



A New Era for Digital Art

An empirical case study analysis of value enabled for digital artists by art platforms utilizing blockchain technology

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Student ID: 115619, 115714

Supervisor: Juan Giraldo

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ABSTRACT

This thesis aims at investigating the concept of value for artists in a digital world using a case study approach. Through this paper's literature review we have uncovered some pressing issues within the world of digital art that relate to digital art being extensively replicated and re-distributed, making it difficult for digital artists to ensure value for their art. Through the literature review it was discovered that change is needed for digital artists to be able to ensure value for their digital art, and the relevance of blockchain technology for creating such change is assessed. This leads us to research how blockchain art platforms enable value for digital artists. In order to gain such an understanding, qualitative data is collected through interviews with digital artists utilizing an interpretive research approach to analyze the data collected. By applying relevant value measurement tools, we are able to gain insight into how blockchain art platforms are enabling value for digital artists. We will further discuss blockchain technology's role as a value enabler for digital artists, as well as some potential future values.

The data collected and analyzed in this research indicates 19 ways blockchain art platforms enable value for digital artists. These are all important factors for digital artists to be able to ensure value for their digital art, however some value enablers stand out as especially important. The importance of the value enablers identified will be presented. A table is provided to sum up and explain the various findings for how value is enabled for digital artists on blockchain art platforms.

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1. INTRODUCTION:

1.1 Art Market Evolution

The creation of art has been around as long as humans have existed (Gombrich, 2007). Some of the earliest forms of art were works created in order to fulfill a practical need (Gombrich, p 39, 2007). More recent opinions regarding art states that art is used as a means to communicate something and express thoughts, ideas or feelings to their viewers (MacPhail, 1974). In order for art to communicate something to a viewer, it must be exhibited to an audience (Zangwill, 1999). Traditionally, exhibiting art to audiences has been done through some sort of middleman, like an auction house or gallery (Caves, 2000), as such being bound to a physical place of exhibiting art. The art chosen to be exhibited is decided by middlemen and what they believe is good art (Caplan, 2017). In more recent years the emergence of internet has opened up for the possibility for artists to be freed from physical exhibitors and displaying whatever artwork they want to on internet platforms available for anyone. As such, a broader audience for artists to communicate through their art became available. The internet has played a huge role in empowering artists to create their own careers with online tools to spread their art to the masses (Cornell & Halter, 2015).

As the digital age came to light, it was only a matter of time before artists would realize it's complex and progressive technologies for their own creative output (Cornell & Halter, 2015). As with all new mediums, artists began to experiment with new innovations of the digital age to reap the benefits, such as the introduction of the personal computer, the accessibility of the audio and visual software, and lastly but most importantly the internet (Cornell & Halter, 2015). As a result of the emerging technologies in the art world, digital art was born. Paul (2016, pp. 2-3) defines digital art as art that is “digital-born, computable art that is created, stored, and distributed via digital technologies and uses the features of

these technologies as a medium". Digital art broadened the artists toolbox from the traditional raw materials into a new space of electronic technologies. Instead of brush and paint, artists could now paint with light, sound and pixels, and instead of paper, artists could create art with found digital imagery or computer-generated graphics. Furthermore, instead of physical and tangible, 2D canvases, artists could create 3D graphical art pieces for projection on screen or viewing through remote mobile devices (Cornell & Halter, 2015), resulting in digital art becoming easily transported and viewed via television, computer screen, social media and the internet. Digital art has revolutionized the way art can be made, distributed and viewed and resulted in the emergence of a new, digital art market. The promise of the internet and the digital art market was the creation of flatter architectures that would eliminate middlemen and provide artists with more control of exhibiting art (Rare Art Labs, 2018). Moreover, as the architecture of the digital space facilitated creation and distribution of art in a more cost-friendly manner (Rare Art Labs, 2018), artists were provided with means to better their financial freedom and capture more value for their art.

1.2 Challenges with Digital Art

Even though the introduction of the internet promised positive changes, sharing art in a digital space has resulted in some challenges. A big problem with creating and distributing digital art is how easily it can be replicated and distributed. Faulkner & Runde (2010) argue that digital artifacts can be easily reproduced at a very low cost. This is making it hard for artists to capture the value of the work they create, as one of the most important factors that creates value for art is the certainty that there only exists one original item of that work, which can only be in possession of one individual at a time (Zagrobelna, 2017a). For traditional, physical art it is very hard, almost impossible, to create an exact replica of that artwork (Zagrobelna, 2017b).



Regarding digital art the situation is very different, as it is easy for digital art to be replicated and re-distributed (Faulkner & Runde, 2010). Every act of reproduction and circulation produces a perfect copy, indistinguishable from the original work (O'Dwyer, 2018, p. 1), which decreases the value of the artist's work and artistic efforts. It is difficult for an artist to be in control of how many copies are made of a digital art work, and to ensure that the copy of the file is deleted (Cela, 2016). Thus, it is very difficult to prevent unauthorized copying and distribution once a digital art file is received, which in turn can affect artists negatively as they may lose potential income due to free access to the art work. Moreover, if several copies of the same artwork exists, it decreases the value of the artwork as the originality and uniqueness of the art work is what adds value to the work (Zagobelna, 2017b).

Furthermore, value captured by an artist's artwork is dependent on the information related to the ownership history of an artwork, including origin, authenticity, originality and creation of the work as well as all of its whereabouts up until the present day (Shindell, 2016; Newman & Bloom, 2011). This mechanism for attributing value is derived from the traditional art market, but the traditional art market has been plagued by many challenges when tackling the issue of securely documenting an artworks history because of the uncertain legitimacy of the information provided. The challenges of the traditional art market apply to the digital art market as well, but are amplified even more due to the characteristics of the internet (Hiscox, 2015). As artworks get replicated and distributed excessively in the digital space, crucial data associated to the artworks ownership history is not getting registered in a trustworthy way. Moreover, determining which editions of an artwork are actually authentic and created by an artist is hard, as making an exact copy of digital art indistinguishable from the original is possible (Zagobelna, 2017b). In addition, as several editions of an artwork might exist, assigning ownership to the original creator becomes problematic (Zagobelna, 2017b).





To further elaborate on the issues artworks face in the digital realm, Cela (2016) relates it to the traditional art market and states that one of the key points as to why famous art works, like Mona Lisa, are so valuable, is the fact that there exists only one original edition of that art work, and the certainty of that original works whereabouts. Due to the ease of replicating digital art, the enforcement of the value mechanisms from the traditional art market are hard to implement in the digital world. However, in modern times, the emergence and growth of new digital and disrupting technologies aiming at battling these challenges raise an interesting question: Is it possible to create a digital Mona Lisa?

1.3 Blockchain and Digital Art

Even though it might seem like a grand challenge for digital artists to ensure value for their digital art, the features of blockchain technology is of high interest and relevance when discussing this challenge, as presented by World Economic Forum (2018, p.3):

“Blockchain is exciting many creators because of its potential to change the control artists have over their work, in particular remuneration, production rights, third-party monetization and data transfer of creative work. However, not enough use-cases exist to be confident in the ability of the technology to promote positive change.”

The potential ability of blockchain technology to promote positive change is exciting, as it indicates promises of resolving some of the issues for art in the digital world regarding replication, as well as proving history of ownership and authenticity of digital artwork. The impact of blockchain technology is interesting related to potential new ways of ensuring value for digital art.

On another note, as World Economic Forum (2018) expresses, a limitation to the potential of blockchain technology in the world of digital art is that not enough use cases exists. In



order to be confident in how blockchain technology and new services based upon this technology are actually promoting positive change for digital artists, some research has to be done. This leads us to the formation of this paper's research question:

How do blockchain art platforms enable value for digital artists?

In order to investigate how art platforms utilizing blockchain technology enable value for digital artists, it is crucial to understand what constitutes as value for artists. As the value of making digital art is subjective (Faulkner, Leaver, Vis, & Williams, 2008), this paper aims to assess the various valuable positive changes for artists derived from digital art platforms utilizing blockchain technology. In order to develop a better understanding of this topic, a case study approach will be applied through investigating value created for digital artists by DADA.nyc, a digital art platform utilizing blockchain technology. Moreover, to get a deeper insight into value created for artists, the capability approach will be used as the theoretical framework. The capability approach complements the nature of value being subjective as its main goal is to assess the individual needs of human beings in order for them to achieve well-being (Sen, 1992). The ability to fulfill such needs are provided through social enterprises, as such they contribute to creating positive change for human beings in a particular context (Sen, 1992; Weaver, 2018). This paper aims at investigating how DADA.nyc contributes to enabling value for its users in relation to this paper's research question.

1.4 Structure of the paper

This section presents a structure of the paper and its contents, and a short introduction to each of the papers' chapters. In the first chapter, an introduction to the field of art, hereunder digital art and emerging technologies within digital art, is presented. Moreover, this paper's research question is presented followed by the relevance and problem definition of this paper's research. Chapter two contains a review of literature, concepts



and trends relevant for this thesis and the issue of digital art and value. Thus, chapter two contains a presentation of important definitions and key concepts and trends assessed throughout this thesis. Chapter three presents the theoretical framework and concepts applied for this paper's research and analysis. In chapter three, the capability approach is presented, hereunder the relevance and applicability in relation to this thesis. Chapter four presents this paper's methodological choices, as well as this papers research realm, empirical approach and considerations, data collection and coding strategies. Chapter five presents a case description of DADA.nyc, a digital art platform utilizing blockchain technology, which provides a variation of offerings to empower digital artists. Chapter six contains this paper's analysis. This chapter presents and examines the empirical data collected by using the theoretical framework to analyze and lay forward the findings of this paper related to value enabled for digital artists by DADA.nyc. Chapter seven contains a discussion where a deeper insight into results and findings from the analysis is presented. Here, some interesting concepts from this paper's literature, theory and analysis is reviewed and further reflected upon. Moreover, some potential future value factors and future research suggestions are presented. Chapter eight contains a summarization of this paper's intention, including a conclusion of the analysis and findings of this paper's research. Lastly, a reference list as well as information regarding appendices is provided.

2. LITERATURE REVIEW

This literature review serves the purpose of defining and discovering literature related to significant technology, digital art and artists as well as concepts related to value. Webster & Watson (2002) argue that the intention of a literature review is to assess previous literature on the topics of interest and identify its shortcomings. As such, this literature review focuses on the challenges for artists operating in the digital realm, blockchains attributes related to digital art challenges, as well as different perspectives of value.

2.1 Digital Artifacts

Since the introduction of internet and computer technology, the possibilities and potential of it has come a long way. Using computational technology opens up for new ways of combining physical and digital qualities and create new types of aesthetic materials (Jung & Stolterman, 2011) and the emerging digitalization of various contents on the internet has made accumulation, storage and transport of digital data easier (Alsina, 2010). One of the ways the introduction of internet and computer technology has had an impact is the emergence of *digital artifacts*. Koerbin (2007, p. 1) defines digital artifacts as “*digital documents that are electronic signals with local storage but global range*”. A digital artifact can be of any content types, including audio, video, animations or images. However, some issues regarding digital artifacts has been identified. Faulkner & Runde (2010) argues that digital attributes can be easily reproduced at a very low cost, and that attributes of digital artifacts may be recombined to be significantly changed and create new identity or functionality. This is supported by Sullivan (2016) who states that abundance is an issue of high interest when it comes to the digital media, as distribution and circulation of digital cultural materials has very low cost and low level of effort, which in turn makes it easy to copy and transfer between users.

Kallinikos, Aaltonen, & Marton (2013) states that digital artifacts are different in many ways compared to physical objects. First, they are *editable*, meaning it is easy to change or edit digital artifacts in various ways. Second, digital artifacts are *interactive*, which makes it possible to change or alter the functions and look of the artifact, but that does not necessarily result in permanent changes. Third, digital artifacts are easy *accessible* and *modifiable* by use of other digital means, like editing programs on a computer, making them *open* and *reprogrammable* and thus possible to expand, modify, repair or destroy. Furthermore, Kallinikos et al. (2013) states that digital artifacts are facing challenges in regard to creating *archives* of digital artifacts. Lyman (2002) elaborates by stating that access to archives of web content and online information is relevant to several parties, hereunder owners of intellectual property rights, such as art, and how they can keep control and regulate the use of their property, as well as users of web archives with an interest of obtaining legitimate and authentic documents and digital artifacts. Within archives of digital artifacts, the principles *provenance* and *authenticity* is highlighted as key concepts (Marton, 2010). Moreover, related to the issue of abundance of digital artifacts due to the high level of accessibility, the concept of *scarcity* is of importance.

In the digital world the term provenance is referred to as *data provenance*, meaning describing where the data or metadata and its contents came from, as well as its way of arrival into a given database (Van den Bussche & Vianu, 2001). Data provenance makes it possible for a user to gain insight regarding how the data item in question was created and where and how its components were acquired (Wang, Gerdes, Guan, & Kasera, 2016). For a user interested in an accurate description of the data origin and the databases acquisition of the data, it is important that they can trust the provenance provided (Van den Bussche & Vianu, 2001). Proving this type of trust is therefore crucial for providers of data information and content. However, it has been proven to be challenging to conduct a

system for data provenance that is highly reliable (Wang et al, 2016). It is argued by Wang et al. (2016) that assuring the information provided about data can be trusted is an issue that needs to be resolved in order to ensure fully secure provenance. Moreover, there must be created sufficient protection mechanisms for the information and data in order to avoid unwanted alteration, destruction and unauthorized utilization (Wang et al., 2016). As such, means for ensuring delimitation and control of the access to digital media is necessary in order to restrict unauthorized exploitation of digital media (Sullivan, 2016).

Scarcity as a general term relates to the concept of scarce resources; in order for something desired as valuable for humans to have its value, the resource must be scarce, meaning the resource is limited (Kenton, 2018). If unlimited supply to an asset is provided, the asset is perceived as invaluable (Chappelow, 2019). Thus, in order for any asset to have value, regardless of it being tangible or intangible, has to be scarce to be worth anything (Chappelow, 2019). As digital artifacts are easily reproduced and re-distributed (Faulkner & Runde, 2010) it results in several copies existing of the same digital artifact (Zagrobelna, 2017b). As such, it has been proven difficult to create scarcity for digital artifacts. Provenance and scarcity are seen as two vital tools to combat the challenges digital artifacts are facing and proving value for a digital artifact. The terms provenance and scarcity are also found of relevance in the context of art, especially digital art.

2.2 Art Provenance and Scarcity

Provenance refers to the chain of custody for a piece of art and is a crucial indicator of the authenticity and value of an artwork (Codex Protocol, 2018). While provenance refers to the documentation of the origins and history of an archived item, authenticity denotes the preservation of the original object rather than the truth or accuracy of its content (Kallinikos et al., 2013, p. 361). This is important, as the documented history of an artwork is crucial for buyers of art that are interested in ensuring their purchases are original artworks and is fundamental to value (Codex Protocol, 2018). Thus, a gap in provenance

can be considered to be a misnomer, as it can be an indicator that the artwork might be of illegal acquisition (Shindell, 2016).

Traditionally within art, the owner maintains the provenance of the piece, or auction houses or galleries keep their own records (Caves, 2000). In regard to art in the digital space, where it is incredibly hard to control the dissemination of digital artifacts, metadata information such as authorship, ownership, history and often the date of creation is lacking (Po.et, 2017). Furthermore, “metadata can be altered or removed after it has been finalized by the author, transferred to the cloud, resized or optimized for network performance” (Po.et, 2017, p. 4). The lack of possibility to provide secure provenance for digital art thus decreases the work’s value, as being able to prove provenance is a crucial in order for artists to be able to capture and ensure the value of their art.

The term *scarcity* is highly related to the world of art, as one of the key points of an artworks value is the certain fact that there exists only one original edition of that art work (Cela, 2016). This argument is supported by Bailey (2017) who says that the duplication and piracy of digital art is of major importance. Once free access to an artwork is created through replication and re-distribution, it loses its value in general, and particularly it loses its relevance in a market situation as there is no limitation of the supply of the artwork (Bailey, 2017). Moreover, he highlights that in order for art to have any value whatsoever, it has to be a scarce resource (Bailey, 2017). Like we have assessed, digital art gets extensively replicated and re-distributed, as such the level of control a digital artist have over ensuring scarcity for their art is low, if any control exists at all.

2.2.1 The Double Spend Problem

Another problem related to scarcity the extensive copying and re-distribution of digital art is expressed by Zagrobelna’s (2017b) statement “you can produce one as easily as one thousand, and you can keep selling it after it is sold. Nobody really owns the artwork”. As



there can be created an exact replica of the original (O'Dwyer, 2018), it makes it possible to sell an artwork several times. This is referred to as the double spend problem (Nakamoto, 2008). Physical assets, such as physical works of art, are traded easily with high control, as they are extremely hard to replicate or copy, and the transferability of the asset is ensured as it is not possible to keep an asset while also trading it with someone else. However, for digital artifacts this is not possible, as every act of circulation is also an act of reproduction (O'Dwyer, 2018). Digital art has to solve the double spend problem in order to operate along the same lines as the physical world.

2.3 Blockchain Technology

The previous sections highlights the importance of creating better solutions for protecting digital artifacts and ensuring control, particularly related to provenance and scarcity, which are two key concepts within the world of art. Even though it might seem like a difficult task to combat the problems with digital art, there are indications that blockchain technology is of high interest regarding these issues.

In 2008, Satoshi Nakamoto published a paper describing a peer-to-peer version of electronic cash that would allow online payments to be sent directly from one part to another without going through a financial institution. Through the introduction of Nakamoto's paper, bitcoin was conceived and the underlying technology called blockchain technology entered the spotlight. Blockchain technology is among the most trending technologies and argued to disrupt various industries and is finding a new array of applications beyond finance (Crosby, Nachiappan, Pattanayak, Verma, & Kalyanaraman, 2016). In this paper we will discuss the potential of utilizing blockchain technology in the context of digital art and art platform's offerings.

