Department of Business & Management

BACHELOR'S DEGREE IN MANAGEMENT & COMPUTER SCIENCE

Course of Blockchain and Cryptocurrencies

Evaluating the Impact of Non-Fungible Tokens (NFTs) on Marketing Strategies

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Introduction

In recent years, the digital landscape has witnessed an emerging yet controversial phenomenon: NFTs (Non-Fungible Tokens). This new form of digital asset has attracted significant media attention and sparked heated debates.

This thesis aims at exploring in depth the concept of NFTs and its impact on marketing strategies.

The NFT phenomenon has been the subject of heated debates, as while some see NFTs as a revolutionary opportunity for artists and brands to interact with their audiences and monetize their work in innovative ways, others see this trend as a speculative bubble destined to burst. Considering this, both perspectives will be analyzed, taking into consideration factors that could affect marketing strategies in both positive and negative ways.

Marketing, as an evolving discipline, has rapidly embraced NFTs as a tool for promotion and audience engagement. The use of NFTs in marketing campaigns offers new opportunities to create engaging and personalized experiences, strengthening the bond between consumers and brands. In addition, the introduction of NFTs has redefined the concept of ownership and possession in the digital context, opening a new debate about the very nature of ownership and its representation in the virtual world.

Through the analysis of significant case studies, such as the use of NFTs in the fashion and automotive industries and finally in the music industry, the potential and challenges of NFTs as a marketing tool will be explored.

Special attention will be paid to the evolution of the concept of ownership and possession in the digital context, highlighting how NFTs have redefined these concepts, enabling creators and consumers to experiment with new models of interaction and exchange.

The implications of this redefinition on marketing theory and practice will also be explored, including strategies for audience engagement, the creation of unique experiences, and the use of NFTs as a customer retention tool.

Finally, through the analysis of significant case studies, such as the use of NFTs in the fashion and automotive industries and the music industry, the potential and challenges of NFTs as a marketing tool will be explored.

Non-Fungible Tokens (NFTs): Basic Concepts and Technology

In the variegated world of contemporary technologies, Non-Fungible Tokens, with the acronym NFT, represent something unique that cannot be replaced by anything else. Indeed, while, in general, one token of a cryptocurrency can be exchanged for another, the NFT is like a piece of art, unique and therefore non-fungible. Being, therefore, a unique digital content, one attributes to it the typical characteristics of a work of art, referring in a contemporary key to a secularized classicist concept, because they incorporate elements of traditional or classic art concepts but in a modern or current manner.

As is well known, technological tools of this kind have always had the need to protect consumers from possible misappropriation by always putting the issue of security at the forefront. To this end, the file processed by the author is saved in a very long sequence of 0 and 1 - as proper to computer language - then 'compressed' into a sequence called a *hash* that aims at producing a non-reversible encryption process that makes it totally secure. More specifically, this implies that while the digital document can easily compute the hash, on the contrary, the process is impossible, thus making the hash a secure system that makes it impossible to reconstruct the digital document from it, however, it should be pointed out that the hash by itself does not make the contents "secure." It can be used to ensure the integrity of the document.

The next step is to store the hash in a blockchain with an associated time stamp; ergo, making it saleable through cryptocurrencies.
As the best means of guarantee, the NFT keeps track of the sales of the hash to keep track of the change of ownership, all the way back to its creator and, therefore, prove ownership. It is apparent how all this can prove the authenticity as well as the ownership of the work.

An example of the versatility, but also of the security guarantees offered by NFTs are those of Ethereum that follow standards applied in the cryptocurrency's blockchain when it hosts the NFTs themselves. With standards known as ERC-721 and ERC-1155, it is possible to ensure that the unique certificate associated with the NFT does not become something else over time by certifying the ownership changes of the hashes because they are recorded on an unalterable blockchain.

However, there are technical criticalities to date that place the emphasis on possible risks associated with possession, but above all the durability over time of NFTs. A case in point, for instance, is what happened to the SHA1 function now replaced by the SHA256 version , which was shown to be vulnerable by Google, but also the issue concerning Ethereum's blockchain, which, if it were no longer maintained by a collective of actors, would be more exposed to a loss of security of the entire chain. To deal with these problems, technical solutions have been proposed using the IPFS (InternPlanetary File System) addresses. Suppose that a simple URL could fail because the manager stops paying for hosting, this would generate the loss of the hash information that could be deleted or removed. IPFS addresses, on the other hand, are distributed file systems very similar to peer-to-peer file exchanges. Therefore, as long as someone hosts that content, it would be possible to find it, thus increasing the probability that the content would survive over time. It is therefore evident that the future of NFTs and the smart-contracts associated with them is irrevocably interconnected to the self-preservation strategies that blockchains will deploy.

