people is still not there yet.</p> <p>people are looking for monetary gain and profit maximization</p> <p>bayc club</p> <p>not all projects are having good use-cases.</p>	<p>POWER</p> <p>GOOD CLUB</p> <p>COMMUNITY BENEFITS</p> <p>VALUE</p> <p>PUBLIC'S PRACTICES</p> <p>PUBLIC'S PRACTICES</p> <p>PROFITS</p> <p>GOOD CLUB</p> <p>USE-CASES</p>
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9.4 Categories, Codes and Themes

<i>Categories</i>	<i>Codes</i>	<i>Themes</i>
Category 1: PROFIT MAXIMISATION	PROFITS, MONEY, VALUE FROM NFTs, INVESTMENT, BENEFITS, COMMERCIALISATION, USEFULNESS, FOMO, ALIENATION FROM PRODUCT, BAD ASSETS, PROFITABLE ASSETS, CRYPTO WALLETS, ROYALTIES, STOCKS	On making money from NFTs.
Category 2: Community building.	COMMUNITY, TOGETHERNESS, COMMONALITY, COMMON ACTIONS, ADVANTAGES, USE CASES, FANATICS, GAMING ASPECT, CLUBS, LIKE-MINDEDNESS	On community building.
Category 3: Exclusivity and identity	IDENTITY, EXCLUSIVITY, RESPECT, BRAGGING RIGHTS, BOASTING, COOL FACTOR, UNIQUENESS, GAMING	
Category 4: Value perception	MARKET DERIVATIVES, DATA MONETISATION, BRAVE BROWSER, USE CASES, SMART CONTRACTS, ROYALTIES, ON CHAIN AND OFF CHAIN ORACLES, FICTIOUS CAPITAL	
Category 5: People's behaviour	FOMO, NO CONTROL, LESS CONTROL, GOOD CONTROL, RECORD OF OWNERSHIP, SCARCITY, RARITY, GAMING, UTILITY FACTOR, DESIRABILITY, PRACTICES	On power and control over the assets.
Category 6: Art and aesthetics	LOSS OF AESTHETICS, BAD PUBLICITY, MARKETING, TRANSITION OF ART, VALUE DIFFERS	On losing the aesthetics of real-world entities.
Category 7: Digital phenomena.	TECH COMPANIES, CONTROL OVER DATA, PERMANENT CREDENTIAL, AUTHENTIC CERTIFICATE, METAVERSE, VIRTUAL REALITY, FACEBOOK	
Category 8: Real and Virtual assets.	ALIENATION FROM REAL WORLD, BOUND BY DIGITALISATION, SOCIAL MEDIA, CONTROL BY TECH COMPANIES, DATA HANDLING, PRIVACY, METAVERSE, BETTER SERVICES	On fetishism towards digital products.
Category 9: Power over assets.	CAN CONTROL, CANNOT CONTROL, SMART-CONTRACTS, BUSINESS CASES, ONLY FROM VALUABLE NFTs, LESS UTILITY, COMPLEX ARCHITECTURE OF BLOCKCHAIN	On notions of ownership or sense of ownership.
Category 10: Sense of ownership.	FAKE OWNERSHIP, DOUBTFUL, GREAT SENSE OF OWNERSHIP, BELIEVER OF BLOCKCHAIN, AUTHENTICITY, NOTION OF OWNERSHIP, CHANGE OF HANDS, AUTHORITY	

9.5 Questioning styles

Qualitative Interviewing

Question Options

Kind of Question	Description	Example
Experience and behavior questions	Questions about what a person does or has done aim to elicit behavior, experiences, actions and activities that would have been observable had the observer been present	If I followed you through a typical day, what would I see you doing? What experiences would I observe you having If I had been in the program with you, what would I have seen you doing?
Opinion and values questions	Questions aimed at understanding the cognitive and interpretive processes of people ask about opinions, judgments, and values. Answers to these questions tell us what people think about some experience or issue. They tell us about people's goals, intentions, desires, and expectations	What do you believe? What do you think about ____? What would you like to see happen? What is your opinion of ____?
Feeling questions	Feeling questions aim at eliciting emotions –feeling responses of people to their experiences and thoughts. Feeling tap the affective dimension of human life.	How do you feel about that?
Knowledge questions	Knowledge questions inquire about the respondent's factual information –what the respondent knows.	Certain things are facts, such as whether it is against the law to drive while drunk and how the law defines drunkenness. These things are not opinions or feelings.
Sensory questions	Sensory questions ask about what is seen, heard, touched, tasted, and smelled. Responses to these questions allow the interviewer to enter into the sensory apparatus of the respondent.	When you walk through the doors of the program, what do you see? What does the counselor ask you when you meet with him? What does he actually say?
Background/Demographic questions	Age, education, occupation and the like are standard background questions that identify characteristics of the person being interviewed. Answers to these questions help the interviewer locate the respondent in relation to other people. Asking these questions in an open-ended rather than closed manner elicits the respondent's own categorical world view.	

Source: (Patton, 2002)