Blockchain based systems comprise a distributed transactional database, cryptographic security measures, and a consensus mechanism that allows decentralized time stamping (Gipp, Meuschke, & Gernandt, 2015) and eventually immutable storage of transactional



data in a distributed database, providing a complete and transparent history of past transactions (Notheisen & Hawlitschek, 2017). In aggregation, blockchain technology offers a distributed software (Xu, Pautasso, Zhu, Gramoli, Ponomarev, Binh & Chen, 2016) that has no central point of failure, a transparent, secure and tamper-free record of data transactions and enables cost-efficient micro transactions (Beck, Czepluch, Lollike, & Malone, 2016). Blockchains decentralized architecture can be leveraged to develop an assured data provenance capability. In a decentralized architecture, every node participates in the network for providing services, thereby providing better efficiency. With blockchain technology, all data operations are transparently and permanently recorded. Thus, the trust between stakeholders can be established (Liang, Sheety, Tosh, Kamhoua, Kwiat, Njilla, 2017)

2.3.1 Blockchain, provenance and scarcity

Instead of hash encoding a bitcoin transaction, blockchain can record other kind of data and metadata, such as the ownership and chain of custody. One of the first attempts at recording data identified two main problems that digital artifacts owners were facing - the ownership record, and the distribution and use of the digital artifact (McConaghy, McMullen, Parry, McConaghy, & Holtzman, 2017). The first problem can be solved by registering ownership on the bitcoin blockchain as it can be utilized as a database by performing a transaction in an immutable way (Nakamoto, 2008). Here, the proof of work indicates information about the ownership or authenticity of a good. An owner of a digital artifact is given the ability to use a cryptographic hash function to authenticate a work and sign this with their private key. This hash could be used to inscribe ownership and attribution details with respect to the artifact, producing an unbreakable record of authenticity. As all of the information is registered on the public blockchain using a consensus mechanism such as proof of work, information accompanying the digital artifact can be stored on the blockchain, which is recorded on thousands of computer making up



the bitcoin blockchain and owners of digital artifacts can access the information at any time, without the worry of the information being false (Nakamoto, 2008).

More recent platforms such as Ethereum are also able to provide information storage and ownership attribution details by encoding the information in a “smart contract” on the blockchain. Smart contracts are a more complicated form of bitcoin transactions, due to the fact that the smart contracts are able to create more complex and nuanced digital contracts that self-execute. Smart contracts can be used to record the ownership rights of digital goods and to facilitate their transfer between different owners, their rental and the remuneration of different actors involved in their remuneration (Morgan, 2018).

The second problem identified when attempting to record data is related to the distribution and use of the digital artifact. As it is easy to replicate and re-distribute art (Faulkner & Runde, 2010), creating scarcity for digital art is difficult. Blockchain keeps track of and verifies all transactions so that tokens cannot be spent or transferred twice, as such, the blockchain produces a database or network that prevents the reproduction and redistribution of digital artifacts (Nakamoto, 2008). The blockchain uses hashcash proof of work to prevent double spending through a distributed timestamping service that keeps track of transactions occurring in the network (Nakamoto, 2008). However, “it is important to note that blockchain solves the double spend by redefining it” (Hoepman, 2018). This means that the blockchain does not prevent anyone from making a digital copy of a digital artifact, but instead redefines ownership and attribution from merely claiming ownership of a digital artifact to actually controlling the digital artifact (Hoepman, 2018). As blockchain based systems comprise a distributed transactional database, a record of who has ownership, meaning who controls a digital artifact is ensured and with every transaction ownership is indeed transferred from one person to another (Gipp et al., 2015). Transactions of the digital artifact are done through the transfer of signed tokens from a wallet or public key to another. The information about the digital artifact encoded





in the hash can be transferred between wallets or private keys (McConaghy et al., 2017). Transactions are verified by other members of the network by performing a proof of work calculation. Every transaction between members of the network are stored into a single block that is further integrated into a chain of transactions, creating a blockchain and can only be authenticated and added to the blockchain by using proof of work.

2.3.2 Limitations of Blockchain Technology

Even though the attributes of blockchain technology promises to contribute to significant changes, in the world of art and in general, some issues with blockchain technology have been pointed out that is of relevance. Stinchcombe (2018) argues that adoption of the technology is lacking due to insufficient integrity of the information provided in a blockchain. Even though the information in a blockchain is tamper-free, as such makes it more secure, there is no certainty that the information feeded into the blockchain is trustworthy (Stinchcombe, 2018). It is difficult for users to confidently trust the information provided, and the integrity of the platform is of high importance in order for blockchain technology to have any value (Stinchcombe, 2018). In relation to the art world this is of relevance. Even though blockchain can prove tamper-free records of provenance, the initial information feeded into the blockchain has to have high integrity in order for it to have any value.

Moreover, Stinchcombe (2018) points out the issue of lacking technology adoption due to resistance from users of the technology. The information on the blockchain is tamper proof, but a problem arises if the entry of data is resisted by e.g. employees in a company that tries to implement blockchain technology in their business processes (Stinchcombe, 2018). A similar perception is expressed by Almammadov (2018) who argues that blockchain is struggling with being adopted and accepted on a large enough scale, and before these numbers increase, blockchain technology does not have enough power to create sufficient change.

Regardless of these issues, this paper will investigate the current situation of how blockchain works as an enabler of value for digital artists.

2.4 Value

In this section, literature related to value and different perspectives on the concept of value will be presented. Moreover, this section will elaborate on what constitutes as value for artists in a general perspective.

2.4.1 Value perspectives

Value as a term is broad and can have several different meanings and definitions. One of these is *economic value*, which can be defined as the highest amount of a given currency a buyer is willing to provide for an item (Banton, 2019). Another term within value is *market value*, which can be explained as the price an item, good or service would be awarded in a given market place (Chen, 2019). Even though these two terms are different, a common denominator is that they both focus solely on monetary value that can be represented in a numeric way (Banton, 2019; Chen, 2019). Additionally, these two terms do not intend to solve any problems in a given field of interest, as they are merely explanatory of an items monetary value (Dees, 1998).

Another term related to value is the concept of *social value*, which can be explained as using a combination of resources in new ways, which in turn aim to explore and exploit new ways to create social value through change (Mair & Martí, 2006). As a contrast to economic value and market value, which focuses on value in terms of currency, social value aims at assessing social needs in a society and create social value (Stevens, Moray, & Bruneel, 2017). The activities performed in order to create social value is innovative and creates something new instead of continuing existing methods (Austin, Stevenson, & Wei-Skillern, 2006). It is common for most business to have a strong focus on economic and market value for their products and services. These traditional ways of perceiving value

explains *what* an item or good is worth, but does not provide any insight or consideration as to *why* the item has its value. Moreover, they do not aim to solve any problems within a society. However, there are examples of businesses that considers both the traditional economic and market value creation as well as social value creation, referred to as *social enterprises* (Mair & Martí, 2006).

2.4.2 The Social Enterprise and Value Creation

The concept of the social enterprise includes a wide spectrum of organizations, from for-profit business engaged in socially beneficial activities to non-profit organizations engaged in mission-supporting commercial activity (Kerlin, 2005). The common characteristics of social enterprises presented in the literature are social value creation, income generation from selling goods or services, entrepreneurial adaptation, community and stakeholder engagement, and partnership (Srivetbodee, Igel, & Kraisornsuthasinee, 2017). In aggregation, all of the characteristics mentioned add to the creation of social value as the outcome. Social enterprises that make income by selling goods in a marketplace are meant to further the social aims of the beneficiary group or community with the revenue generated (Mair & Martí, 2006). According to Stevens, Moray, & Bruneel (2017), social value derives from value that comes from performing activities that improve the well-being of people, communities and societies. Social enterprises aim to contribute social value to marginalized members of society who are inadequately served by the market (Young, 2006). Thus, social value is considered as the fundamental end goal of social enterprises. In the context of this paper, the term value refers to the perspective of social value.

2.4.3 Value and The Artist

In order to understand how blockchain art platforms enable value for artists in relation with the research question of this paper, it is of relevance to investigate the various facets



of art and artists in order to provide a holistic view of why artists create art and the role of art in an artist's life.

Similarly to the concept of value elaborated on previously, the concept of value can be of different perspectives related to what constitutes as value for artists. It has been argued that while artists may seek to create art with an intent to sell and generate monetary benefits, artists may also pursue creation of art purely with the aim of creating art as a valuable action itself (Faulkner et al., 2008). Steinhauer (2014) comments that the term 'artist' is not clarified in a general understanding, and states that some argue that an artist is defined as someone who makes art, while others argue that in order to be artist, you must make money and spend a fair amount of time on art. This concept of the meaning of an artist and their art has in previous times been assessed by sociological researchers, among others with the distinction of commerce versus art (Williams, 1965). Derived from this distinction were the concepts of the 'Aesthetic Man' and the 'Economic Man' presented (Williams, 1965, p. 54). He explains that "the principle asserted that an artist's creative identity and psychological disposition excluded him or her from an interest in commercial or administrative matters" (Williams, 1965, p. 54).

Abbing (2002) elaborates on this and categorizes two views of artists. The artist's view believes that artists are selflessly devoted to art. Artists serve art, and if they emphasize anything it should be the artwork, and not profits. Whereas the counter view, of the economist, believes that artists, like everybody else, are selfish and seek to better themselves. The selfless artist regards the value and sacredness of art to be dependent on this attitude. If an artist is not dedicated to art and makes commercial compromises, the status of art would diminish. Furthermore, it is argued that the well-being of a commercial artist depends on external rewards like money, recognition, fame and not on the "making of art". A selfless artist on the other hand, is only concerned with the "making of art". However, Abbing (2002) argues that being completely selfless is not possible, as artists



profit from their own selfless behavior. They receive internal rewards in the form of private satisfaction. As such, well-being of artists are defined by their intrinsic motivation and external rewards are regarded as byproducts of making art (Abbing, 2002). However, reward orientation is dependent on what the artist is intrinsically motivated towards. For example, one artist can be intrinsically motivated to attain peer recognition, while another can be intrinsically motivated to gain status through creating art (Abbing, 2002). Intrinsic to our existence as humans is our quest to create meaning, and art allows that process to take place. Sanders (2015) supports Abbing's (2002) statement of recognition by stating that some artists find it important that their art is liked by the audience it is shared to. Regardless of the art's intention, whether it is for the artists intrinsic motivation or a monetary aim, Estis (2011) argues that an artist must be inspired in order to make art. Moreover, Estis (2011) explains that the inspiration to make art can come from various parts of an artist's surroundings. Moreover, Roy (2015) argues that in order for artists to feel inspired and be creative, they need to isolate themselves from others. As such, artists often sacrifice personal social relationships in order to create art (Roy, 2015).

As artists focus on "making of art", the intention of art comes to mind. Art is an expression of something, made visible by a form (Bostic, 2013). The expression contained in the form is an attempt to translate thoughts or ideas. MacPhail (1974) shares the same idea that art can be used to express personal feelings or state something through the art created. Hussey (2017) elaborates with the argument that art relates to feelings and making the person consuming art feel or experience something intended by the artist, as feelings are not dependent on language or culture. This is supported by Caldwell (1960) who see's art in all its forms occupying a unique role in human society and it being the "best existing method of universal communication across the many tragic barriers which divide mankind" (Caldwell, 1960, p. 5). Furthermore he states that "art in all forms, is in fact, a unique

method whereby men and women of different times and different cultures communicate”. As such, art the is the only language with which we can communicate over time (Caldwell, 1960).

2.5 Summary of chapter

Through an extensive literature review we have uncovered the shortcomings of digital artifacts in the context of the digital art market. The literature indicates a need for better ways to manage digital artifacts, mainly the importance of provenance and scarcity creation. As such, we investigate the relevance of blockchain technology and see it's qualities to be determinant in strengthening the digital art market and delivering value to artists. Furthermore, we examine value perspectives and value in relation to artists. The literature argues the subjective nature of value perception for artists. As such, we take this argument into consideration when moving forward with the analysis of this research. This paper will investigate how blockchain technology enables blockchain art platforms, in developing better offerings that enable value for digital artists.

3. THEORETICAL FRAMEWORK

As the research question of this paper indicates, we aim to measure value enabled by blockchain art platforms for digital artists. In order to do so, an appropriate measurement tool must be applied. In this section, we provide a brief presentation of the some value measurement methods before describing the chosen measurement method applicable for this paper.

When attempting to measure value, the commercial perspective relates to economic and market value which can be represented in a numeric way, and their value is often measured based on value in a monetary context (Banton, 2019; Chen, 2019). Moreover, the profit a company generates can be used as an indicator of value related to economic and market value (Dees, Wei-Skillern & Anderson, 2004). These methods make judgements of value creation “on the basis of tasks completed and milestones achieved - amount of money invested, quantity of products distributed, number of interventions initiated, and so on - rather than on how well their initiatives translate into changes on the ground” (London, 2009, p. 107). Even though these methods are representing some sort of value, they do not aim to assess or solve any problems, as they are solely explanatory of an item, good or services financial worth. They might be an effective way of measuring initiatives that are quantifiable, however they are not efficient when measuring non-quantifiable impacts, such as social value (London, 2009).

The aim of social value is to resolve problems and create value for a given society and the people in the society (Mair & Martí, 2006), however it has been argued that it can be difficult to measure and determine what is perceived as sufficient value, due to the fact that value has many dimensions and is often dependent on individual needs (Faulkner & Runde, 2010). The difficulties mentioned surrounding the measurement of social value has led to “[...] the lack of consistently effective approaches and tools for measuring and reporting social value [...]” and the “[...] lack of confidence in what is measured [...]”



(Bonini & Emerson, 2005, p. 22). Even though it has been argued that it might be difficult to measure value due to the participants individuality, there are tools identified to be sufficient of measuring social value and the impacts of a social enterprise on a society, while also considering the individuality of value. With the settled ambition of investigating how blockchain art platforms can enable value for digital artists, we introduce the capability approach and investigate its appropriateness and applicability as a tool in order to understand the complexity of what constitutes as value for digital artists. The next section will introduce the capability approach and its intentions, as well as the applicability of the capability approach in the context of this paper.

3.1 The Capability Approach

This section contains an introduction of the capability approach and its emergence, as well as the underlying concepts of the capability approach and how the capability approach relates to social enterprises. Furthermore, this chapter presents the application of the capability approach, its applicability in terms of blockchain technology, and how the capability approach relates to this paper's case study.

As mentioned in the literature review, social enterprises seek to create social value, and that we define value as social enterprises efforts to address social problems. According to Weaver (2018), a tool is needed to measure and conceptualize social value in order to be able to understand the impact social enterprises may have on issues affecting human development. Weaver's (2018) research argues that the capability approach provides means of conceptualizing and measuring social value, as such providing a better understanding of how social enterprises have an effect on humans in a society. Therefore, in order to further obtain a complex understanding of what constitutes as value for digital artists when using offerings that provide them with new and better solutions for their artwork, the capability approach has been chosen as the theoretical framework to assist the empirical data collected and analyzed through this paper's case study approach.

The capability approach is an economic theory that was created by Amartya Sen in an effort to guide policies, programs, and evaluations pertaining to human development, specifically in welfare economics (Sen, 1993). The capability approach is inherent in the idea that the greatest human need is to achieve well-being (Sen, 1979). Thus, it is a theory derived to measure well-being of people and consequently represents the objective of social entrepreneurs; the creation of social impact (Dees et al., 2004).

Sen (1993) describes the capability approach as a theoretical framework that views human life as a multidimensional set of beings and doings that are referred to as functionings. Functionings echo the several things a person may value doing or being. For example, being educated, being nourished, being part of a community are “beings”, whereas playing football, travelling or reading represent the “doings” (Christlieb, 2012). Combined they create a set of functionings that, when achieved, fulfills a human’s well-being (Christlieb, 2012).

The capability approach further introduces the term capabilities, which can be explained as a combined set of valuable functionings available for a human being that has the ability to lead to an impact on the person’s life (Robeyns, 2003). Capabilities relate to the opportunities a human has to achieve functionings, as such generate value in order to achieve well-being (Christlieb, 2012). Capabilities, or human capabilities, is conceptualized as a reflection of the freedom to achieve valuable functionings (Crocker, 1992). It is argued that capabilities have a high impact on human well-being as “the freedom to lead different types of life is reflected in the person's capability set. The capability of a person depends on a variety of factors, including personal characteristics and social arrangements” (Sen, 1993, p. 33). Robeyns (2003, pp. 6-7) expresses that “the distinction between achieved functionings and capabilities is between the realized and the effectively possible, in other words, between achievements and freedoms. What is ultimately important is that people have the freedoms (capabilities) to lead the kind of lives they want to lead, to do what they

want to do and be the person they want to be. Once they effectively have these freedoms, they can choose to act on those freedoms in line with their own ideas of the kind of life they want to live.”

The capability approach distinguishes itself from typical assessments and measurements of value, as it moves away from the income or consumption based views of development and value creation. Instead the capability approach states that, while income and consumption are important, they are the only means of expanding people's ability to achieve the things they value (Sen, 1999, p.3). Income and consumption might be able to provide more choices in regard to what a person can do or be, however according to the capability approach, well-being is created only when a human is able to achieve functionings and capabilities they perceive as valuable (Sen, 1999). However, as discussed previously, what constitutes as valuable is individual and dependent on the personal needs of a human being. This is reflected in the capability approach, as a person may have several functionings available through capabilities, but may choose to only achieve the one's they value the most and that leads to a positive change in their life (Robeyns, 2003).