From Blockchain to NFT: The Digital Art Revolution and the New Frontiers of Technology

Since 2008, when Satoshi Nakamoto published the Bitcoin protocol on metzdown.com, the world of cryptocurrencies has evolved and expanded, becoming one of the most interesting and innovative topics in the world of technology and finance. Since their inception, cryptocurrencies have immediately attracted a lot of attention, mainly due to their disruptive nature and strong innovative components, capable of fascinating and frightening the public at the same time. The great novelty, however, that cryptocurrencies were introducing, was not immediately clear, as it was hidden behind the increasingly popular names of the new currencies that were beginning to appear on the internet, at the time still too immature to grasp its secrets. The great revolution that cryptocurrencies brought with them was in fact another, and it was hidden in their operation: the blockchain.
Already hypothesized for several years, it was an almost unused technique, due to its need to live based on a network that in the early 2000s did not yet have a chance to create and maintain itself on the young eb. With the birth of bitcoin, all this was changing once and for all. It had indeed been proven that the system could work and that it worked very well. The concept of immutability on the Internet was about to change forever.

Until then, the Internet had always been thought of as something dynamic and easily changed, something that most users knew very little about while a small minority knew a lot about, and this scared the majority. It was a dangerous place, where information was always within reach of anyone who knew where to put their hands. With decentralized and immutable systems, the point of view had to be changed. From something dynamic and insecure, the Internet suddenly became capable of storing digital information and making it immutable better than any other system on Earth. Having digested the concept of immutability, ideas immediately emerged on how to exploit this innovation, starting of course with money and new currencies, and then moving on to digital contracts (smart contracts and Dapps) to something even broader: NFTs.

Thanks to platforms such as Ethereum, which allowed not only information on transaction data (as was the case with Bitcoin) but also other digital data to be stored on its blockchain, the idea of making the works of artists or freelancers digital, which until then had largely shunned the digital world due to its inability to keep any digital information unique, the ``non-reproducible'' began to materialize. The idea that art could become digital and still have value began to take hold and, in just a few years, became one of the most interesting 'speculative bubbles' of the moment. The era of digital art seems to have just begun, but where will it take us?

Definition and Characteristics of Non-Fungible Tokens

A non-fungible token (NFT) is a piece of data saved on a digital ledger, specifically on a blockchain, which certifies its uniqueness. Although the blockchain was initially created and designed to support exchanges of fungible assets such as bitcoin or other cryptocurrencies, it has evolved over time to allow users to store other types of data on it, particularly non-fungible data. Ethereum's blockchain is the most widely used platform for most NFTs currently offered, as it supports the ERC-721 token standard, allowing NFT creators to store the information of their digital artefacts as tokens on the blockchain. When you purchase an NFT, what you receive is the right to transfer the token to your digital wallet. The token proves that your copy of a digital file is the original, like owning an original painting. And just as masterpiece paintings can be copied and distributed as cheap posters, anyone can have a digital copy of the contents associated to the NFT but there is a single digital original content

The private cryptographic key is proof of ownership of the original. The content creator's public cryptographic key serves as the certificate of authenticity for that specific digital artefact. This creator's public key and owner's private key pair is primarily what determines the value of any NFT token. (Khan, March 31, 2021)

The history of NFTs

As mentioned above, the emergence of NFTs is closely related to the evolution of blockchain platforms, in particular Ethereum, which first started to allow users to manage digital data of any kind through smart contracts on its blockchain, not limited only to data from their own cryptocurrency transactions. The first known NFT was created in 2007 in a game created as a Dapp (decentralised application) running on Ethereum's blockchain. The Dapp in question, a game called 'CryptoKitties', did nothing more than allow all players to purchase limited edition virtual cats, whose ownership was unique and securely stored on the blockchain, thus creating the first Non-Fungible Token. From there, the NFT phenomenon has expanded considerably, opening the door to a wide range of possibilities in many different fields, from trading cards, music, digital images or video clips to amazing virtual houses that you can buy within digitally created virtual worlds.

Are NFTs a bubble or a great opportunity?

Now, it seems to be on everyone's lips that NFTs are just another Internet-born speculative bubble. a concept that, however, seems to be losing credibility as the years go by. Most of the great inventions born on the Internet were in fact initially called 'bubbles', perhaps because of a success and speed of adoption that was difficult to explain or understand, perhaps because the first to call something a 'bubble' are those who missed the boat. However, this does not mean that all these inventions or innovations, whether they were bubbles or lost value or disappeared, did not almost always leave their mark. NFTs are defined as bubbles like all new technologies with a revolutionary flavour that arise from theInternet, just like bitcoins, which have been rumored to be a bubble about to burst for more than a decade now. Perhaps, however, as with bitcoin, NFTs should not be seen as a bubble per se, but rather as a newly born revolution with the potential to drastically change the concept of Internet ownership forever. Indeed, with the advent of digital, easy, and instantaneous replication has meant that nothing is in short supply anymore. As a result, all content with a potential digital translation was inevitably and drastically devalued. Thanks to blockchain, digital scarcity is now possible. And this is precisely the great revolution that NFTs bring, which goes beyond the current value to which they can be attributed. NFT is in fact essentially a digital token that represents ownership. Ownership is now verifiable, digitally protected, potentially divisible and easily transferable, and this applies to NFT regardless of the use that can be made of it or the value attributed to objects currently sold in the form of NFT.