Robeyns (2003) further argues that the higher the amount of valuable functionings a person can choose from, the higher is their capability to achieve well-being. On the other hand, Christlieb (2012) argues, regarding the importance of an individual capability for the enhancement of life, that the fewer valuable capabilities are available, the more someone values those capabilities. This is derived from the notion that use-value is crucial for the valuation of a product or service (Bowman & Ambrosini, 2000; Parkin, Powell, & Matthews, 2005) and that the use value is determined by the perceived novelty and appropriateness. As such, the fewer functionings someone enjoys, the higher the chances are that a new product or service that adds a novelty to the recipients capability set is perceived as valuable. This is established on the idea that people have different

inclinations about what they want to do and be in their life, but regardless they need to have the choices and opportunities to be and do what they want (Sen, 1992).

3.2 Blockchain and the Capability Approach

As the research question of this paper indicates, this paper aims to investigate how blockchain art platforms enable value for digital artists. As presented in the literature review, some shortcomings in the digital art market have been acknowledged. Moreover, the literature review presents indicators on how blockchain technology and its promises of creating positive change, in regard to provenance and scarcity in particular, might be able to solve some of the pressing issues in the digital art world today.

As stated in the previous section, the capability approach presents achievement of well-being based on fulfillment of functionings, meaning what a person values being or doing. Moreover, the capability approach introduces capabilities, meaning a combined set of available valuable functionings that lead to an impact, as well as the opportunities a human has to achieve its valuable functionings. It is here the nature of blockchain technology is found relevant. The capability approach in context of this paper is utilized in order to discover what functionings digital artists perceive as valuable, how the shortcomings of the digital art market in its present state are not able to fulfill these functionings, and how the valuable functionings are being provided through blockchain technology. Moreover, the capability approach is utilized to discover what new opportunities digital artists have been introduced to through blockchain technology and how these contribute to value for artists related to their well-being.

3.3 The Capability Approach and the Social Enterprise

This section presents how the capability approach relates to the creation of social value through social enterprises. A more recent perspective on the capability approach suggests



that social enterprises in particular are a platform for distributing capabilities via their services (Scarlato, 2013). For example, the creation of enterprises with the aim to better the quality of life of people in need. The main advantage of the capability approach is the underlying target on possibilities to live a good life, represented by capabilities, that aligns with the values and goals of a social enterprises. Thus, the creation of social value may be defined by providing capabilities that empower human beings with the freedom to pursue those functionings that they reason to value (Christlieb, 2012).

The capability approach can be configured to look at the positive impact of social initiatives and the extent the initiatives help to improve the quality of life for people. This can be done by identifying capabilities available for the recipient through a social initiative (Christlieb, 2012). Weaver (2018) mirrors Christlieb's (2012) opinion. Weaver (2018) presents the capability approach as a measurement tool of the influence of a social enterprises services on the lives of its beneficiaries, reflecting the notion by Nussbaum (2004) that enterprises are the distributors of human capabilities. According to Weaver (2018), the capability approach involves an assessment of capabilities and functionings advanced through the services provided by the social enterprise, thus, being a tool for measuring social value creation. By creating social value, social enterprises increase the opportunities and choices people have to meet their needs and desires (Weaver, 2018). The capability approach aims to measure humans opportunities and choices to determine "well-being". Hence, the capability approach is an applicable tool for measuring social value created by social enterprises.

3.4 Methods of measuring value

Weaver (2018) further presents two methods of measuring value, in the context of capability approach. The first focusing on the social enterprises design of their services in order to foster distinct human capabilities, while the other focuses on measuring the impact of the services being provided. The first way may be to survey social enterprise



founders about the types of services that they offer, resulting in an understanding of the services the enterprise engages in and how they relate to human development. The second method focuses on the other end of the tail; the beneficiaries of the services being provided. By interviewing the beneficiaries one can get a better understanding of the impact of the services and to what extent value is being created. As this paper aims to investigate how blockchain art platforms enable value for digital artists, the latter method will be applied. The application of the capability approach will be detailed in the next section.

3.5 The Capability Approach Application

The capability approach has been configured and reshaped by multiple contributors through the years. The applicability of the approach spreads across several industries and sectors (Sen, 1993; Nussbaum, 2004; Alkire, 2002) In this section, an insight will be provided into the aspects that have shaped the capability approach and developed it into an approach that can aid the context of this paper.

The core characteristic of the capability approach is its focus on what people are effectively able to do and to be, that is, on their capabilities (Robeyns, 2003). As such, it is argued that the success of a society should be evaluated “primarily by the substantive freedoms that the members of that society enjoy” (Sen, 1999, p. 18). This means that the assessment of the process of development has to be done “primarily in terms of whether the freedoms that people have are enhanced” (Sen, 1999, p.4). Similarly, it has been stated that one can conclude that change is more likely to occur if people “could realistically choose to enjoy a greater set of valuable activities or ways of being” (Alkire, 2002, p. 2). Wongtschowski (2015) argues that in order to use the capability approach to measure value outcomes, such an evaluation would entail three stages; identification of valuable functionings and capabilities, whether capabilities have been enhanced through a social enterprises services and the impact of these capability enhancements, and finally, because

certain functionings or capabilities are more important than others, one needs to identify the weighted value of capabilities. This is summarized in a measurement tool for social value being what to measure, how to measure and how to value what has been measured. Thus, only after capabilities have been identified, measured and valued, can at least a “partial assessment possibly be made about capability expansion” (Alkire, 2002, p. 27). In the following section, this three staged tool will be elaborated upon.

3.5.1 What to measure

In order to assess and measure the value created through application of the capability approach, one must first identify what to measure, meaning what functionings and capabilities that results in value creation (Wongtschowski, 2015). The process of identifying the valuable functionings and capabilities can be approached in different ways.

It has been argued that the capability approach is left somewhat incomplete by Sen, as he chooses not to specify a list of capabilities and functionings that people seem to value (Frediani, 2010). In relation to this, one perspective of the capability approach is suggested by Nussbaum (2000) that presents a list of fundamental capabilities that lead to well-being. Nussbaum (2000) argues that assessing and measuring value is based on a fixed list of capabilities. However, Sen does not agree with the notion of a predetermined or fixed list that does not take the beneficiaries opinions into consideration and states that the capability approach does not need a consensus (Sen, 1999). Sen argues that “to have such a fixed list, emanating entirely from pure theory, is to deny the possibility for fruitful public participation on what should be included and why” (Sen, 2005, p .158). A perspective that supports Sen’s approach is presented by Alkire (2002) that has developed a philosophically grounded framework for the participatory evaluation of development projects in terms of capability enhancement. She moves towards an contextual investigation of which capabilities a person values and how they are improved. As such, assessing what leads to value is dependent on the participants of the research of interest. According to Alkire

(2002), the main advantage of such an approach is the ability to evoke what the people whose lives are being impacted really consider valuable. This is additionally mirrored by Stewart (2001, p. 1192) who states that the strength of Alkire's approach is that it appears "to have more legitimacy than the imposition of a set of values by an outsider".

This paper looks away from a fixed list of capabilities to measure value. Instead, we draw inspiration from Alkire's (2002) take on the capability approach with a contextual evaluation. As such, we move towards an application of the capability approach that focuses on the value enabled by DADA.nyc as a social enterprise. This paper will take Alkire (2002) argument of enhancement into consideration, hence how blockchain technology has enhanced the available functionings for digital artists.

3.5.2 How to measure

The previous section assesses characteristics in regard to what to measure. This section will elaborate on another part of the capability approach concept, which is how to measure. Within the capability approach, Sen (2001) explains that the operationalization of the capability approach benefits the most from assessing information available in a situation in order to investigate what constitutes to value creation. Thus, the application of the capability approach is context-dependent (Sen, 2001) and the variables that contributes to creation of value is extracted from the information gathered in empirical research of a given situation.

Roche (1999) elaborates on the capability approach application with the perspective of impact. To put this in a practical context, Roche (1999) further presents impact as a chain – activities performed lead to changes perceived as valuable, and the changes created by performing activities results in creation of impact for the individual involved. Roche (1999) further explains that impact is not necessarily solely dependent on one activity or change, but can be an aggregate of several activities and changes. The concept of impact can be

defined as “significant or lasting changes in people’s lives, brought about by a given action or series of action” (Roche, 1999, p. 21). Moreover, the concept is elaborated upon by arguing that “impact assessment is the systematic analysis of the lasting or significant changes – positive or negative, intended or not – in people’s lives brought about by a given action or series of actions” (Roche, 1999, p. 21).

In this paper, we will rely on Sen’s (2001) argument that measuring value creation is most beneficial with a context-dependent approach, which in this paper is DADA.nyc and the digital artists using their offerings. Moreover, this paper will rely on Roche’s (1999) perspective of individual impact through performing activities, which lead to impacts on an individual. The concept of how to measure will focus on the activities and impacts related to fulfilling individual functionings. Information about the functionings, it’s activities and the impact created will be gathered through empirical research.

3.5.3 How to value what has been measured

The concepts we have assessed so far within the capability approach is what to measure and how to measure. In this final section that elaborates on the application of the capability approach, how to value what has been measured will be presented.

Wongtschowski (2015) argues one must identify the “weighted value” of each individual's capability enhancement in order to value what has been measured. According to Sen, the process of how to value what has been measured is a “judgmental exercise that can be resolved only through reasoned evaluation” (Sen, 1999, p.78). As such, this part of the capability approach application is relatively open, and the judgement of what contributes to creating value is a matter of preference (Wongtschowski, 2015). As the importance of the value created through the new opportunities can be individual, this paper will assess perceived value of functionings, outputs and impacts individually and investigate how new opportunities that arise from digital art platforms utilizing blockchain technology are perceived as valuable by the artists. As such, the concept of weighted value will be taken



into consideration in this paper, with the aim to assess what each individual perceives as most valuable. This information will be gathered through empirical research. As this paper is context-dependent, the assessment of value will be based on DADA.nyc's offerings.

4. RESEARCH METHODOLOGY

The following section will account for the methodological approach and choices of this thesis, as well as the relevant philosophical approach for this research. As the research question indicates, this thesis aims to investigate how value is enabled for digital artists through platforms utilizing blockchain technology. This chapter contains a presentation of primary and secondary empirical data, and how the primary empirical data was selected and collected. As such, this chapter presents the process of gaining insight in an attempt to fulfill this paper's research question. Moreover, this chapter presents some limitations in regard to the primary data collection.

4.1 The Philosophy of Interpretivism

The interpretivist approach offers the opportunity to explore the subjective meanings motivating the actions of social actors (Saunders, Lewis & Thornhill, 2009). When studying the value enabling of blockchain platforms towards artists, it is important to note that studying social actors, such as artists, may place many different interpretations on the situations in which they find themselves, meaning that individual artists will perceive different situations in varying ways as a consequence of their own view of the world (Saunders et al., 2009). This is especially important in relation to the theoretical framework being applied towards measuring value in this paper, as it is argued that the value of capabilities of individual artists are subjective in nature (Sen, 1992; Alkire, 2002). Following the interpretivist approach, we seek to understand the subjective reality of artists in order to be able to make sense of and understand their motives, actions and intentions in a way that is meaningful (Saunders et al., 2009). Furthermore, the services provided by DADA.nyc have a different reality from the artists perception of that reality. "Crucial to the interpretivist philosophy is to adopt an empathetic stance" (Saunders et al., 2009, p. 147). The challenge for us here, is to enter the social world of the artists we are going to



interview and understand the world from their point of view. As such, the appropriateness of the interpretivist in context of our research is identified.

The interpretivist approach offers the ability to interpret the utilization of services that deliver value to each individual artist. It is difficult to maintain full objectivity when interpreting transcriptions of empirical data and coding the data collected. Nevertheless, interpreting the data collected is relevant in order to understand a phenomenon of interest and provide knowledge to the research topic. Further on we will present the methodological choices utilized to interpret and understand the empirical data collected.

4.2 Empirical Approach

In order to obtain scientific knowledge and understanding of complex phenomenon within the scope of the research area of this thesis, information and knowledge related to the matter is extracted from users of the DADA.nyc offerings. Through an inductive approach, this paper aims to assess and collect individual perspectives in order to create an understanding about the group of individuals (Brinkmann, 2013). This approach is “particularly well suited to study new and emergent phenomena” (Brinkmann, 2013, s. 54). Thus, the aim of this paper is not to conduct an absolute truth, but rather provide insights to the users of the case company and learn their perception, feelings and thoughts toward the studied phenomenon (Brinkmann, 2013) in turn understanding how DADA.nyc’s is enabling value.

To create an understanding of the studied phenomenon of this paper and provide insight on value enabling for the users of DADA.nyc, a qualitative data approach has been applied. Qualitative data in nature “are a source of well-grounded, rich descriptions and explanations of human processes” (Miles, Huberman, & Saldana, 2014, p.4). Moreover, “with qualitative data, one can preserve chronological flow, see which events led to which consequences, and derive fruitful explanations” (Miles et al., 2014, p.4). This approach is



assumed to provide the necessary understandings in order to investigate the phenomenon related to this paper's research question.

4.2.1 Empirical considerations

With the underlying assumptions of the interpretivist research realm of this paper taken into consideration, this research acknowledges the subjectivity of the research approach when studying digital artists using DADA.nyc's services, and how value is derived from using these services. As elaborated in the previous section, the data collected in this research is qualitative in nature. Where quantitative data in general relies on random composition of an individual to avoid bias in the collected data, qualitative research however operates in the other end on the tail (Marshall, 1996). Random sampling may be able to present somewhat representative data about the individuals, but important human considerations, such as values, beliefs and attitudes, are normally not able to be extracted from a randomized group of individuals (Marshall, 1996). As such, the individuals chosen for the data collection should be able to deliberate on values, beliefs and attitudes towards the researched phenomenon (Miles et al., 2014), which supports the qualitative knowledge on how value is being created for digital artists through platforms utilizing blockchain technology.

4.2.2 Case study approach

In case studies, a *case* can be described as "a phenomenon of some sort occurring in a bounded context" (Miles et al., 2014, p. 28). Thus, the empirical research and analysis of a case, referred to as *case study*, is context-dependent and specific in nature (Yin, 1994). A case study can be defined as "an empirical inquiry that investigates a contemporary phenomenon within real-life context" (Yin, 1994, p.14). Moreover, the case study approach can "[...] be particularly appropriate for those phenomena that are simply less amenable to more superficial measure and tests [...]" "[...] as well as those of which our reasons for understanding and/or explaining them are irreducibly subjective" (Willis,

2014). Case studies are propitious for uncovering something unexpected or covert (Hartley, 1994). Thus, the case study approach aims to understand and explain phenomenon's for a specific case (Yin, 1994). Using case study as a method aims to gather and exploit empirical data of a case through qualitative data collection (Yin, 1994).

When using the case study approach, the study can be based on one or several cases (Miles et al., 2014). A perspective of criticism regarding multiple-case research is the possibility of "the double dilemma of data overload" (Miles et al., 2014, p. 20). In accordance to the aim of clearly and focused extracting empirical data from a specific case through selective data collection (Miles et al. 2014), a single case study approach has been chosen as the method for this thesis. By using a single case study approach, we take advantage of investigating a specific, real-life phenomena with the aim to investigate and explain how value is created for digital artists through DADA.nyc's services based on blockchain technology (Eisenhardt, 1989).

4.2.3 Critics of the case study approach

Methodological choices for conducting empirical research comes with some argued limitations, and this applies for the case study approach as well. Willis (2004) mentions the issues of lack of thoughtful methodological choices for case studies. Maoz (2002, p. 162) elaborates on this stating that "the use of the case study absolves the author from any kind of methodological considerations. Case studies have become in many cases a synonym for freeform research where anything goes" (Maoz, 2002, p. 164). However, Bennet and Elman (2010) argue otherwise and say that the case study approach is reliable as long as the researchers utilize adequate methods and techniques grounded in rational decision making for the context of the case study, related to the research questions aim. As the participants of this research paper was chosen based on a set of sampling criteria, we believe that the interviews conducted reap sufficient empirical data in order to investigate the research question of this paper's study.

Flyvbjerg (2006) further expresses that a common critic of the case study approach is that “general, theoretical (context-independent) knowledge is more valuable than concrete, practical (context-dependent) knowledge”. As case studies are context-dependent, they cannot produce sufficient understanding of a phenomenon compared to context-independent studies (Flyvbjerg, 2006). However, Flyvbjerg (2006) further explains that the aim of case studies is not to produce general knowledge, but rather in-depth understandings of the given context, as such insights in experts of the context are relevant for conducting reliable knowledge of the studied phenomenon. This reflects the aims of qualitative study, which aims to describe and explain human practices (Miles et al. 2014). As such, the case study is found suitable for this paper’s research, as it aims to investigate the perception of value for DADA.nyc’s users.

Additionally, some frequent criticism regarding the case study approach is that it’s “dependence on a ‘single’ case and lacking scientific rigour renders it incapable of providing a generalizing conclusion” (Idowu, 2016, p. 185). Similarly, Flyvbjerg (2006) presents a common argument regarding case studies being that “one cannot generalize on the basis of an individual case; therefore, the case study cannot contribute to scientific development”. However, Flyvbjerg (2006) counter-argues this statement, explaining that, if the choice of case and the methods of conducting research are chosen with care, case studies can in fact very well provide results that may be of interest for creating a generalized understanding of the phenomenon of interest. The aim of this paper, as for qualitative studies as well, does not aim towards providing a definite end explanatory answer, but focuses on exploring a phenomenon and withdraw results from the case study. As such we argue that the criticism for lack of generalized conclusions is irrelevant for the purpose of this paper’s research. Nevertheless, the findings conducted in this research might be of interest and applicable to other areas or for researchers within the field of this paper’s research (Flyvbjerg, 2006).