Even in the real world, most art has little value, except for a few objects that fetch extraordinary prices. If an NFT gets a lot of media exposure, its value will increase. But the implications that NFTs bring to the concept of 'digital ownership' go far beyond works of art.
We could therefore say that more than the NFTs themselves, it is the price at which art objects in the form of NFTs are sold that is 'a bubble', although, at that point, we would have to be against the fact that a painting on canvas can be worth millions.
If, on the other hand, we claim that the price of these items is exaggerated because they are among the first to be sold in the form of NFTs, let us remember that a digital cat can also be an NFT that can be bought for a few quid on a computer game. The value of NFTs therefore depends on the item sold in the form of an NFT, not on whether it is an NFT itself. If there are telephone applications of a certain genre that start selling for millions, we cannot say that telephone applications are a bubble, but that that genre, at least, due to excessive media exposure, has led the applications to be worth too much.
The revolution that NFTs bring is tangible and goes beyond the value of what, through this new technology, can be sold.

"We are moving from a world where every protocol has a token, to where every (decentralised) application has a token, to where every valuable digital representation of an object or person has a token. Public blockchains will be the securities ledgers for everything of value. Eventually, NFTs will authenticate the world".

(Ravikant naval)

The NFT market: Overview and recent trends

There is no doubt that public attention towards NFTs exploded in 2021, when the market experienced record sales. In the interesting cross-sectional analysis of the literature published in 2021 (Nadini, 2021)et al, a large dataset comprising 6.1 million trades for 4.7 million NFTs in 160 cryptocurrencies related mainly to Ethereum and WAX was considered. NFT objects are mainly organized in collections sharing common characteristics. Among these objects are collectible card sets, sections of art masterpieces but also virtual spaces in online games. There is a categorization that can be divided into six, summarizing the most common taxonomies related to NFTs: Art, Collectible, Games, Metaverse, Other and Utility. In figure 1 , we see the organization of these by categories. The size of the circle is proportional to the number of resources in each collection

(ibid.). Until the end of 2018, the entire market was totally dominated by the Art category, especially by one collection: the CryptoKitties (Serada, (2021).
As of July 2020, however, the most traded categories fall into the Games and Partworks categories, accounting for 44% and 38% of transactions, respectively.

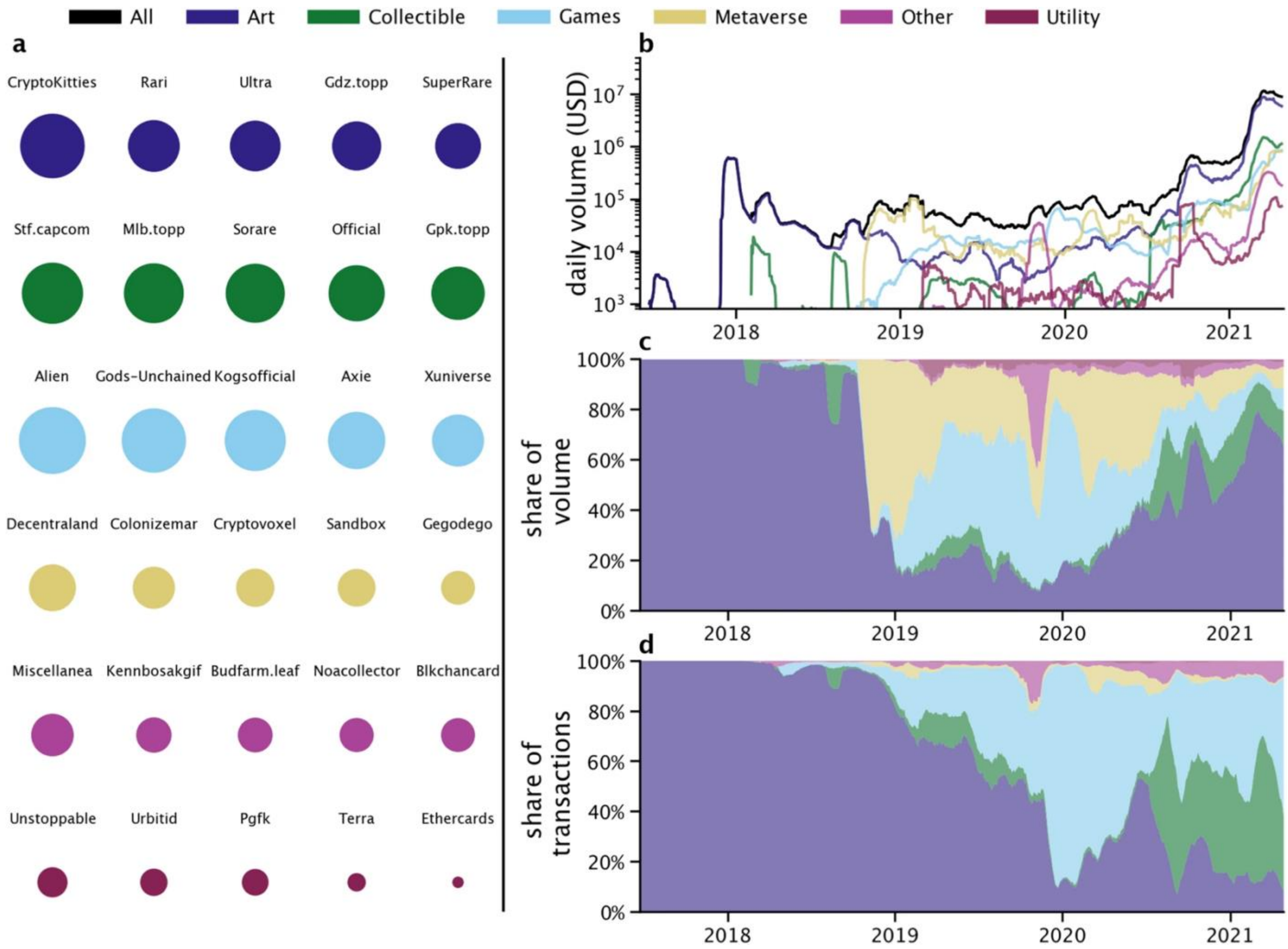

Figure 1 ***Description of the NFT landscape***

Regarding exchange prices, from the meta-analysis of the data compiled by Nadini et al., NFT sales prices range from a price of $15 to a maximum of $1594 representing although, by far, the highest transaction - over $1 million - belongs to the Art category.

Regarding the visual features related to NFTs, we can see that these falls mainly into video, text, animated GIFs and audio. According to the analysis, the most popular NFTs are images (Phillips, (2021)).

According to the model provided by Nadini, a cross-sectional analysis based on average prices can generate a prediction of the cost of NFTs. The data first shows that the sale price is very related to the collection to which they belong. "The prediction is more accurate when the median of the past sale price is calculated over a recent time window preceding the primary sale, e.g., the prior time window of one week is better than considering the entire time window preceding the NFT's primary sale. Similar results, albeit with generally lower correlations, are found when the secondary sale price is the object of the regression. As one would expect, the price of secondary sales is strongly correlated with the price of primary sale, and the predictive power of the variables declines as one attempts to cast a prediction over longer periods of time [...] when extending the prediction over the next 2 years. A similar relation is found between the secondary sale price and the median price of the NFTs collection.

NFT as a marketing tool

In the constant search for growing opportunities, companies use marketing strategies that aim at pulling the brand into new sales segments, such as the use of NFTs that wink at previously inaccessible market segments. And in this crossover of potential, reputable brands seek to gain - through skillful marketing strategies - new opportunities for growth and development. In an interesting study conducted by (Gartner, 2021), NFTs could have a major impact on key marketing functions, which is why it is crucial for a marketing manager to know how to persuade consumers to buy them by exploiting the most desirable characteristics such as scarcity and uniqueness.

Once upon a time, digital content could only be found on free or paid (legal or illegal) online platforms, examples of which could be Google images, YouTube or illegal streaming sites. However, this generated difficulties in proving the authenticity of NFT as its content that can be easily replicated. (Chaudhry, 2017)
This generated an ambiguity that led to numerous hindrances for musicians, artists, or brand owners to verify authenticity and consequently profit from their digital content. Even consumers in the collector niche were only able to own tangible non-digital assets such as printed content, clothing, trading cards etc. (Wilson, 2021). Therefore, over time, this has fostered the misrepresentation and misappropriation of certain content, consequently also harming brands and artists through fake news and deep fakes. (Kietzmann, 2020).

One answer to this problem has been the blockchain; in fact, this allows the content of a digital asset to be authenticated. One of the many applications of this technology are NFTs that revolutionize the way content is created, exchanged, traded, and authenticated for both the creator and the purchaser (Malhotra, (2021))

Evolving of Digital Marketing: How NFTs are Changing the Concept of Ownership and Property

The 'ownership' dilemma.

If in recent years the trend of 'not owning things' seemed to have spread because of the strong digitalization of services in the last two decades, now things seem to be starting to point towards a new change of course, once again driven by the Web that had flattened it in the beginning. As we were saying before, the advent of the web seemed to have declared war on 'owning things', due to its strong tendency, especially in the early years, to shatter the certainties of 'possession', due to the easy reproducibility of any digital artifact it contained. The first to suffer the blow were obviously the music and movie sectors, with the bankruptcy of large companies such as Blockbuster or music record shops. The advent of the Internet created the illusion that the concept of uniqueness or possession could lose value, generating a sharp shift from the trend of owning to renting. Over time, this trend has evolved and expanded, so much so that today we move towards no longer owning anything, from movies and music, now offered almost exclusively by subscription streaming services, to houses or cars. Now, with the advent of cryptocurrencies and blockchain systems, the Web is once again proposing a new twist.

From being a place that destroyed the illusion of possession due to the easy reproducibility of its contents, the Web now presents itself as the exact opposite, becoming, to a certain extent, the ideal place to guarantee the uniqueness and non-reproducibility of data.

"What the easy replicability of digital technology did was devalue content and make ownership much more difficult. Now NFTs have arrived and, to misquote Donald Trump, are making ownership great again.