Another limitation pointed out by Willis (2014) is regarding research reliability due to the subjective nature of the case study approach and the participants for empirical data collection. Moreover, as this paper's research is grounded in an interpretivist research realm, which are subjective in nature and aims to understand a social phenomenon (Saunders et al., 2009), the researchers subjective interpretation of the data collected argued to be of importance (Willis, 2014). However, this argument is discarded by Berg and Lune (2010, p. 340) who say that "pure objectivity is not a meaningful concept if the goal is to measure intangibles [as] these concepts only exist because we can interpret them". The latter statement supports this paper's research which aims at measuring intangibles in the form of the values of artists on DADA.nyc. As such, we find the case study appropriate despite these critics discussed.

4.3 Data collection strategy

The primary data we collected for this study consists of interviews. The interviews conducted are a vital part of our data collection strategy and were carried out through interviews with artists using DADA.nyc.

Saunders et al. (2007, p.110) presents Heron's (1996) argument that our values are the guiding reason for all human action, as "your choice of philosophical approach is a reflection of your values, as is your choice of data collection techniques. For example, to conduct a study where you place great importance on data collected through interview work suggests that you value personal interaction with your respondents more highly than their view expressed through an anonymous questionnaire." The interviews conducted for this paper's research includes artists with different backgrounds and located in different parts of the world, but a common denominator is that they are all active artists on DADA.nyc's platform. All interviews conducted were transcribed and coded, and the documentation of this is provided in Appendix 1 and Appendix 3. On the next page is a table showing an overview of the interviews conducted:

#	Date	Participant	Artistic background	Usage time of DADA.nyc's services	Length of interview	Country of origin
1	17.04.19	Serena Stelitano	Bachelor's degree in art. Has made physical and digital art for years.	5 years	37 min 44 sec	Italy
2	17.04.19	Alex Henry	Has made physical art for 6 years. Transitioned into digital art.	3 years	32 min 54 sec	U.S.A
3	18.04.19	Carlos Gonzales (nickname Moxarra)	Has studied plastic arts. Worked as a designer. Has made physical and digital art for years.	3 years	26 min 16 sec	Mexico
4	19.04.19	Vanesa Stati (nickname vVs)	Has studied "Graphic Designer in PC". Has made physical and digital art for years.	4 years	11 min 19 sec	Argentina
5	24.04.19	Isabella Costerman	Art and architecture degree. Physical and digital artist.	2 years	33 min 17 sec	Italy

Table 1: Overview of interview participants

4.3.1 Data sampling

It is important to select participants who hold a relation to DADA.nyc, have used their services to distribute their own art and understand the fundamentals of the underlying social and technological systems on which DADA.nyc's platform is built upon. This is done to obtain a complex and valuable descriptive understanding of the values, beliefs and attitudes towards the researched phenomena (Miles et al., 2014).

The research of this paper utilizes judgement sampling (Marshall, 1996) where selection of providers of empirical primary data, in this research interviewees, is based on their ability of knowledge contribution in order to answer the research question. Practically this means choosing interviewees is based on how well they can provide the researcher's with relevant insights in order to understand the phenomenon being explored in the research (Marshall, 1996). As this research studies how value is being enabled for digital artists through art platforms utilizing blockchain technology, it is crucial to select appropriate participants. As such, the following parameters were created to identify the relevant participant:

- Been a user for a longer period of time (minimum 1-2 years)
- Sold a certain amount of artworks (5-10)
- Active users of the various services on DADA.nyc's platform
- Previous experience or education within art before DADA.nyc

Participants sampled for interviews came from many different areas and backgrounds, in order to avoid creating bias within the obtained data (Miles & Huberman, 1994). As such, a strategic and purposive sampling strategy was applied in order to avoid a biased hand (Miles et al., 2014, p. 32). This sampling process is reflected by Rubin & Rubin's (2005) stance that when doing qualitative research it is a good idea to try to interview a variety of people representing diverse views. The aim is to conduct an in-depth and reliable understanding empirical foundation of what constitutes as value for the digital artists. This



is of importance in order to connect this paper's findings to the theoretical approach of the paper. The primary data collected makes it possible to identify and understand what constitutes as value for digital artists and how this has an impact. Even though the research of this paper's and its findings are case dependent, the empirical aspect of the research makes it possible to test theories in practice (Willis, 2014). In order to explain a phenomenon of interest within an interpretivist research realm, the amount of data needed may vary (Marshall, 1996). For the research of this paper, five interviews were conducted, ranging from 11 min and 19 sec to 37 min and 44 sec.

4.3.2 Interview approach

Conducting semi-structured interviews has several benefits in relation to our area of study. The approach gives the possibility to constantly accommodate and seek information of special importance, to access comprehensive knowledge of the participants understanding and views related to the specifics of value derived from usage of the case company's services (Kvale, 2011). This results in a deeper understanding of the subject's rationales and relations (Kvale, 2011). When utilizing the semi-structured approach, the interviewer relies on a "pre-specified interview guide allowing flexibility for the interviewer in order to constantly analyse the situation" (Kvale & Brinkmann, 2014, p. 185-189) and to "ask follow-up questions in order to increase the validity of the research" (Kvale & Brinkmann, 2014, p. 193). In a semi-structured approach, the interviewer has prepared a fixed set of questions, but holds room for improvising throughout the interview process by asking follow-up questions (Kvale, 2011). However, it should be mentioned that follow-up questions were not rigid in amount or nature, but were rather an intuitive choice in each interview (Blomberg, et. al, 1993). The interview guides for this this paper's research is found in Appendix 1.

In the context of interviewing artists, a certain artist may have extensive knowledge about one or several services in particular, which contributes important information. The semi-





structured approach allows us to pursue that area of information (Sherif & Menon, 2004). This approach enhances the opportunity of receiving more useful answers from the contributors who can provide a nuanced and in-depth insight to the phenomenon in question (Kvale, 2011). Moreover, open-ended questions are utilized in the interview-guide to attain detailed and conscientious answers applicable for analysis and discussion later on in the paper.

In order to obtain valuable insights related to this paper's research question, focus was paid to the expressing of feelings and experience from the interviewees' use of the platform instead of their descriptive and theoretical understanding of the platform. The aim was to interact and obtain as much information as possible in regard to what the artists perceive as valuable. As such, an introductory explanation of the intention of the research and utilization of the final paper was presented to the participants. Moreover, participants were made aware of their freedom to disengage their contribution to its full extent from the research paper. The participants were made aware of the confidentiality of the paper and its contents. This was done in order to provide comfort for the participants' contribution of statements and feelings expressed to ensure avoidance of unfavorable outcomes (Kvale, 2011).

4.4 Conducting interviews

The process started out by interviewing artists. During the interviews we realized some gaps in our knowledge of DADA.nyc. This led us to interview Judy Mam, Co-founder of DADA.nyc. This underlines how the analysis from the very beginning was ongoing, meaning that conducted interviews guided new interviews. An example of information gathered from Mam (2019) and missing in secondary sources is related to the marketplace of DADA.nyc. The secondary sources indicate a finished marketplace where direct sales are enabled for artists. However, the first artists we interviewed brought to light the concern of not being able to directly sell their artworks yet. When finished with Mam's (2019)



interview, we continued interviewing artists. The new knowledge attained from interviewing Mam (2019) was then utilized to understand the artists views better and supplement follow-up questions to artists.

Regarding access to participants, Mam provided us with several artists to interview. However, not all of them were able to participate due to unforeseen circumstances, such as time zones and language barriers. We see this as a limitation to our research, as our sample size of interviewees was constrained. Interviewees were informed about the choice of language beforehand, this was done in order to make them feel more comfortable and exclude artists we believe could not contribute to our research (Marshall, 1996). Even though these precautions were set into place before choosing interviewees, one participant slipped through. Stati (2019) struggled in articulating her opinions when being interviewed. As such, her interview was held in a written format as well, as she was more comfortable with that. This interview is provided in Appendix 1. To ease the transcription process, the interviews were recorded (Kvale & Brinkmann, 2014, p. 243-247)

The semi-constructed nature of our interviews, open interview guides and follow-up questions allowed us to enhance the validity of our research (Kvale & Brinkmann, 2014). This approach was advantageous as follow-up questions allowed us to discuss interesting assertions and inquire for elaborations. An example was when interviewing Henry (2019). When describing the impact DADA.nyc has had on his life, Henry went a bit off-topic and mentioned “[...] I feel like the main benefit of it is the communication with people all across the world and kind of being able to draw with someone in Kenya or Italy or Croatia or where ever really, South America, and I feel like that is its main benefit right now, it being a social platform [...]”. As Henry values this aspect of the platform, the interviewer followed up by asking “[...] Do you think the community would have been there if the platform did not use the provenance, scarcity and ownership attributes of the platform? [...]”. This paved the way for an interesting discovery about how Henry sees the

platform, as he states “[...] So I feel like that kind of social media was bound to happen regardless of it being on blockchain or not. I think in a way being on the blockchain incentivizes people [...]” being that he sees blockchains attributes as an incentive for people to get introduced to several other aspects of the platform. This information was used to ask other artists similar questions.

4.5 Other sources

The process of collecting qualitative data for this paper’s research consisted of secondary data sources, like blog posts and websites, in addition to primary data collection. The secondary data provided us with relevant information that contributed to gain a better understanding of DADA.nyc. However, some information was lacking, as such, an interview was conducted with Judy Mam to get better insight. The interview conducted is not part of our primary source of data as it is only relevant for a better understanding of DADA.nyc and not a reflection of the purpose of the research, which is to understand what constitutes as value for digital artists. These secondary data sources were also held up against the primary data source (interviews), in order to draw a comprehensive picture of DADA.nyc in order to better understand it's services. On the next page is a table providing an overview of the secondary data used:

#	Publisher	Year	Title
1	Anna Maistrelli on DADA.nyc	2018	The Art of Blockchain
2	DADA.nyc	2017	A New Way For DADA. Part I.
3	DADA.nyc	2017	A New Way For DADA. Part II.
4	Yehudit (Judy) Mam on DADA.nyc	2017	A New Way For DADA. Part III.
5	YouTube Channel @Christie's	2018	Art + Tech Summit: Exploring Blockchain – Is the Art World Ready for Consensus? Timestamp: 03:03:13-04:13:16; Panel discussion: Blockchain in the Art World – Digital Art
6	Jason Bailey on Artnome	2017	The Blockchain Art Market Is Here

Table 2: Secondary data used in this paper's research

4.6 Data analysis method

4.6.1 Coding and categorizing empirical data

In this research paper we have used NVivo to convert the data derived from our interview transcripts into codes (Saldana, 2013). As such, the codes become a "critical link between data collection and their explanation of meaning" (Miles, Huberman & Saldana, 2013). We do this to build our analysis. The codes assist is an analytic frame from where our analysis is built (Charmaz, 2006)

The coding process was divided into two cycles (Kvale & Brinkmann, 2015, p.243). First cycle and second cycle coding (Miles, Huberman, & Saldana, 2013). We utilized open coding where “conceptually similar events/actions/interactions are grouped together to form categories and subcategories” (Corbin & Strauss, 1990, p. 12). During the first cycle coding process both group members coded all interview transcriptions, ensuring that all the data was looked at twice to make it a more in depth coding process and discover more concepts, thus ensuring the validity of the codes (Corbin & Strauss, 1990, p.11). Descriptive coding was applied where codes are generated as labels attached to pieces of data in order to summarize the content (Saldana, 2013). For instance, the issues of ownership was coded into ten references mentioning the importance of having ownership of art, forming the code *to be attributed for your work*. During this process, we brainstormed the ideas for ensuring *focused coding*, hence making for a more substantial thematic analysis (Charmaz, 2006).

Both group members participated in the second cycle of coding. Here, existing codes were accumulated into pattern codes to categories (Saldana, 2013). Coding in teams is favourable as it casts “a wider analytic net and provide a ‘reality check’ for each other (Saldana, 2013, p. 35). During this process, identified concepts or codes are arranged to structure categories that yield a phenomena crucial leading to theory formulation (Corbin & Strauss, 1990, p.7). For example, we see *to communicate with other artists, to do collaborative art* and *to experiment with digital art* etc. as a pattern that reflects *Community Functionings* derived from the usage of DADA.nyc’s services. Hence, forming one of the sub-categories leading our analysis. Evidence of the coding process is provided in Appendix 3.

4.7 Knowledge contribution

With the methodological choices presented in this chapter, this thesis aims to investigate what constitutes as value for digital artists in relation to platforms utilizing blockchain technology, which creates a complex understanding of social value for digital artists. Additionally, we aim to contribute to the field of blockchain technology in the context of social science by offering an in-depth analysis of the blockchain platforms and the relevant stakeholders. By investigating how value is created through the DADA.nyc's offerings an understanding about the value created through integrating blockchain technology in digital art platforms is gained with the empirical approach presented in the above section. This aims at providing the researcher's with a link between theory and real-life practices (Boolsen, 2006; Schramm, 1971) within the users of DADA.nyc's services, and contributes to the phenomenon of understanding value creation through blockchain technology in a digital art realm. Knowledge obtained through this paper's research can be of relevance in other research papers with provisions of valuable insights. Moreover, the knowledge obtained in this paper may help explain similar related inquiries and contribute to the overall research field (Flyvbjerg, 2006).

5. CASE DESCRIPTION

In this thesis so far we have recognized some of the most pressing issues with digital art. Ensuring provenance and scarcity has proven to be challenging, however the emergence of blockchain technology and its attributes is of high interest for the world of digital art. In order to provide further insight into the value enabling by digital art platforms utilizing blockchain technology, DADA.nyc has been chosen as the case company for this paper's research. This chapter elaborates on what DADA.nyc is and what offerings the platform provides digital artists.

5.1 DADA.nyc's vision

DADA.nyc was founded in 2012 by Beatriz Helena Ramos as a result of a recognized need for digital artists to be able to display their work as a portfolio (Maistrelli, 2018; Mam, 2019). Moreover, Ramos' wish was to conduct a platform where artists could communicate and inspire each other, and collaborate on creating creative and innovative art pieces (Maistrelli, 2018). DADA.nyc as a platform was created in order to conduct a digital society where artists could be independent and express their creativity and artistic works freely (Maistrelli, 2018). The initial motivation to create this platform for the artists was not based on ensuring value in terms of economic motives, but rather ensuring value in form of the enjoyment of being creative and create innovative and inspiring pieces of art (Maistrelli, 2018). Judy Mam was added to the team to help build the social platform aimed at empowering artists, however they discovered that there were a lot of other similar portfolio platforms in the market already (Mam, 2019). In order to distinguish themselves from other platforms, Ramos introduced the concept of blockchain technology for Mam (Mam, 2019). The technology was incorporated into the platforms services to bring DADA.nyc vision to life, as blockchains inherent qualities indicates the promise to safeguard attribution, provenance and whereabouts of digital assets, which are pressing



issues that the digital art market is facing. As such, DADA.nyc envisions a fair, transparent and safe platform that promotes creative freedom for digital artists.

5.2 “Artists matter just as much as their artworks” - DADA.nyc’s offerings:

As explained in the previous section, DADA.nyc operates as a network where artists can create art, communicate and inspire each other as well as exhibit their art on the digital platform. The digital platform DADA.nyc thus provides several offerings and aim to eliminate some crucial issues related to digital art and artists. Below, some of the offerings provided by DADA.nyc for artists is explained and elaborated.

5.2.1 Artist Network

One of the main reasons as to why DADA.nyc was established was in order to create a social network where digital artists were able to engage in conversations about creativity and art, comment on each other's work and provide feedback and tips for each other as artists (Maistrelli, 2018). Moreover, the platform functions as a gallery that exhibits the artists’ works (Maistrelli, 2018). Ramos explains that the platform was established because the current means for artists to network was insufficient, and as a result DADA.nyc was created to offer a place where artists could easily interact and connect with likeminded artists (Mastrelli, 2018). As the platform is available on the internet, thus being globally accessible, artists from all over the world are able to participate in conversations and feedback (DADA.nyc, 2017), which results in a large group of potential users.

5.2.2 Artist Collaboration

As an extension of the opportunity for artists to network and communicate, DADA.nyc offers the possibility for artists to comment on each other’s work by interpreting an art work created on the platform, and then continue and extend the art work by adding more to it (DADA.nyc, 2017). The original artwork will still exists, but there will also be created a



new, collaborative art work, with one or more pieces of art from several artists in one work (DADA.nyc, 2017). These collaborations are referred to by DADA.nyc as *visual conversations*.

Even though DADA.nyc is a platform open for anyone who wants to engage and create, there are some restrictions when it comes to engaging in conversations and create collaboration pieces. DADA.nyc has created a “*gamification system that assigns points to contributors through skill, community participation, and community validation, and which ensures, in a non-competitive way, that high-quality conversations will retain their consistency*” (Mam, 2017). The gamification system is used as an incentive for those participants who engage and create value within the DADA.nyc community (Mam, 2017). Based on the points accumulated, participants can advance and reach higher levels in order to enable opportunities to engage in more and more advanced conversations (Mam, 2017). An artist can only participate in conversations with other artists on the same level or lower levels as themselves (Mam, 2017).