(Frisby, 2021)

The use of NFTs in marketing campaigns

NFT is still an insufficiently well-known subject. Most marketers lack the right tools that can be used to influence marketing strategies in a positive way, thus bringing benefits to companies or brands.

To meet this need, we can resort to the well-known Aida model, which often forms the basis of many advertising messages and is an important pillar of marketing.
This model refers to the four stages to which consumers are mainly subjected during the process of purchasing a good.

AIDA is the acronym that sums up the four fundamentals on which marketing and advertising must rest to be effective:

- **Attention;**
- **Interest;**
- **Desire;**
- **Action**. (Strong, (1925))

This model adapted to the implications of NFTs also has another stage:

- **Recurrent Action.**

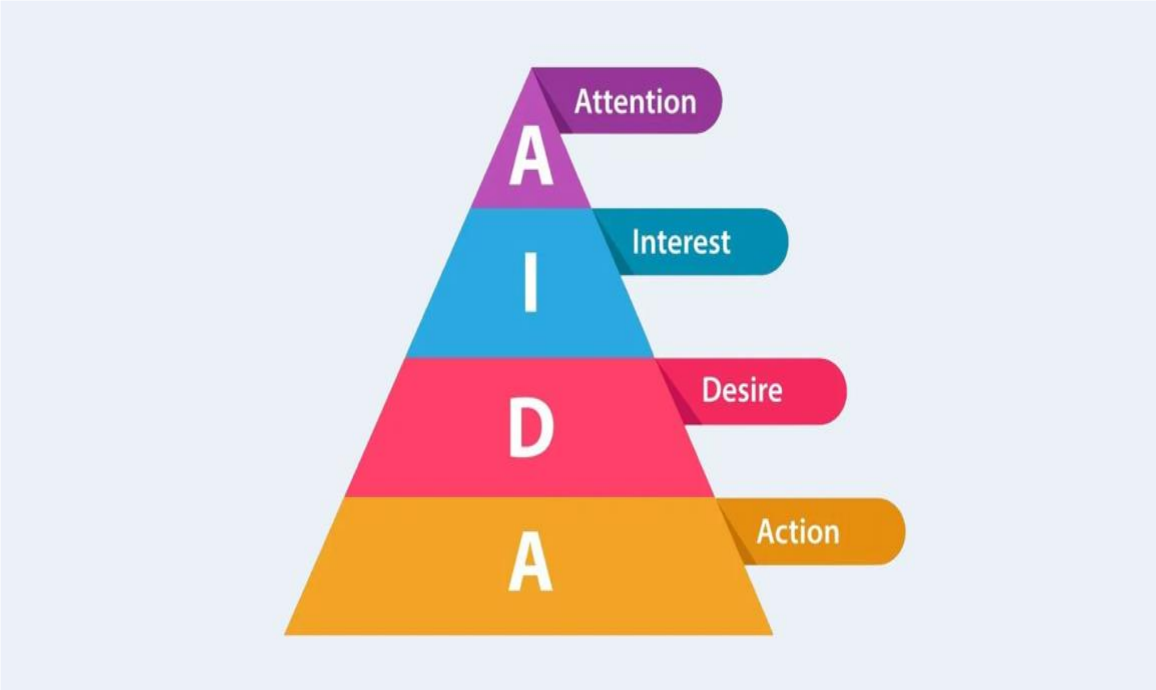

Figure 2 ***Description of the AIDA model.***

As a new trend, marketers should consider the use of NFTs not only to try to bring novelty to their brand or company, but also because the niche of customers who were already engaging in the world of collectibles and it may be the case that people find digitally rare items attractive and that their unique nature may positively influence the decision to purchase them for collecting purpose (Sharma, (2012))The advertising strategy developed by marketers should essentially be based on the principle of scarcity, according to which a higher value is affirmed to an object or service based on its numerical scarcity, to generate in the consumer the desire to possess a rare, uncommon and unique resource. (Fan, 2019))

(Cialdini), defines it this way: 'Opportunities seem more valuable to us when their availability is limited'.

One advantage of NFTs is that since they are decentralized, i.e. not controlled by a single central authority but based on decentralized technologies, they differ greatly from traditional content which is z: for example, if we take a copy of an MP3 or PNG file we can see that it is the same as the original, whereas with an NFT we will have a digitally unique file since we cannot have two identical NFTs. This feature can help us to develop a strategy based on authenticity and scarcity since we only have one copy of it. (Pavlou, Building effective online marketplaces with institution-based trust. , (2004))

The non-fungibility allows us to trade original assets, something made difficult in traditional digital marketing due to the ease of reproducing identical copies.

Furthermore, until now, companies that need to sell something digital, such as a ticket for an event, necessarily must build their own infrastructure, such as a platform or app, that allows them to sell digital tickets for events. Instead by using NFTs, being compatible with any blockchain technology, an object can easily be exchanged on any Ethereum market with any other completely different asset, but like for example a ticket for an event of any kind could be exchanged for a work of art.

Again, it would be easier for marketers to trade or sell their brand's work in each market since the NFT structure has a direct distribution infrastructure, whereas all others are often subject to restrictions depending on the terms and uses of geographical restrictions. This could have a great impact especially in enabling the NFT brand or creator to make itself known in more countries and more markets.

To take advantage of all these benefits in NFT marketing, one would need to create campaigns that emphasize the unique value that an NFT can have for the consumer instead of focusing exclusively on campaigns that only aim to sell and profit the company or brand. Consumers today are very aware of their purchasing power and very unwilling to be fooled by marketing campaigns that seem to be just a way for companies to make profit.
In this sense, the best strategy of NFT marketing is to show that you are offering far more value to the consumer than the marketers will get from the sale (Faridani, (2021, April 12))

As mentioned above, the use of the AIDA model, which is widely used and tested in marketing strategies, can be useful for this purpose.

The first phase, which corresponds to the attention phase, is the phase in which a particular NFT is made known to consumers, promoting its unique characteristics, which are those that create supply-based scarcity (Koch, (2015))According to commodity theory, scarcity increases the value and desirability of a commodity. Promoting a NFT successfully requires creating a perception of scarcity and uniqueness around it, thus increasing its desirability in the consumer.
Since consumers prefer to own something unique rather than a good or service that is affordable (Brock, (1968)) terms such as 'while stocks last' or 'limited edition' are often used in marketing strategies to convince the end buyer to purchase the service or good as a limited or singular good, creating more exclusivity, status, than something that is easy to find and affordable to all.
So, in the sales strategy the main thing a marketer should show is basically this exclusivity belonging to the characteristics of the NFT thus generating awareness to the user who will be more inclined to proceed with the acquisition.

An example can be the marketing campaign created by Taco Bell where, to create awareness about NFT, the company mainly used social channels, collaborating with content creators and influencers, who could impersonate an authority figure for the customer.
Subsequently, they also managed to generate scarcity by making their NFTs limited, and by doing so, the consumer perceived a sense of urgency by buying NFTs before they were sold out. (Copeland, s.d.)

The second step, after creating awareness, is to arouse desire in the consumer. To increase the desire to buy an NFT, it is necessary to emphasize the emotional and personal value that lies in owning an NFT that reflects the tastes and personality of the user.
Another strategy to generate desire in the consumer is to offer NFT packages that include tangible products or services in real life, or the celebration of an event or a specific moment through an NFT.
An example would be the marketing campaign that Coca Cola undertook in selling its NFT collection, where it celebrated International Friendship Day with consumers by creating a unique and engaging experience, bringing to life even the most iconic moments of the brand and thus increasing customers' desire to own a unique piece that was part of the history of the brand in question. (Cola, s.d.)
However, a very important thing to consider in the application of a marketing strategy, and one that marketers need to consider, is that the campaign created should ensure that the NFT in question has the right appeal and that this is consistent and in line with their brand position. If this is not the case, consumers may be confused about the real relationship between the brand and NFT, or they may be skeptical and unconvinced to proceed with the eventual purchase of a token.

The third phase to be followed in the Aida strategy is that of action, i.e., getting the customer to buy, in this case, NFT.
This can be done by creating a simple and fast purchasing system that makes the acquisition process easy for the customer so that there are no barriers or second thoughts. Being a decentralized application, the transaction of an NFT is not involved with third parties such as banks. This is favorable to us as we would have much lower distribution costs and transactions would be quick and convenient.
Although one cannot have total control over transactions, which are based on the blockchain, we can make shopping more familiar to customers by using campaigns for NFTs that consumers may already know and have used. For example, following McDonald's model of promoting Happy Meal sales by including small toys or Pokémon cards, we could create a campaign for appeal by adding to the famous gift that contains the menu a handy QR code that links the purchaser to a digital NFT toy, thus creating a series of limited digital toys.
Some buyers may be reluctant to purchase an intangible object. This can be remedied by contextualizing the purchase to a specific cause: if a part of the purchase proceeds goes to a cause that the buyer shares and

supports, the buyer may feel more inclined to buy. Asics, for example, sold digital trainers as NFT using part of the proceeds to finance the artists who created the artwork.

The fourth step is recurring action: NFTs are digital assets whose value can be appreciated over time. By their nature they cannot be tampered with and are not perishable. NFTs can be shared on social media and exhibited as status symbols, they can be resold to others. For example, RTFKT's virtual shoes, which can be 'worn' as NFT clothing in augmented reality, can be shared on social media through photos of consumers wearing them. The aim is therefore to create NFTs that are attractive to consumers in this respect, i.e., that can be shared on social networks, commonly liked and resold for a profit.
To foster favorable recurring actions, it is necessary to ensure that the value and attractiveness of the NFT do not diminish over time, maintaining a good brand balance and providing consumers with benefits that continue over the long term.
These advantages can be:

- **Increase in value**, due to an increase in demand, which may lead to resale at a higher price than the original;

- **Royalties:** Some NFTs are accompanied by royalty agreements, which result in a percentage of the sale price each time it is resold, providing a long-term source of income for the creator and increasing the value of the NFT;

- **Access to exclusive content**: there are NFTs that allow access to exclusive content or experience;

- **Membership benefits**: NFTs providing access to communities of individuals with similar interests.