5.2.3 Art Creation

In addition to the previously mentioned offerings, network and collaboration, the DADA.nyc platform is also a place that aims to encourage creativity and creation of art (Mastrelli, 2018). It is common for artists, especially artists starting their career or making art as a hobby, to not purchase expensive art tools and utensils as they are an unnecessary cost. Thus, in order for artists to be able to create art, DADA.nyc provides artists with a simple digital drawing tool that can be used to create art directly on the platform (DADA.nyc, 2017). It is not possible to upload already existing art works on DADA.nyc, and the tools provided is the only means for putting art up on the platform (DADA.nyc, 2017).

5.2.4 Art Provenance and Ownership

Blockchain allows DADA.nyc to record provenance and authorship of digital assets (Mam, 2017). Furthermore, blockchain enables DADA.nyc to provide the art collectors with an authenticated piece of art, whose provenance and whereabouts are available, while simultaneously providing artists with proof of ownership on the blockchain (Mam, 2017). Hence, collectors and artists will always have a record of their ownership and, when artworks are licensed, they will be able to profit from such opportunities. Finally, through the utilization of smart contracts, all transactions related to an art piece will be verified and tracked, without any intermediaries, and artists will get their fair share of the profits (Mam, 2017).

5.2.5 Art Scarcity

By utilizing blockchain technology, DADA.nyc enables the possibility of creating artworks directly on the platform, and the artworks related information can only exist on the blockchain. As such, DADA.nyc creates digital scarcity of the digital artworks created on the platform. Digital scarcity is represented by a copy of a limited-edition drawing in the form of a unique digital asset that is represented by a token in the Ethereum blockchain (Mam, 2017).

5.2.6 Art Marketplace

Even though DADA.nyc's vision is not aimed towards economic incentives, a part of empowering the digital artists is related to creating a sustainable, fair marketplace. By incorporating the above mentioned provenance and scarcity qualities of blockchain, DADA.nyc makes it possible to securely sell digital art created by the artists. DADA.nyc aims to create a decentralized peer to peer marketplace that redefines what it means to be an art collector (DADA.nyc, 2017). By creating scarcity of selected high-quality digital artworks, DADA.nyc wishes for a marketplace where people can finally ensure and control

their ownership of their works of art, like in the traditional art world with physical art, which increases the art's value (Mam, 2017).

5.3 DADA.nyc as a social enterprise

With the underlying functions of blockchain technology, DADA.nyc is able to provide offerings that relate to issues identified in the digital art world. Moreover, the platform invites its users to partake in a community of artists as well as providing a collaborative approach to art (Mam, 2019). DADA.nyc's offerings align with the literature associated with social enterprises and social value, that is recognized with community and stakeholder engagement by providing innovative and new solutions instead of continuing existing methods (Austin et al, 2006; Srivetbodee et al, 2017). Furthermore, through selling artworks created by artists, DADA.nyc generates some revenue that is partially re-invested back into the platform and the community, in order to in the future create an autonomous platform (Mam, 2017) which also aligns with the goal of a social enterprise to further the social aims of the beneficiaries of the community (Mair & Martí, 2006). As such, DADA.nyc is identified as a social enterprise.

6. ANALYSIS

Through an exploratory research utilizing interpretative case study approach, empirical data has been collected through interviews with artists using DADA.nyc's offerings in order to investigate how the platform and its underlying blockchain technology enables value for the artists. To analyze the qualitative data collected, the research of this paper relies on the capability approach as a theoretical framework to explain the findings of this paper's research. The results that have been discovered through this paper's research will be presented in this chapter.

The first part of this chapter of analytical findings will assess the functionings artists have derived from using DADA.nyc's offerings and their impact. In order to obtain legitimate understanding of values of the individuals participating, the value drivers identified are derived from the participants opinion of what contributes to value (Stewart, 2001; Alkire, 2002). Moreover, this analytical approach relies on Sen's (1999) perspective that a contextual approach to assessing capabilities provides the opportunity to investigate both what functionings and capabilities should be included as well as why these should be included (Sen, 1999). As such, researchers are able to conduct more rewarding insights into what contributes to value creation (Sen, 1999). With these perspectives at the base of this paper's analytical approach, Wongtschowski's (2015) approach will be utilized in order to determine what to measure, meaning identifying valuable functionings and capabilities, and how to measure, meaning how capabilities of artists have been enhanced and how value is being derived from the enhanced capabilities identified. The results of this analytical investigation is presented through an assessment of value derived from DADA.nyc's offerings. In the assessment of offerings, the offering in question will be presented, as well as a description of activity related to the offering. Moreover, the indicator of impact on the artists life, derived from data collection, will be elaborated upon. In addition, the valuable functioning identified related to the offering, its activity and impact will be stated. Lastly, the identified functioning will be assigned to a capability. The

last step of assigning a capability will be done in accordance to Akire's (2002) focus on capabilities being context dependent, moving away from set list of capabilities.

As the research question of this paper indicates, this thesis aims at investigating how art platforms utilizing blockchain technology enable value for digital artists. Thus, the main focus when collecting data was aimed at blockchain technology, and the offerings derived from the attributes of this technology, as well as the value contribution for artists from these offerings. However, through the data collection process, other value contributors were discovered that we perceive as being indirectly related to blockchain technology. As such, the findings presented in this chapter will be divided into two categories, one being Blockchain Findings, hereunder functionings and capabilities directly related to blockchain technology, and Community Findings being functionings and capabilities indirectly related to blockchain technology.

In the second part of this chapter, an assessment of how to value what has been measured will be presented. How to measure the value derived from what to measure and how to measure, presented in part one of this chapter, is a judgmental exercise and the judgement of what contributes to creating value is preference dependent (Sen, 1999; Wongtschowski, 2015). As such, this paper will elaborate on the findings regarding the individual importance of DADA.nyc's offerings for the artists.

Through collection of empirical data for the research of this paper, some unexpected findings came to light (Hartley, 1994). These findings will be elaborated upon in the third part of this chapter, followed by a summary of the findings from the research of this paper.

6.1. Blockchain Findings

Blockchain Findings are functionings and capabilities directly related to blockchain technology. Through our research, seven functionings directly related to blockchain technology were revealed.

6.1.1 Art Scarcity

Through an analytical investigation of DADA.nyc's art scarcity as an offering, two activities related to scarcity have been found – the possibility to create scarce artworks based on the functions of blockchain technology, and control of availability of art based on blockchain technology.

To have control over your art

When it comes to the digital world and its difficulties regarding controlling how many copies there are of a digital artifact (Cela, 2016), a major challenge for digital artists is the attempt to capture value related to editions of an artwork, as a large amounts of copies of the same artwork decreases its originality, uniqueness as well as value (Zagrobelna, 2017b). Unlike physical artworks, which are easier to protect from replication, digital artworks can easily be copied and distributed (Zagrobelna, 2017b). Moreover, the problem of double spend is of high importance when it comes to scarcity for digital art, as every act of circulation is also an act of reproduction (O'Dwyer, 2018). These concerns are supported by Costerman (2019) who states that “[...] it is not physical and is difficult to protect it”. In this paper's research we have found that through utilizing blockchain technology, DADA.nyc is able to provide a method of creating scarce, that is limited, editions of an artwork. Henry (2019) supports this as he says blockchain can provide the ability to “[...] tell you how many prints there are gonna be for this one or that one [...]”. As such, control over artworks is possible, as the technical qualities of blockchain allows for verifying all transactions and produce a database that prevents reproduction of digital artifacts (Mam, 2017; Nakamoto, 2008). Additionally, tokenization of digital art files prevents the double-

spend problem, as tokens cannot be spent or transferred twice (Nakamoto, 2008). The functioning “To have control over your art” is identified, which has been assigned to the identified capability “Artist control”.

To decide who can avail your art

In addition to the solutions elaborated on above regarding creation of scarce digital artworks, another important part of scarcity is controlling who can avail the art you create. As elaborated upon in the previous section, the low level of effort and cost related to creating a copy of a digital file results in a high circulation of perfect copies of that file (O’Dwyer, 2018). As such, once someone has obtained a digital art file, it can be replicated and distributed without the artists being able to control who avails the work and what they use it for. Zagrobelna (2017b) supports the concerns related to controlling use of the artwork by stating that “nobody really owns the artwork”. The frustration concerning lack of control related to who can avail an art work and what it is used for is stated by Stelitano (2019) who says that “[...] you go on this site and you can just copy it and then you go and you open Amazon t-shirt shop and you paste my drawing on it and then it’s yours [...]”. The concept of control is elaborated on by Stati (2019) who says that “[...] control about your work it means know who will buy it, then sell to this collector your own work [...]”. These statements indicate that the lack of control over who can avail digital art work is a major concern, however the features of blockchain technology are of high interest as a way to combat this issue. Blockchain technology does not only make it possible to control editions of digital art works, but also who has access to these (Mam, 2017), as tokens can only be spent or transferred once (Nakamoto, 2008). As such, digital artists are able to decide the recipient of a digital art piece, thus decide who avails the digital art they have created. The functioning “To decide who can avail your art” is identified, which is also assigned to the identified capability “Artist control”.

6.1.2 Art Provenance

Through the data collected it has been found that DADA.nyc's provenance offerings takes three forms - providing a secure proof of authenticity, providing ownership history through recording information and providing attribution for digital art, all being derived by DADA.nyc utilization of blockchain technology. Each of these three will be elaborated upon in this section.

To prove authenticity

Providing a secure proof authenticity provides artists with the ability to authenticate their art for interested stakeholders. The service tackles the importance and challenge of ensuring authenticity of a digital art piece as mentioned by Lyman (2002), who underlines the importance of owners having the ability to preserve legitimacy of an object. Furthermore, originality and authenticity of an artwork is fundamental to value (Codex Protocol White Paper, 2019). The power of authenticating ones artwork is elaborated upon by Stelitano (2019) "[...] from anyone who bought it, can say it's a Van Gogh, you know, no to say that I'm like Van Gogh[...]" "[...]But that piece of work, a real one, so yeah, that's power for the artist [...]". DADA.nyc provides a secure proof of authenticity by utilizing blockchain technology to inscribing ownership with respect to the artwork, producing an unbreakable record of authenticity that is stored on the blockchain (Nakamoto, 2008; Mam, 2017). The functioning "To prove authenticity" is identified, which is assigned to the identified capability "Provenance".

To track ownership

Providing ownership history through recording information on the blockchain provides artists with the ability to have an immutable record of ownership for their digital artworks. The offering tackles the importance and challenge of recording ownership history for digital artworks. Gonzales (2019) mentions "[...] I have a lot of works around the digital world that there are just jumping from people to people [...]" as one of the problems he

has faced while operating in the digital art market. As the artwork jumps from one person to another, crucial metadata associated to the artworks ownership is not getting registered due to the lack of a reliable system for data provenance as noted by Wang et. al (2016). Ownership history relates to the history of an artwork, the origin and creation of the work as well as all of its whereabouts up until the present day (Shindell, 2016). The information is vital for an artist to be able to prove for potential purchasers what hands the artwork has touched and where the artwork has been as it is fundamental to an artworks value (Codex Protocol Whitepaper, 2019). Furthermore, a gap in the ownership history may indicate that the artwork is not real or has been acquired through illegal circumstances (Shindell, 2016). Henry (2019) highlights the potential of blockchain for artists as “[...] they can track their work, you know, that they can get provenance and it is very easily to do [...]”. DADA.nyc provides artists with the opportunity to combat the above mentioned challenges by utilizing blockchain technology. DADA.nyc leverages the decentralized nature of blockchain to develop assured data provenance (Liang et al, 2017; Mam, 2017). All data operations related to ownership and chain of custody gets recorded in a transparent, trustworthy and permanent way. The functioning “To track ownership” has been identified, which is assigned to the identified capability “Provenance”.

To be attributed

Providing attribution for digital art through utilizing blockchain technology provides artists with the opportunity to digitally sign their artworks. Attribution in this context is related to use of an artists’ artwork without giving due acknowledgement. The service tackles the challenge of creating attribution in a digital space, where digital content is replicated and distributed at infinitum, due to digital artifacts attributes of being highly editable as mentioned by Kallinikos et al. (2013). Thus, they can be significantly changed in order to create a new identity or functionality (Stolterman & Löwgren, 2007) opening up the possibility for people to claim ownership of something that is not theirs, whether it is

intentional or not. Costerman (2019) states her frustration with the state of the digital space by saying “[...] I think it is a problem when you put outside the blockchain the art. Because it is possible to lost your art... The other people take your art and use in other [...]” and “[...] With blockchain it is a method to create unique art with my... [...]” “[...] with my signing! My signature... I think is important for digital art because we do not have a touchable... [...]” DADA.nyc uses blockchain technology to combat such usage. By using DADA.nyc, artists are given the ability to use a cryptographic hash function to authenticate a work and sign this with their private key. This hash could be used to inscribe ownership and attribution details with respect to the artwork, producing an unbreakable record (Mam, 2017; Nakamoto, 2009). Signing of a hash function to register attribution provides the artist with the power to create attribution in a digital space. The importance of this is further highlighted by Serena (2019) who states “[...] The main thing is that they cannot deny that it’s yours [...]”. The functioning “To be attributed” is identified, which is assigned to the identified capability “Provenance”

6.1.3 Art marketplace

The data collected revealed a significant finding regarding artist's ability to get remunerated for their work, which will be explained in this section.

To be remunerated

In regard to the marketplace offering on DADA.nyc, an important finding that has been made is that it provides a way of ensuring that artists gets compensated for their work. Digital art can easily be stolen, and unauthorized use of the digital art in order to generate income is apparent (Zagobelna, 2017b). As such, someone that has obtained a file, legally by buying it from the artist or illegally by downloading an unauthorized copy of the digital art work, can make a profit by selling as it is for their own financial benefit without remunerating the actual artist of that work (Zagobelna, 2017b). The issues regarding theft of digital art and exploiting it for own financial benefits are made apparent by Stelitano

(2019) who says that “[...] you paste my drawing on it and then it’s yours and you are making money [...]”. However, by utilizing blockchain technology to create scarcity, it provides a way of controlling editions of artworks as well as who avails these, and the artists can be in control of who the artworks are sold to (Mam, 2017). Gonzales (2019) explains that “[...] it is not really payed. With this system I know that it is going to be sold and paid rightfully [...]”. With these new ways of distributing and selling digital art, DADA.nyc provides the artists with the opportunity of making an income from their art more extensively and secure than before (Mam, 2017). As such, artists are able to be fairly remunerated for their digital art with the help of DADA.nyc. The functioning “To be remunerated” is identified, which is assigned to the identified capability “Finances”.

6.1.4 Art creation

For the service of art creation, several functionings have been identified, some of which are directly related to blockchain technology, and some that are not directly related to blockchain technology, but as our findings indicate are dependent on blockchain technology to successfully operate and attract artists. The latter will be elaborated upon in the next section. This section will present the functionings identified from art creation as a service directly related to blockchain technology.

To feel liberated

In the previous sections we have elaborated upon how blockchain technology provides scarcity, provenance as well as a secure marketplace for digital artists. When it comes to creating art, it has been argued that an important factor to why art is created is to give an experience or a feeling to the person viewing it (Hussey, 2017). Moreover, it is argued that art is made to communicate thoughts and ideas through visual presentations of those, with the aim to send a message to the viewer (MacPhail, 1974). Stelitano (2019) supports this with the following opinion “[...] If you’re a good artist you are able to communicate at least to one person in the world [...]” and “[...] an artist has to be able to communicate it to

the world, something [...]”. As such, being able to share your art and communicate through the art is important for artists.

In order for the art to create a feeling or communicate something, it must be shared to an audience (Zangwill, 1999). It is here that the issues of digital art distribution today become apparent. Even though it is very easy to share and display your art through internet and various platforms in order to communicate to an audience, it is almost just as easy to copy the art piece and utilize it for own benefits (Zagrobelna, 2017b). As such, artists feel restrained with sharing their art on traditional internet platforms, due to the concern of their art potentially being copied and exploited without their consent. This is supported by Stelitano (2019) who says that “[...] I wasn’t very happy to share my art with anyone [...]”. Moreover, Stati (2019) elaborates on this concern saying that “[...] The work normally go out and you will never see it again [...]”. This indicates that artists are “marginalized members of society who are inadequately served by the market” (Young, 2006). DADA.nyc as a social enterprise creates value for artists by providing them with the necessary tools to be adequately served (Young, 2006). When artists create digital art on DADA.nyc, the digital art is created directly on the platform, which is utilizing blockchain technology (Mam, 2017). This provides the artists with a secure place to create and share their art, liberated from the previous concerns of someone else being able to steal and exploit their work which enhances their motivation to create and share their art. The functioning “To feel liberated” is identified, which is assigned to the identified capability “Motivation”.

6.2 Community Findings

In this section we will present the Community Findings that are indirectly related to blockchain technology. Through our research, twelve functionings directly related to blockchain technology were revealed.

6.2.1 Art creation

The functionings identified as a result of Art Creation relate to a place of letting out personal thoughts, ideas and emotions through creating art on the platform. Moreover, DADA.nyc provide the artists with tools to be used in creation of digital art, which has resulted in several important impacts on the artists.

To express yourself

An important factor as to why the artists create and share their art became apparent when analyzing the data collected. As mentioned in the previous section, it is argued that art is used as a tool to communicate something and expressing thoughts or ideas to their viewers (MacPhail, 1974; Caldwell, 1960). The findings of this paper's research and analysis shows that it is of importance for digital artists to be able to express themselves and their personal emotions and feelings through creating art. This is supported by Stati (2019) with the importance of "[...] see them show yourself at open heart, share their feelings [...]" and "[...] share their dreams, demons and preoccupations, their fears, see them being themselves [...]". Stelitano (2019) supports this by saying that "[...] they are aware of how you are feeling that moment [...]". As we have assessed previously, artists felt uncomfortable sharing their art on traditional platforms due to the high risk of their art being copied and used without their consent, however this insecurity for creating and sharing art is resolved by DADA.nyc utilizing blockchain technology, resulting in a safe place for creating and sharing art. As such, artists are able to create and share art more freely, resulting in being able to express their feelings and emotions through the digital art they create and share.