All these factors contribute to maintaining and increasing the value of an NFT in the long term.

The Rise of Crypto-Marketing

For all the characteristics of NFTs, so far described, it is safe to say that they offer an entry point into what is called "crypto-marketing," an emerging sub-discipline that includes all marketing strategies that leverage blockchain technology for the purpose of designing, pricing, promoting and selling digital and non-digital assets. Although NFTs may seem like a fad reserved for a few interested parties, we believe they create several new challenges and opportunities for marketers, consumers, and researchers.

According to the recent article "Crypto-marketing: how non-fungible tokens (NFTs) challenge traditional marketing" NFTs are raising questions regarding three main areas:

- **digital ownership, uniqueness and value;**
- **authenticity, sharing and status;**
- **decentralization of branding and distribution.**

By analyzing these three areas, it is possible to guide and stimulate research in this field of study.

NFTs are, in many respects, a true novelty, such as that the entire history of ownership is public and immutable; in other respects, however, they are not entirely new but contribute to new outcomes (in terms of perceptions and actions) when combined with the advantages of blockchain technology and smart contracts. (...) In the analysis of these areas, it is defined which aspects are truly unique to NFTs and which have already existed for other products but lead to new outcomes in crypto-marketing.

Regarding the first area (digital property, uniqueness, and value), it can be seen that although in the past digital goods have been less valuable than physical goods because they are incapable of generating strong psychological property feelings (Atasoy, (2018))NFT technology can overcome this point by increasing psychological property as each NFT cannot be replicated. Their characteristic is that of exceptional and strict uniqueness, giving the consumer the assurance that he or she is the one and only owner of that good. Linked to this uniqueness is the value of the good, which increases the more limited the supply of the good, giving the owner the feeling of distinction that consists in owning a unique good. (Lynn, (1991))

One problem, however, may be that although each NFT is unique, NFTs very often are almost all the same. In the CryptoPunks collection, e.g., 10,000 NFTs are offered that are all technically different, thus unique except for one characteristic, thus resulting in all being similar or nearly identical. So along with the characteristic of uniqueness they also offer a certain conformity, and this represents a feature that is difficult to find in other assets, which should be further analyzed.

NFTs are also distinguished by another feature namely that of verifiability of ownership history, from the creator to each successive owner of the NFT. This feature, although already present in other assets such as houses, cars, or works of art, is an innovation for what concerns digital assets: being able to attach a history to digital assets as well is unique to NFTs.

Since one of the traditional functions of marketing is to communicate the value of a good or service, based on the above, distinct pricing models can be created, where the original creators can charge a royalty for each subsequent transaction, as is the case with artworks by famous artists. NFTs can acquire property histories that, based on prior ownership, can take on positive or negative connotations.
It has been pointed out that characteristics such as visual properties, collection size, and past bidding behavior, i.e., how NFTs were offered and sold in the past, are important but their relevance toward the resale and accumulation patterns of NFT ownership has not yet been studied. This makes it difficult to design NFT bids as a basis for optimal prices.

A final important element is that NFTs offer consumers new ways to exchange economic value as they are bought and sold on the blockchain using a cryptocurrency or by serving as payment themselves. Studies related to the effects of payment pain (Prelec, 1998) have shown that consumers are more likely to spend through painless forms of payment, such as credit cards, than through more visible and painful modes, such as cash. Not only that, but it has also been seen that there is a tendency to mentally process money (Thaler, 1985) differently depending on whether it is used in the form of cash or moved into securities, also leading to irrational behavior. NFTs, given the digital nature of their payment, may reduce the pain of payment perceived by consumers but, being a novelty, may also increase it.

Related to the second area of analysis (Authenticity, Sharing and Status) we can see how NFTs offer new opportunities and challenges for marketers. NFTs make it possible to verify the authenticity of digital objects such as, imagine tweets, giving them a unique value and giving people who own authentic NFTs a perception of value and special status online. In addition, through NFTs, user-generated digital content, such as social media posts or reviews, can be transformed as NFTs. For example, someone could sell his or her first tweet as an NFT and inspire other people to do the same thing, incentivizing them to create and share. NFTs can thus confer additional status to classic social media status, such as followers and engagement (Lanz, (2019)).

NFT technology can also influence the information consumers share with others through the ability to turn social media posts, reviews, comments, and blogs into tradable NFTs. It happened in 2021 with Jack Dorsey, former CEO of Twitter, who sold his first tweet as an NFT for $2.9 million. Examples like these can inspire content creation and sharing, and this fact highlights how it may be possible to turn audiences into potential content buyers.

Companies through NFTs can increase brand status or expand into new markets. Brands such as Pizza Hut, Samsung and Campbell's are trying to launch new products or collections through NFTs.