Moreover, as the expressions of feelings through art does not require skills related to language (Caldwell, 1960), artists are able to express and share their feelings and emotions across borders and languages. Costerman (2019) supports through her statement that it "[...] is very interesting for me to communicate with others without speak, because I have

a problem with speak. With drawing for me is easy to speak with other people [...]”. These impacts of expressing feelings and emotions independent from language skills in turn increases the artist’s motivation to create, free of previous constraints. This is supported by Stati’s (2019) statement that “[...] DADA.nyc is one beautiful key path to the freedom, is a place that rescue essential values [...]”. As such, DADA.nyc provides an outlet for artists to express personal matters and let out emotions and feelings through art. The functioning “To express yourself” is identified, which is assigned to the identified capability “Motivation”.

To experiment with digital art

One of the impacts discovered as a result of artists using the tools provided by DADA.nyc is an increase of ability for artists to experiment with digital art. Costerman (2019) explains that “[...] Before I don't use digital art, don't practice digital art [...]”. Henry (2019) supports this with the statement that “[...] it has provided the opportunity to like experiment technically with digital drawing [...]”. As such, the tools provided by DADA.nyc has made it possible for artists to start experimenting with digital drawing. Moreover, Stati (2019) states that “[...] DADA provides the necessary for that anyone can make art [...]”. Thus, the digital drawing tools provided by DADA.nyc makes it easier for anyone interested in experimenting with digital art to test it and express themselves. The functioning “To experiment with digital art” is identified, which is assigned to the identified capability “Artistic development”.

To develop as an artist

Another impact of the drawing tool provided by DADA.nyc that has been identified is that the possibility to experiment with the tools and digital drawing are enhancing their skills within digital art and as artists in general. Henry (2019) supports this by saying that “[...] It's just kind of shown me kind of the full spectrum of the artist I can be [...]”. Stati (2019) states that DADA.nyc is “[...] a real opportunity for growth to anyone who wants to

progress in their artistic search [...]” and that “[...] DADA is in transformation, rediscovering at yourself, growing day at day [...]”. As such, the possibility for the artists to use and experiment with the digital drawings tools provided by DADA.nyc, they are discovering the full potential of their artistic skills. Additionally, the tools provided can be used to rediscover yourself and grow continuously as an artist. The functioning “To develop as an artist” is identified, which is assigned to the identified capability “Artistic development”

To be cost efficient

Furthermore, the digital drawing tools provided by DADA.nyc enables creation of art with the use of fewer monetary resources. Many artists struggle with financing their art creation due to insufficient economy, as Stelitano (2019) mentions, she had wanted to create digital art for some time, but could not do so due to lack of economy: “[...] I didn’t have the tablet to draw. So I had to wait [...]”, meaning many artists may not be able to create art due to insufficient funds. As DADA.nyc provided digital drawing tools without cost, artists are able to create more art and express their creativity without spending money to do so. The provision of the digital drawing tools does not require any costly, physical tools, such as brushes, paint, pencils and canvases. This is supported by Henry (2019) who says that “[...] I am not buying paint so I am not spending as much money to you know in a sense to make money [...]”. As such, artists are able to create more using less financial resources, thus decreasing their costs related to creating art, in turn improving their financial freedom. The functioning “To be cost efficient” is identified, which is assigned to the identified capability “Finances”.

6.2.2 Art Network

This section will assess the service Art Network and present the findings discovered related to this offering through the research of this paper.

To be inspired

The empirical data collected for this paper's research revealed that an important factor as to why the artists choose to use DADA.nyc is the possibility to see works of other people on the platform, as it is inspiring seeing the digital drawings of other artists. An artist needs to be inspired to be able to create art (Estis, 2011), as such a source of finding inspiration is of high importance. Even though inspiration may come from a wide variety of sources (Estis, 2011) artists do however see DADA.nyc as a great source of inspiration for them to create digital art. Costerman (2019) confirms this as she says "[...] It is a very big opportunity to see the creativity with other people and... The creativity with an artists for me is open a world [...]". Stati (2019) also supports this as she says "[...] Other times simply enter to see at people speaking in drawings, is exciting and inspiring [...]". Moreover, DADA.nyc has users from all over the world, which Henry (2019) comments on by saying that "[...] seeing a lot of different perspectives and artists kind of perspective [...]" and "[...] even working with people in Africa is very interesting because you get like different perspectives and understandings [...]". As such, by being exposed to digital artworks from people all over the world, artists using DADA.nyc's offerings feel inspired to create own art. The functioning "To be inspired" is identified, which is assigned to the identified capability "Motivation".

To feel confident about your art

Another important finding of value created for artists by DADA.nyc is related to confidence. The term 'artist' is widely discussed and commented upon. Some argue that artists are self-defined, some argue you must make money off the art to be an artist, some argue that an artists must dedicate their full working capacity to art and not have any other work next to making art (Steinhauer, 2019) while others argue that an artists is simply someone who is creating art (Grant, 2011). Even though there is no definite, common understanding of what makes you an artist, Stati (2019) expresses her thoughts related to not having any documentation telling her she is an artists by saying that "[...] all

these years I had let the lack of a written paper with gold letters and an authority stamp that confirms my profession, tell me who I am in reality [...]”. The lack of documentation led to her not feeling like a proper artist. She further explains that “[...] I did art all my life but never in my life considered me an artist until DADA came to my life [...]” and “[...] being that all my life I have been an artist DADA to the core of my soul [...]”. Hence, through discovering and using DADA.nyc and their offerings, Stati’s (2019) perception of herself as an artists has positively changed and she does in fact see herself as an artist now after creating and sharing art on DADA.nyc.

Moreover, artists might be affected with insecurities, as art is often very personal and expressive of personal emotions or feelings (MacPhail, 1974), and what you create might not be liked by an audience, which is of importance for artists to some extent (Sanders, 2015). However, through collecting the empirical data for this paper, another aspect of confidence became apparent, which is related to being confident of one's own art. Gonzales (2019) explains that “[...] But then I make stuff, that I think I passed the line here and everybody's like “ohhh great” and those are the things I have felt about DADA with my art and my creativeness [...]”. The network provided by DADA.nyc allows for artists to get confirmation and affirmation about their art, thus enhancing their confidence in their own artworks. This is supported by Stelitano (2019) who says that “[...] it helped me a lot with myself and self feeling [...]” and “[...] It has empowered me, it is empowering me a lot [...]”. As such, the network of artists on DADA.nyc and the opportunity to give and receive feedback on the digital art created is increasing the artists confidence, in regard to themselves and their art. The functioning “To feel confident about your art” is identified, which is assigned to the identified capability “Confidence”.

To exhibit your art

As mentioned previously, art is created with the intention to communicate something, and in order to communicate to someone it must be shared to an audience (Hussey 2017;

MacPhail, 1974). Traditionally, exhibiting art has been done through some sort of dealer, like an auction house or gallery (Caves, 2002), as such being bound to a physical place of displaying art. The emergence of the internet opened up for the possibility for artists to be freed from physical exhibitors and displaying their artwork on internet platforms open for anyone. However, like assessed previously, due to the extensive copying and reproduction of digital art (O'Dwyer, 2018; Zagrobelna, 2017b) artists felt restrained from sharing art on these platforms. By providing the opportunity of a secure, digital place of sharing art, based on blockchain technology, the artists freedom of exhibiting their art to a broader audience is enhanced. Henry (2019) supports this broadening of viewers of his art saying that "[...] not like with people around the corner or people I can find here in North Carolina to buy my art, say someone in China or Copenhagen you know, wherever to kind buy things [...]". He also says that "[...] artist can find their whole target market or fans [...]". Stati (2019) states a similar view that "[...] there are few people who will see in your art a tireless search... in my opinion, DADA is here for reverse that [...]". Moreover, some of the art created on DADA.nyc has been represented at art exhibitions and auctions (Mam, 2019). Henry (2019) says that "[...] Judy and Bea would be going to conferences and things like that and presenting in front of large crowds of people [...]". Stelitano (2019) explains that "[...] we had this auction in Boston, where we... we were able to sell this visual conversation created in the same moment where people were bidding [...]". As such, artists on DADA.nyc are provided with a network of international viewers and potential buyers, increasing the reach of their art to artists and other stakeholders. The functioning "To exhibit your art" is identified, which is assigned to the identified capability "Artistic Reach".

To communicate with other artists

Throughout our empirical data collection and analysis, communication has been highlighted several times. According to Caldwell (1960, p. 5) "Art, in all its forms, occupies

a unique role in human society today and is the best existing method of universal communication across the many tragic barriers which divide mankind". DADA.nyc incorporates this idea by providing artists with the offering of visual conversations. Mam (2019) elaborates on the communication provided by the visual conversations by stating "[...] you can see when they are really pouring their heart out with drawing, you can see their style, it's, it's really, it's non-verbal, it's truly like this kind of very profound communication [...]" . This is further reflected in the idea behind the creation of DADA.nyc, which was the realization of the market moving in the opposite direction, where art communication was moving towards a more verbal structure. This is supported by Mam's (2019) statement "[...] people that are far more eloquent creating images and creating art than expressing themselves through words and that all social media in many ways is predicated on language [...]" . The appreciation of this communication is reflected by Henry (2019), who says "[...] being able to draw with someone in Kenya or Italy or Croatia or where ever really, South America, and I feel like that is it's main benefit right now, it being a social platform" . This is further elaborated upon by Stati (2019) who states "[...] DADA.nyc offer a new form of do art and of connect with people in deeply ways, DADA is magic [...]" . DADA.nyc moves away from the verbal communication that explains the art being shared to rather communication between artists based solely on their artistic contribution. As such, DADA.nyc facilitates universal communication between artists in a nonverbal method that diminishes all barrier associated with communication between artists. The functioning "To communicate with other artists" is identified, which is assigned to the identified capability "Communication" .

[To get sincere feedback](#)

Through analyzing the data collected for this paper, the importance of getting sincere feedback became apparent. Stelitano (2019) explains that: "[...] I wasn't very happy to share my art with anyone, because I, I've tried to be, you know [...]" "[...] like they require you to be in these years. But I found it very frustrating because no platform or no such

network really give you feedback about your art, it's just, like, about likes and be, kind of, not very sincere with one another on social media networks. So DADA really liberated me in that sense [...]". As such, the need to get earnest opinions on their artwork is identified. On DADA.nyc, artists can view each other's artwork and comment on the work providing feedback. Like Stelitano (2019) expresses, other social networks are not very sincere with their feedback, but are superficial with comments, however she feels that on DADA.nyc this is not the case, as the feedback is in fact sincere and true to the actual opinion of the person providing the feedback. The functioning "To get sincere feedback" is identified, which is assigned to the identified capability "Communication".

To be supported

Another functioning discovered through the empirical data collection of this paper is related to artists giving and receiving support. Artists might be affected by insecurities, resulting in them not being comfortable with creating and sharing art as they might feel it is not good enough or going to be liked (MacPhail, 1974; Sanders, 2015). Through our research, we have found that artists using DADA.nyc support each other and help each other overcome insecurities and hesitations. Henry (2019) explains that "[...] the learning process to actually do that through drawing like to help people that aren't so comfortable with drawing step up and be like well I can do it too and it doesn't matter how sloppy [...]". Furthermore, Stelitano (2019) says that DADA.nyc and the artist network helps her "[...] In many ways, indeed, not only drawing, because [...]" "[...] they try to help you in many ways, they are aware of how you are feeling that moment [...]". In addition, Stati (2019) comments that "[...] the relationship is the base [...]". Moreover, analysis of the data collected in this research shows that artists support each other by teaching and learning about art. Henry (2019) says that "[...] people are teaching each other [...]". Similarly, Stelitano (2019) says that "[...] Even now I'm in the position of helping others to be, you know... [...]" "[...] learn from one another [...]". As such, DADA.nyc provides artists with a

support network of other artists, allowing them to encourage each other and get support from other artists on the platform, helping each other become better artists. The functioning “To be supported” is identified, which is assigned to the identified capability “Community”.

To feel included

Another functioning discovered through the interviews done in this paper’s research is related to being part of a social network and spending time with others. It has been argued that artists and other creative people feel the need to be alone in order to be creative, however, on the contrary, in other situations they might enjoy spending time with like-minded people (Roy, 2015). In regards to this, Stati (2019) explains that “[...] life of the artist usually is a solitary life in which artist dive or surf alone in your own company, into himself/herself... in many occasions this personal and deeply search is very intense, can be until very painful, so I think in DADA like a safe place in where artists can to do this in companie, where nobody there will be there for judge the steps [...]”. Stati (2019) also states that “[...] here there is personal convictions, fundamental values, a strong and renovated dadaist spirits that sustains the community and gives life to the entire platform”. Furthermore, Stelitano (2019) expresses that “[...] You can feel it , when you start to draw on DADA you are in a community” and “I love the community, I love to be part of it [...]”. As such, we have discovered that the artists on DADA.nyc do in fact like to be part of a community and socialize with other people sharing the same values as they do. Hence, DADA.nyc providing the artists with a social network that gives artists that spend a lot of time alone the opportunity of spending time with each other online and be part of a welcoming, non-judgmental community. The functioning “To feel included” is identified, which is related to the identified capability “Community”.

To do collaborative art

Like explained by Stati (2019) in the previous section, an artist usually has a solitary life and spends a lot of time on their own and create art alone. Roy (2015) explains that even though an artist might enjoy being alone as they need to in order to be creative, the empirical data collected and analyzed in this paper reveals another perspective. DADA.nyc offers the opportunity to create art alone as well as creating art together with other people on the platform. Mam (2019) explains that “I can see how amazing it is that people are creating something together”. The value of the opportunity of creating collaborative art pieces with other artists is already present, and the matter was commented upon by all of the user’s of DADA.nyc interviewed through the qualitative data collected in this research. Stelitano (2019) explains that “When your favorite way to express yourself is through art, visual art, it’s amazing to be able to do it like in a conversation with someone” as well as “[...] I just feel energized thinking about just, you know, make a drawing with someone else [...]”. Gonzales (2019) expresses that “[...] You make a drawing and then the other one completes it and it's a chain... And that was the first charm of DADA [...]”. Henry (2019) says that “[...] being able to draw with someone in Kenya or Italy or Croatia or where ever really, South America, and I feel like that is it's main benefit right now [...]”. Costerman (2019) points out that “[...] I think the group is important. The collaboration [...]”. Stati (2019) also comments on the topic saying that “[...] DADA is magic, is the only social network that I have know in which the focus is put in the collective creation, in the collective power [...]”, and expresses that artists can “[...] share the same canvas with they, paint together [...]”. As such, we have found that the provision of tools to create collaborative art pieces allows artists to work together with other artists and create visual conversations. The functioning “To do collaborative art” is identified, which is assigned to the identified capability “Collaboration”.

6.3 How to value what has been measured

The previous sections presented in this chapter so far elaborates on Wongtschowski's (2015) approach of what to measure, meaning identifying valuable functionings, as well as how to measure, meaning what valuable impact the functionings identified has. Through this analysis based on the capability approach, we have found a wide range of functionings and impacts perceived as valuable for digital artists. However, as what contributes to value is preference dependent (Sen, 1999; Wongtschowski, 2015), this section will elaborate on how to value the findings made in this research, as such assess the individual weighted value of the artists (Wongtschowski, 2015).

One functioning provided by DADA.nyc that was highlighted as especially valuable for the artists is "To do collaborative art". Stelitano (2019) expresses that "[...] the main thing is about the collaboration [...]", stating that the ability to work with other artists and create visual conversations together is of high importance and value for her. Gonzales (2019) supports this by saying that "[...] Why I became involved with DADA? It was just a fun platform to do drawings with people around the globe [...]". Henry (2019) also supports this saying that "[...] being able to draw with someone in Kenya or Italy or Croatia or where ever really, South America, and I feel like that is it's main benefit right now [...]". As such, the possibility to collaborate with other artists is identified as one of the main contributors of value for some of the artists.

Furthermore, another functioning that is of high value for artists is to communicate with other artists. Costerman (2019) expresses that "[...] it is important, it attract me to communicate with other people [...]", referring to the possibility to communicate through visual conversations instead of language. She elaborates on the importance of this opportunity this saying that "[...] is very interesting for me to communicate with others without speak, because I have a problem with speak. With drawing for me is easy to speak with other people [...]". Similarly, Stati (2019) expresses that "[...] it is very difficult speak

[...]” and further states that “[...] DADA.nyc offer a new form of do art and of connect with people in deeply ways [...]”. Hence, to communicate with other artists is identified as particularly valuable for some artists.

Moreover, another important functioning revealed through this paper’s research is to be attributed for your work. Through DADA.nyc utilizing blockchain technology, the artists using their offerings are able to digitally sign their artwork in an immutable manner (Mam, 2019). Stelitano (2019) highlights the importance of this possibility saying that “[...] No one is telling that it’s not yours anymore. The main thing is that they cannot deny that it’s yours [...]” and elaborates with the statement “[...] For any artist, I think, to be able to say ‘Yes I did this, I still did this, this is a product of myself’ [...]”. Furthermore, Stati (2019) expresses that “[...] now DADA allow the possibility at artist [...]” “[...] which ensures lifetime benefits such as: rights of authorship, traceability of works [through encrypted digital signature] [...]” supporting the importance of being attributed for your art. Thus, this is seen as valuable by artists.

Lastly, the importance of having control over your art became apparent through interviews with several of the participants contributing to the data collection. The lack of control in a digital art world has been a concern for artists, as Gonzales (2019) explains saying that “[...] I have a lot of works around the digital world that there are just jumping from people to people, but it is not really payed [...]”. Moreover, Stelitano (2019) expresses that “[...] you go on this site and you can just copy it [...]” “[...] and you paste my drawing on it and then it’s yours and you are making money [...]”. As such, the possibility to have control over artwork and how many editions there are, provided by DADA.nyc through scarcity solutions based on blockchain technology, is identified as a valuable functioning for artists.

6.4 The Capability Approach and DADA.nyc

So far in this chapter, the various functionings identified through the analysis of this paper's empirical data have been presented, indicating that the offerings of DADA.nyc is providing value for artists in many different ways. As presented in the previous section, the importance of the value of these different functionings may vary from artist to artist. Some perceive creating collaborative art as the most important functioning, while others value the ability to communicate with others through art as the most valuable. However, through the interviews conducted for this paper's research, it was made apparent that the different artists in general value several of the functionings derived from DADA.nyc and the utilization of blockchain technology. Hence, DADA.nyc offers the artists with the ability to fulfill a range of valuable functionings, but as the importance of the value of a functioning is individual (Sen, 1999), an artist chooses to fulfill the ones that are most important to them in order to achieve well-being. This aligns with the capability approach and "its focus on what people are effectively able to do and to be, that is, on their capabilities" (Robeyns, 2003, p. 5). Robeyns (2003, p. 6) further highlights that well-being relates to "their effective opportunities to undertake the actions and activities that they want to engage in, and be whom they want to be".

Thus, we see DADA.nyc as a provider of well-being for artists, as DADA.nyc offers a range of functionings perceived as valuable that artists have the ability to fulfill. Even though artists choose to fulfill certain functionings, due to the individual perception of value importance (Wongtschowski, 2015), they are still provided with the ability to achieve other valuable functionings as well. As such, they may choose to only fulfill certain functionings, however many other functionings are still made available by DADA.nyc, which makes DADA.nyc a provider of well-being for digital artists. The composition of the various functionings available is creating value for artists as they have the freedom to choose (Robeyns, 2003).

6.4.1 DADA.nyc Capabilities

So far in our analysis we have presented 19 valuable functionings for digital artists identified from the data collected in this research. According to the capability approach, a capability can be perceived as a set of valuable functionings (Robeyns, 2003), as such the various functionings is assigned to a capability identified in this research. Through our analysis, 12 capabilities has been identified. Below is a table showing the different capabilities as well as an explanation of these.

<p>Artist control: Being able to create scarce digital artworks and control distribution of these</p>
<p>Provenance: Being able to provide important information about an artworks ownership history, creator and authenticity</p>
<p>Enhance finances: Being able to improve digital artists financial situation</p>
<p>Motivation: Being able to feel motivated to create and share digital art</p>
<p>Artistic development: Being able to experiment and improve skills as a digital artist</p>
<p>Confidence: Being able to feel confident about skills as a digital artist and the digital art created</p>
<p>Artistic reach: Being able to reach a broader network of international viewers of digital art</p>
<p>Communication: Being able to communicate with other artists</p>
<p>Community: Being able to feel part of a supportive and inclusive community</p>
<p>Collaboration: Being able to create digital artworks together with other artists</p>

Table 3: Capabilities identified

6.4.2 Impacts of DADA as a Social Enterprise

The application of the capability approach builds upon the assessment process of impacts from organizations on human capabilities, derived from the relevant information on the social enterprise and its activities (Wongtschowski, 2015). Social enterprises aims to create social value (Srivetbodee et al. 2017) which can be perceived as value that comes from performing activities to improve the well-being of people, communities and societies, and create social value for marginalized members of society who are inadequately served by the market (Young, 2006). This aligns with the vision of DADA.nyc to provide a secure platform for digital artists and their creative freedom, based on blockchain technology (Maistrelli, 2018). As such, DADA.nyc is defined as a social enterprise. In this section, we will present the impact of DADA.nyc's offerings, and how they contribute to social value through change.

In order to present findings related to impacts of social enterprises revealed through research, Wongtschowski (2015) provides a table showing "how assessment of impact was based on observed changes in instrumental indicators that could be expected to affect capabilities themselves" (Wongtschowski, 2015, p.17). We will draw inspiration from this table in order to present the impacts found in this paper's analysis. As such, the following outline of the table is provided.

The table is divided into five columns. First is 'DADA.nyc platform offerings for digital artists', which is a short description of the offering provided by the DADA.nyc. Second is 'Description of activities arising from offerings', which provides a practical explanation of what the offerings achieve. Third is 'Impact on artists lives from activities arising from offerings', which elaborates on what impact or change the offering and it's activity provides for digital artists. Fourth is 'Identified valuable functioning for artists from activities arising from offerings', which explains the result of the impact from the third column as functionings valuable for artists. Finally, the fifth column presents 'Identified

valuable capabilities for artists', which relates to the capabilities of digital artists presented in Table 3. The identified functionings will be assigned to a capability, which will be done in accordance to Alkire's (2002) focus on capabilities being context dependent.

The table is provided for several reasons. First, to present the set of functionings and capabilities identified for artists using DADA.nyc in accordance to the capability approach. Second, to summarize the findings, being the impact of offerings of DADA.nyc as a social enterprise, in a manageable matter. Third, to define relations between functionings and capabilities related to DADA' offerings. Lastly, the table has been colour categorized to distinguish between the blockchain functionings and community functionings. The colour green represents the former and the colour blue represents the latter.

DADA.nyc platform offerings for digital artists	Description of activities arising from offerings	Impact on artists lives from activities arising from offerings	Identified valuable functionings for artists from activities arising from offerings	Identified valuable capabilities for artists
Art Scarcity	Creating digitally scarce artworks by using blockchain technology	Artists using DADA.nyc are able to decide how many editions there are of their digital artworks, enhancing artist control	To have control over your art	Artist control
	Controlling avail of art	Artists using DADA.nyc are able to decide who avails their art	To decide who can avail your art	



Art Provenance	Provision of ownership history through recording information on the blockchain	Ability for artists to have immutable record of ownership for digital artworks, creating secure chain of custody	To track ownership	Provenance
	Providing attribution for digital art through utilizing blockchain technology	Artists using DADA.nyc are digitally sign their artworks, as such providing attribution in a digital space	To be attributed for your work	
	Provision of secure proof of authenticity through blockchain technology	Artist are able to authenticate their art for stakeholders	To prove authenticity	
Marketplace	Ensuring compensation for artists through scarcity creation	Artists using DADA.nyc are able to be fairly remunerated for their art, enhancing their financial freedom	To get remuneration	Finances
Art Creation	Provision of secure place to create and share art by utilizing blockchain technology	Artists using DADA.nyc experience liberation from previous concerns, enhancing their motivation to create and share their art	To feel liberated	Motivation
	Provision of outlet for personal matters	Artists are able to express themselves and let out personal emotions, feelings and thoughts through creating art	To express yourself	





	Provision of digital drawing tools available to anyone	Users of DADA.nyc are able to experiment with digital drawing with the tools provided	To experiment with digital art	Artistic development
		Enhancement and development of artistic skills within digital drawing	To develop as an artist	
		Artists are able to create more art using less resources, decrease costs related to creating art	To be cost-efficient	Finances
Art Network	Exposure to international collection of digital artist's work	Artists feel inspired by seeing other digital artists works	To be inspired	Motivation
	Provision of network of feedback from other artists	Artists feel less insecure about experimenting with their art	To feel confident about your art	Confidence
	Provision of network of international viewers	Artists using DADA.nyc get an increased reach of their art to artists and other stakeholders	To exhibit your art	Artistic reach
	Provision of social network of artists	Broadening of network for artists to communicate with	To communicate	Communication



			with other artists	
	Provision of sincere social network	Artists are able to give and receive sincere feedback on artworks	To get sincere feedback	
	Provision of support network of artists	Artists feel encouraged by the support of other artists on DADA.nyc	To be supported	Community
	Provision of social network of artists	Artists that spent time alone can now spend time with others	To feel included	
Art Collaboration	Provision of tool to create collaborative art pieces	Artists are able to work together with other artists on DADA.nyc and create visual conversations	To do collaborative art	Collaboration

Table 4: Functionings and capabilities identified for artists using DADA.nyc

6.4.3 Unfulfilled valuable functionings identified

Through the analysis of the data collected, we have identified some indicators of valuable functionings that artists on DADA.nyc in its current state are not able to achieve. These functionings relate to the digital art marketplace as well as art sales middlemen. It has been argued that artists create art only for the enjoyment of making art (Abbing, 2002), however our findings identify the valuable functioning of being remunerated. DADA.nyc in its current state has not yet created a decentralized peer to peer marketplace based on blockchain technology (DADA.nyc, 2017). Regarding this, Henry (2019) expresses that “[...] the selling and the marketplace has to be more in the hands of the user [...]” and “[...] I can

paint things and sell things for cash [...]” “[...] but financially it hasn't had the impact yet [...]”. This indicates that not only would artists in fact like to make an income from their art, but in addition they would like the sales of art to be in their hands, without any middlemen controlling the sales process. Based on this, we have designed a potential future functioning, which is: *To be in control of sales without middlemen*. Below is a representation of this functioning and what it may look like if it is achieved.

DADA.nyc platform offerings for digital artists	Description of activities arising from offerings	Impact on artists lives from activities arising from offerings	Identified valuable functionings for artists from activities arising from offerings	Identified valuable capabilities for artists
Marketplace	Provision of peer-to-peer sales process based on blockchain technology	Artists are able to control and make sales directly to buyers without using any middlemen	To be in control of sales without middlemen	Artist control

Table 5: Potential future capability and functioning

6.5 Summary of findings

Based on the findings presented in this chapter we have uncovered how digital art platforms using blockchain technology enables value for digital artists, specifically how DADA.nyc is enabling value for the artists on their platform. The analysis of this papers data collection shows indications that DADA.nyc, as an art platform utilizing blockchain technology, is enabling value in several ways. Not only is blockchain technology a solution to some of the pressing issues in the digital art market, like provenance and scarcity, but

overall our findings indicate that blockchains inherent attributes are enhancing artist's life in many ways and resulting in well-being. 19 functionings have been identified as a result of DADA.nyc's offerings. These are divided into Blockchain Functionings, which contains seven functionings, and Community Functionings, which contains twelve functionings. The offerings impacts in relation to each functioning has also been assessed and been given an in-depth description in Table 4.

Moreover, the functionings that have been identified have been assigned to capabilities, as capabilities can be understood as a set of available or fulfilled functionings (Sen, 1999). Eleven new capabilities have been identified. Even though the concept of value is individual (Wongtschowski, 2015), some offerings and their related identified functionings have been expressed as particularly important and valuable for several of the artists.

Our findings show that the ability to work with other artists and make collaborative art is a valuable functioning for all artists interviewed for this paper's data collection. Several artists agree with the perspective that an artist life is one of solitude (Roy, 2015), as such it is highly valued to be able to create art with others. Moreover, as the artists lives often consists of being alone (Roy, 2015), the possibility to communicate and be social with other artists is valued. Additionally, this includes being able to communicate through the art instead of through language, as some of the artists struggle with communicating verbally. Furthermore, the artists express that they highly value provenance, including being able to be attributed for their own art and prove authenticity of their art, due to the ease of copying and re-distributing art. Lastly, the provision of scarcity of art is valued by the artists, as it helps prevent someone stealing an artwork and re-distributing it for own financial benefits.

7. DISCUSSION

Through our analysis we have found several interesting findings in form of functionings and capabilities as a result of DADA.nyc and the underlying blockchain technology. The findings indicate that DADA.nyc creates a number of capabilities that enables value for artists depending on what the individual finds valuable. In this chapter we go a step further into blockchains role as a value enabler for digital artists, the factors that hinders the value enabling to reach its full potential and some potential future value enablers.

7.1 Blockchain as an enabler of value

DADA.nyc was created in an attempt to empower artists (Mam, 2019). The vision was based on the idea of facilitating a social platform with offerings catered to communicating and inspiring artists to collaborate on art (Maistrelli, 2018). Mam (2019) states “[...] there are certain people that are far more eloquent creating images and creating art than expressing themselves through words and that all social media in many ways is predicated on language, even Instagram somehow you know, you end up having to type [...]”. Moreover, Mam (2019) explains that “[...] artists need to do in our platform what they do in their lives which is they need to create art [...]” “[...] she [Ramo] also felt that it needed to be like a conversation [...]” “[...] instead of just like, I’m just gonna draw something [...]” “[...] she wanted to create a conversation [...]” “[...] So what you see today is, is the result of that [...]”. These offerings entail network, collaboration, creation and communication, which are all valued highly by artists, as reflected in our findings.

However, even though DADA.nyc wanted to empower artists through the above mentioned offerings, something was still missing. While operating in the digital realm, their art was being excessively distributed and replicated without remuneration due to the lack of control (Mam, 2019). Lack of control over digital artifacts is reflected upon by Lyman (2002) and Kallinikos et al.(2013) as well. They see the reproductive, editable,



interactive, accessible and non-archivable attributes of digital artifacts as being some of the reasons for the lack of control (Lyman, 2002; Kallinikos, 2013). The challenges surrounding digital artifacts are as Martón (2010) and Lyman (2002) state due to the lack of a system or infrastructure that ensures the provenance and scarcity creation for digital artifacts (Wang et al., 2016). DADA.nyc saw blockchain technology as the tool to combat these challenges and to empower artists even more. Mam (2019) states “[...] what we’re saying is we have this technology that can enable a completely different model [...]”. As such we perceive blockchain technology as an enabler for DADA.nyc to be able to create new capabilities for digital artists. The new model created with offerings based on blockchain technology would create sufficient protection mechanisms for the information and data in order to avoid unwanted alteration, destruction and unauthorized utilization, as reflected by Wang et al. (2016). DADA.nyc integrated blockchain technology as a means to create a platform that facilitates the creation of provenance and scarcity for digital art, as such enabling a safe place for artists to create and share their digital art, liberating artists from previous concerns. This is backed up by our findings, where we identify two capabilities “Artist control” and “Provenance”, that are derived from blockchain related offerings that DADA.nyc provides. The capability of “Artist control” provides artists with the ability to create scarce digital artworks and control distribution of these and the capability of “Provenance” provides artists with the ability to provide important information about an artworks ownership history, creator and authenticity. Both capabilities provide the ability to combat the challenges of provenance and scarcity in the digital realm and facilitates a safe place for the distribution of art.

An interesting finding regarding the importance of the blockchain offerings related to the capabilities “Art control” and “Provenance” is reflected in the artists perception of blockchain. Each artist described their experience of using DADA.nyc and their introduction

to the platform in different ways. Henry (2019) states “[...] People will also want to draw with other people and experiment, you know, art with other people. So I feel like that kind of social media was bound to happen regardless of it being on blockchain or not. I think in a way being on the blockchain incentivizes people to come in where it's kind of a novel idea [...]”. A similar reflection is made by Stati (2019) “[...] blockchain is the motor on the page. It does not represent DADA, but how do you say it? It is an incentive to do art. But is not the motor of the... [refers to platform - DADA.nyc] [...]”. Furthermore, Costerman (2019) states “[...] I read that it is based on the blockchain, but for me.. It is important, it attract me to communicate with other people... [...]”.

We find this interesting, as we identify two different perspectives of blockchains importance from artists in regard to enabling value. On one hand, the artists emphasizes the value of the capabilities related to community functionings as the most important ones. On the other hand, the artists describe blockchain as an incentive to partake in the offerings from DADA.nyc. Through our analysis and discussing the artists different perceptions of blockchain technology, we have asked ourselves one important question: Would the capabilities related to community functionings and their impacts be present if it were not for the underlying blockchain technology? Many of the artists express that the capabilities related to community functionings is the most important ones, as Stelitano (2019) states “[...] the main thing is about the collaboration [...]”. Moreover, Gonzales (2019) explains: “[...] Why I became involved with DADA? It was just a fun platform to do drawings with people around the globe [...]”. But without the underlying blockchain technology and capabilities that blockchain provides artists - identified as “Art control” and “Provenance”, would there be any people on the platform to collaborate and create art with? By utilizing blockchain technology, DADA.nyc is able to offer a safe place for artists to create and share their art, but would the artists engage in community functionings like *To*



exhibit your art without blockchain? It is difficult to provide a certain answer to these questions, however we believe the artists insecurity regarding platforms without blockchain (Stelitano, 2019) indicates that the community offerings and the artists on the platform are there due to the attributes of blockchain technology.

7.2 Immature market and middlemen elimination

In this section we will discuss findings regarding the marketplace and sales of digital art and argue how blockchains potential to resolve some of the pressing issues for the digital art market's current state and what might be hindering it from reaching its full potential.

It has been argued that an artwork loses its value if the art is not scarce, and that it is difficult to ensure income if several copies exist (Bailey, 2017; Zagrobelna, 2017b). Moreover, several copies make it difficult to prove provenance, which is important for artworks to be perceived as valuable (Codex Protocol Whitepaper, 2019). Stelitano (2019) expresses her concerns regarding these issues by stating “[...] you go on this site and you can just copy it and then you go and you open Amazon t-shirt shop and you paste my drawing on it and then it's yours [...]”. The importance of this is reflected in the functioning “To be remunerated” found in our analysis. The research of this paper has found that the promises of blockchain technology and its inherent qualities is acknowledged by artists as a solution to the problem of fair remuneration, as Henry (2019) explains: “[...] someone can get some royalties if somebody is using it you know, it is going to be linked to the blockchain already [...]”. As such, blockchain is identified as a tool to combat these concerns by enabling the functioning “To be remunerated” related to the capability “Finances”, hence ensuring economic benefits for a digital work of art is generated solely towards the artist who made it.

On another note, artists see the value enabling for the digital art market to be somewhat insufficient in the current state of DADA.nyc. Henry (2019) explains that “[...] the income



has not been there [...]” “[...] there has to be more people coming into the space to buy art, which I think will happen and I am patient and I can paint things and sell things for cash [...]” “[...] but financially it hasn't had the impact yet [...]”. Mam (2019) supports this and explains that “[...] It still needs to be built, you know it's, it's so young and it's so new [...]” “[...] It's not really a mass market yet, it's really very niche [...]”. Even though blockchain can make it possible for artists to sell their art with more security than before, there are not enough users to make it sustainable (Henry, 2019), as such we perceive the market of digital art based on blockchain technologies attributes to be immature.

Moreover, Mam (2019) explains that enabling a marketplace where artists can utilize blockchain technology to sell art in a seamless process is difficult. Mam (2019) elaborates saying that “[...] I buy the art and the artists gets it as a smart contract [...]” “[...] but it's still a bit of a clunky process [...]” “[...] it's not yet completely automatic, we're still, you know, we just really recently added this functionality where they can, they can press a button and then the, you know, the money will get distributed [...]”. In addition, Mam (2019) states that DADA.nyc is “[...] trying to solve the problem of how to make these distributions [...]” “[...] because our conversations, you know you can have like maybe it's, you know, eleven artists in, in a conversation, but one artists did more than one drawing, so how can the smart contract do, do those very specific distributions [...]”. This is reflected in Henry's (2019) statement: “I think it [blockchain] will actually expedite the process and I don't have to walk down or go down to where I have to sell a painting for a couple of hundred dollars you know, I can just have somebody send me ethereum or bitcoin”.

As such, we see indications that blockchain technology can aid the possibility to make a market where digital artists can sell their art through utilizing blockchain, however there is a lack of a consumer market in order to make it sustainable. Moreover, promises of a more automated process is apparent through the use of self-executable smart contracts that

record ownership and transfer digital goods in a secure way (Mam, 2017). However, the mechanisms in order for DADA.nyc to be able to provide such a market is currently lacking, but the promises of a new market and sales structure are clearly apparent.

7.2.1 Elimination of middlemen

When discussing the immature state of the current market situation, we see it relevant to discuss the position of middlemen in digital art. Traditional art has been bound to physical exhibitors and dealers, like auctions houses and galleries (Caves, 2002), and that such middlemen decide what art to display and sell based on their perception of what good art is (Caplan, 2017). The internet has empowered artists in their control over their own art career, making it possible for artists to show what art they want to who they want (Cornell & Halter, 2015). Our findings show that digital artists previously were concerned with displaying their art on internet platforms due to the high amount of replicability, like Stelitano (2019) expresses: “[...] I was on Instagram, basically all of the platforms, because you know if you want to promote yourself as an artists [...]” “[...] you go on this site and you can just copy it [...]”. The artists on DADA.nyc expresses liberation from these concerns due to the underlying security provision of blockchain technology as reflected in the functioning “To feel liberated”, which makes it possible to exhibit their art to more people. Stati (2019) explains “[...] in the best of the cases if your art matches the parameters that the viewer considers beautiful, but there are few people who will see in your art a tireless search... in my opinion, DADA is here for reverse that [...]”, confirming that DADA.nyc makes it possible for them to exhibit their art to a broader audience without the help of middlemen, which according to the identified capability “Artistic reach” is perceived as valuable.

However, even though the capability “Artistic reach” is identified as a result of digital artists using DADA.nyc, the artists control over the sales of the exhibited artworks is currently inadequate. Henry (2019) explains that “[...] the selling and the marketplace has

to be more in the hands of the user [...]” “[...] it has to be more in our hands to tell you how many prints there are going to be of a certain one [artwork] [...]”. The lack of artists control in selling their art is reflected in DADA.nyc recent initiative of a digital art auction, as Mam (2019) explains: “[...] we did as a group of artists, uh, to do, to work on this auction [...]” “[...] the first collection that we launched on October 2017 was the Creeps & weirdos collection, we basically were testing so we chose 100 drawings [...]”. For this auction, DADA.nyc chose what artists and drawings to be displayed and sold at the auction. The aim of DADA.nyc and their vision is to enable more control of sales for digital artists, as Mam (2019) elaborates saying that “[...] what blockchain is supposed to enable which is just like this amazing peer to peer thing [...]”. The peer to peer market is currently lacking, however DADA.nyc is working on a solution (Mam, 2019). As such, there are indications of a new emerging system that eliminates middlemen and promises of a more decentralized market (Liang et al. 2017) where the artist is in control.

When assessing these findings, an interesting question comes to mind: Isn't DADA.nyc then operating as a middleman? The liberation from previous concerns regarding displaying art on digital platforms is perceived as valuable, as reflected in the capability “Artistic reach”. Moreover, the promises of blockchain technology indicates the possibility for DADA.nyc to create a decentralized, peer to peer network for selling art, where the artist is in control. We believe that these possibilities would be difficult for digital artists to achieve without using DADA.nyc, or other platforms, that utilize blockchain technology. We argue that DADA.nyc are still a middleman, as they offer a place where digital artists can exhibit their art safely, and in time be in control of sales. Artists are dependent on DADA.nyc as a middleman to perform these activities. However, the difference between traditional middlemen and blockchain art platforms as middlemen lies in the artists control over exhibitions and sales. As Caplan (2017) expresses, traditional middlemen might be

biased by their own opinions of art when choosing what to exhibit or auction. DADA.nyc's artists are free to create and exhibit whatever art they want on the platform. In regard to auctions and sales of art, this is not yet completely in the hands of the artists, as DADA.nyc organizes and controls the sales processes (Mam, 2019). Henry (2019) explains that "[...] The scarcity and the control of drawing right now, like, I kind of want that to actually be improved to where we can, you know, tell you how many prints there are gonna be for this one or that one and directly sell work. I think they are working on that with a marketplace kind of, but right now, it's like, it's not where I would want it to be, but, I have faith in the people that are leading us you know [...]" . Hence, the control of right of sales now is not yet solely in the hands of the artists, which is perceived as valuable functionings presented in section 6.4.3, nevertheless the artists have faith in DADA.nyc and their path to create an optimal market to ensure even more value enabling for their artists in the future. As such, we argue that DADA.nyc will in the future operate as a middleman, offering the possibility for artists to exhibit and sell their art. However, unlike traditional middlemen, artists will be in full control of choosing what to exhibit and sell, which enables value for digital artists.

7.3 Art for Art's sake

Through DADA.nyc's integration of blockchain technology, the functioning "To get remunerated" is identified. Getting remunerated is associated with economic benefits derived from the sale or use of an artwork. When discussing economic benefits, the subjective nature of what constitutes as value comes to mind. Williams (1965) presents the distinction between the 'Aesthetic Man' and 'Economic Man' explaining that "the principle asserted that an artist's creative identity and psychological disposition excluded him or her from an interest in commercial or administrative matters" (Williams, 1965, p. 54). Abbing (2002) supports this saying that artists are selflessly devoted to art. This attitude towards art is reflected by Stati (2019) who says "[...] Art is almost a physiological

necessity in my life. I couldn't live without drawing, without painting, without writing, without taking pictures and editing them, without composing things, without creating, without letting my imagination fly or trying to express what I feel [...]". Henry (2019) mirrors a similar description on his relation to art "[...] like I said there is kind of this philosophy for me, if I am working in a digital space then it is kind of like, translate humanity [...]". However, even though the attitude towards making art is somewhat similar between the artists, our findings indicate a duality between the attitude towards being remunerated for their art. For instance, Stelitano (2019) mentions "[...] They had told us that there was this possibility to make money to do, you know, a crypto collection in this auction. I wasn't so happy because to me it was like to... ruin the, uh.. innocence of it, with money [...]". whereas Costerman (2019) states "[...] I hope I improve my money. I hope, I am very excited to this new system [...]". As such, our findings indicate that Abbing's (2002) statement of artists not being concerned with economic benefits to not be fully reliable. Even though the making of art should be at the core of artists (Abbing, 2002), artist may very well wish to sell art and generate financial income as a supplement to the value making art gives. Moreover, while artists may seek to create art with an intent to sell and generate monetary benefits, artists may also pursue creation of art purely with the aim of creating art as a valuable action itself (Faulkner et. al, 2008). This is supported by Henry's (2019) statement regarding why he chose to partake in digital art and DADA.nyc's offerings: "I could sell it eventually, that was not an immediate goal". Moreover, Henry (2019) says that "It is going to help with selling art but that is not my primary objective".

Furthermore, in the context of the capability approach, the novelty and appropriateness of a service being provided determines the use-value of a service (Bowman & Ambrosini, 2000, Robeyns, 2003 & Parkin et al. 2005). The remuneration service provided by DADA.nyc is novel, as it provides artists with the opportunity to benefit economically from

their work in a market where the opportunity to do so was not available before. As such, economic value is associated with the use of the service, this is supported by Costerman (2019): “[...] I hope I improve my money [...]” [...] I am very excited to this new system [...]”. However, the appropriateness of the service in regards to the artists attitude towards generating an income from their creative output can be discussed. As Henry (2019) explains, it will help with the opportunity to sell art securely and efficiently, but that’s not his main goal. This highlights the idea that artists see the appropriateness of the value derived from the remuneration service, but do not necessarily see it being appropriate in terms of their own inclinations about what they want to do and be in their life (Sen, 1993), meaning artists that do not care about the economic benefits (Williams, 1965) for their art will not see this service as appropriate for them. Regardless, the creation of value within the capability approach lies within the ability for people to do and be what they want in their lives (Sen, 1993). As such, even though an artist may not aim to generate income from their art, they have the capability to do so if they want, and that creates value for the artist (Sen, 1993).

7.4 Knowledge gap

Through discussing the findings of this research we have discovered some indicators promising better value enabling for digital artists. However, some issues with blockchain technology have also been discovered that are of importance for the further development of value. Through our data collection it was uncovered that several of the artists have limited knowledge about blockchain technology. Costerman (2019) says that “[...] I understand a little bit [...]”, similarly Stelitano (2019) expresses “[...]I understand a part of it [...]”. Gonzales (2019) explains that “[...] They [Founders of DADA.nyc] started to talk to us about the blockchain and we were like “whaaat, whats that? [...]”. Gonzales (2019) further expresses that “If you talk to a normal artist they don't really know about the [...]” “[...] crypto world works and when you describe it to them, they are very doubtful about it

[...]”. This reflects the concerns that adoption of blockchain technology is being restrained due to lack of knowledge, and before this adoption happens, blockchain technology will be insufficient in regard to making a change (Stinchcombe 2018; Almammadov, 2018). As such, blockchains ability to enable valuable changes for digital artists, reflected by the capabilities identified in this research, might not reach it's full potential if digital artists are not aware of the valuable capabilities derived from blockchain technology, as presented in our findings. However, there are indications that value is being enabled even though the realization of the value of blockchain technology is in its nascent stages. Gonzales (2019) explains that, once artists were introduced to DADA.nyc and blockchain technology “[...] it started to grow and grow and it is great [...]”. Moreover, he expresses that “[...] we are like the beginners of the... [New methods based on blockchain technology] [...]”. Similarly, Henry (2019) explains “[...] I feel like artists will come once they know that it is a better option, I just feel like it is an educational curve, like I don't really think that a lot of people are aware that it is an option right now [...]”. Based on this, some important matters regarding knowledge gap is identified. The artists may not understand how the technology works which can result in them not seeing the full value of DADA.nyc’s offerings. Moreover, artists may be sceptical to this new technology and choose to reject adoption of it (Stinchcombe, 2018). It is crucial for DADA.nyc and their artists to continue the educational work towards artists to adopt more users to the technology in order to build a sustainable market and deliver value (Almammadov, 2018).

7.5 Platform integrity

Another issue pointed out by Stinchcombe (2018) relates to lack of adoption of technology due to insecurity in the integrity and trustworthiness of the provider of information embedded into the blockchain. In the world of art this is highly relevant for an artworks value related to provenance, as it is important for anyone interest in an artwork to be able to trust the provenance information provided (Van den Bussche & Vianul, 2001). Through

our analysis we have found that there is great trust from the artists toward DADA.nyc, as Stati (2019) expresses: “[...] had been many changes from that I enter for first time to DADA until today, and DADA is right now in evolution [...]” I believe that change will be continued [...]”. Moreover, Alex says that “I think they are working on [...]” “[...] a marketplace [...]” but right now, it's like, it's not where I would want it to be, but I have faith in the people that are leading us [...]”. This indicates that the artists themselves have great trust in DADA.nyc and their abilities to create both a good and fair marketplace, where artists can achieve valuable capabilities related to art sales, as well as develop the platform in general regarding the other offerings. But Stinchcome’s (2018) concern regarding integrity of blockchain businesses makes us think: Even if a new marketplace based on blockchain technology is created that makes it possible for artists to ensure provenance of artworks, will potential buyers trust this information provided? Provenance is important for many art buyers, as proving provenance is fundamental for an artworks value (Coded Protocol Whitepaper, 2019), but what happens to the art’s value if the information provided is not trusted? These issues are difficult, but important to resolve in order to ensure that buyers have trust in DADA.nyc and their artists once the marketplace is operational.

7.6 Potential value and future research

Through discussing this papers literature, theory and findings we have identified valuable capabilities and functionings that are being achieved by digital artists that use DADA.nyc offerings. However, some valuable functionings have also been identified that DADA.nyc in the current state does not provide ability for artists to fulfill. The valuable functionings not being achieved relate to the digital art sales as well as middlemen. It has been argued that artists create art only for the enjoyment of making art (Abbing, 2002), however our findings indicate that artists wish to achieve the functioning *To be in control if sales without middlemen*. Nevertheless, we have found that DADA.nyc and their utilization of



blockchain technology promises changes in the future that potentially will provide artists the ability to achieve this valuable functioning.

The potential functionings identified are derived from the researches interpretation of indications in this paper, and would require further research to be confirmed or rejected. Even though this paper's findings are derived from a single case, we believe that the research can contribute as a basis for other researchers interested in similar areas within the field (Flyvbjerg, 2006). As such, other researches may find inspiration in this paper's research to further investigate whether the potential valuable functioning for artists are apparent. Moreover, we believe that our research is relevant for investigating whether the functionings identified for this paper's case study are found for other cases, such as other blockchain art platforms or platforms contemplating the integration of blockchain technology. In addition, other researchers might expand on the identified functionings with new functionings found on other blockchain art platforms, and in time aim to create a generalized set of valuable functionings and capabilities for digital artists. However, this paper only assessed value enabling from functionings and capabilities related to the digital artists. Once the fully-functioning marketplace is created and running and the artists start gaining buyers of their art, we believe it would be interesting to conduct further research on the art buyers perspective to reveal what needs to be in place in order for DADA.nyc and it's artists to achieve integrity.

8. CONCLUSION

The aim of this research paper is to investigate value for digital artists enabled by blockchain art platforms. Through the literature review of this paper, some important factors that makes it difficult for digital artists to enable value for their digital art have been highlighted. Some of the problems with the current status of the market is related to the lack of control and information related to digital art and it's extensive replication and distribution without remuneration and attribution. These are important factors to what enables value for digital artists and creates value for digital art. The literature review of this paper further assesses how blockchain technology is of relevance in order create new solutions for some of the problems with the current digital art market that hinders digital artists to ensure value for their art. This leads us to further investigate how digital art platforms utilizing blockchain technology can enable value for digital artists.

In order to investigate this phenomenon, a case study is applied through investigating how DADA.nyc, an art platform utilizing blockchain technology, enables value for the artists by providing a variety of offerings with an aim to empower digital artists. In order to gain insight in what constitutes as value for digital artists, an interpretive approach is applied through qualitative interviewing with digital artists utilizing DADA.nyc. To assess and analyze the empirical data collected, the capability approach is utilized to measure the value enabled by DADA.nyc for digital artists. The capability approach is identified as an appropriate value measurement tool of impact of the services of social enterprises and their aim to promote well-being through their services. The capability approach is used as this paper's theoretical framework to investigate digital artist's value perception of the offerings being provided by DADA.nyc, what new opportunities they gain and the impact of these new opportunities on their lives.

The findings obtained through this paper's analysis shows that blockchain art platforms enable value for digital artists in several ways. 19 ways DADA.nyc is enabling value for the

digital artists using their offerings are found. Moreover, this paper has also identified some indicators that digital artists have some value needs that are not enabled in addition to the 19 ways value is enabled in the current state. We believe that the value enablers identified in this paper are of relevance for researchers aiming to further investigate similar areas.

Based on this papers research, we conclude that blockchain art platforms are enabling value for digital artists through the ability of providing new offerings that resolves some of the issues identified regarding digital art. However, there are some constraints that need to be dealt with in order to provide an even more comprehensive value enabling. These constraints relate to an immature market due to lacking consumers as well technical shortcomings. Nevertheless, the promises of a sustainable market place that is able to fulfill the valuable needs of digital artists is clearly apparent.

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10. APPENDICES

Appendices for this thesis is provided as Appendices on Digital Exam for the digital hand-in, as well as on USB for the printed hand-ins. The Appendices include:

- Appendix 1: Interview Guides for Artist Interviews, Transcriptions of Artists Interviews, Written Interview
- Appendix 2: Interview Guide for DADA.nyc Co-founder interview and Transcript of DADA.nyc Co-founder Interview
- Appendix 3: Empirical Data Coding Evidence – Coding Tree