Regarding the analysis of the third area, (decentralized branding and distribution), the study shows how the decentralized nature of NFTs is changing people's understanding of branding and product management through marketing. First, the NFT product development process and its marketing occur in crowdsourcing. For example, consumers can create "derivative collections" using existing NFTs or brand their own products by taking cues from others (an example is the Bored Ape Rolex; (Miles, 1 March 2022.)). This type of crowdsourcing allows us to observe how consumers become active creators in the branding process.

Second, NFTs are changing the supply and distribution chain: because transactions are recorded in a decentralized ledger, intermediaries such as wholesalers and retailers are not needed.
This opens the way for new intermediaries, enablers, and facilitators to offer NFT access and distribution services. For example, OpenSea is a major marketplace for NFT that facilitates transactions and provides additional functionality to NFT buyers and sellers.

However, this decentralization also carries risks. OpenSea, for example, has also faced problems with plagiarism and a database breach. more than 80 percent of articles on OpenSea have been identified as plagiarized, fake, or spam (Brandom, 1 March 2022.).
On the other hand, vulnerabilities in a decentralized system can also create opportunities to develop new businesses or strengthen offline brands. Some companies offer NFT-related services that protect consumers from fraud in the online marketplace, such as cryptocurrency certificates for secure key storage and authentication of uniquely identified physical assets.

Crypto-marketing offers new opportunities, but it also presents risks. Decentralization makes it difficult for regulators to oversee the market, and trust in blockchain technology and new intermediaries must be developed. It will be interesting to assess whether and when consumers and businesses can learn to trust blockchain technology, which involves a high degree of self-responsibility (if the keys to digital wallets are lost, there are no fallback options). In addition, blockchain technologies can consume a lot of energy and generate environmental costs.

It is important for marketers to assess both the benefits and challenges of crypto-marketing and take a responsible approach to using NFTs and blockchain technologies.

In summary, NFTs are revolutionizing decentralized branding and distribution in marketing. There are new opportunities and risks to consider, In this sense it is hoped that new scientific insights will drive research to continue exploring this rapidly evolving area of crypto-marketing.

Case studies: NFT and marketing in action

This chapter will analyze some case studies that have been seen, by some major luxury brands, successes and failures in their NFT marketing campaigns. Following the exponential development of NFTs, in fact, many major brands have decided to follow the wave of this phenomenon to carve out previously inaccessible market niches. Specifically, the following will be analyzed:

- **The Gucci Case** and its successful marketing campaign to market an NFT Collection;
- **The Porsche case**, which instead achieved decidedly poor results due to a series of mistakes made in marketing;
- **The Kings of Leon's NFT Album Release case** which is an analysis of the potential impact of the Non-Fungible Token approach in the context of music marketing.

Case Study 1: Gucci Case Study: NFTs in the Fashion Industry

Gucci is one of the world's most famous brands, founded n 1921 in Florence by Guccio Gucci. Specializing in luxury clothing and accessories, it decided to enter the NFT world in June 2021 by launching a video called Gucci Aria. It was auctioned on Christie and Gucci's platform explaining that Gucci was the first luxury brand to launch its own NFT in the world. Represented by a four-minute video titled "PROOF OF SOVEREIGNTY: A Curated NFT Sale by Lady PheOnix" directed by director Floria Sigismondi with the participation of creative director Alessandro Michele. The video, an animation based on Gucci Aria, one of the Florentine brand's latest presentations. The basic idea was to engage customers willing to purchase luxury products in a highly divergent way from those who usually buy through traditional marketing channels. In addition, the brand's idea was to do charity work for those affected by the pandemic. In fact, all proceeds from the sale of the NFT were to go to UNICEF to ensure access to COVID-19 vaccines. The initial auction raised at Christie's was $20,000 and ended at $25,000. In addition, Gucci, as a matter of eco-sustainability, decided to purchase 10 tons of carbon offsets through a collaboration with Offsetra. This is because placing an NFT on the blockchain irrevocably has a mining cost, which is known to be particularly energy intensive. In this way, Gucci was able to create an environmentally sustainable and fruitful product, winning the distinction of being the first luxury brand in the world to launch an NFT in its own name.

But that video was just the beginning of the Florentine fashion house's startup in the virtual marketplace. In fact, Gucci is currently testing its digital asset by partnering with Wanna, a virtual sneaker app, to drop its first augmented reality shoes. These would be available in a pack of 25 pairs at a price of about twenty dollars.
The sneakers can be purchased on Gucci's official website and on Wanna, but clearly cannot try them on since there is no real-life counterpart to these shoes. Therefore, they can only be "worn" in a digital space. The goal is to engage consumers in the Gucci brand by making accessible a brand that otherwise might not be. This market segment clearly winks at the very young, when, usually, the luxurious brand had as its main orientation an established segment of adults, women with large amounts of disposable income. It is not surprising, then, that the trend demanded by younger males excited the fashion maison, pushing it even further toward creating products that were able to activate the interest of a marketing segment that had not yet been reached so far.

Case Study 2: NFT Marketing Risks: Porsche's Case

In this Case Study we will explore how a wrong marketing strategy can lead to negative results even when it comes to an established brand.

Porsche luxury car brand founded in 1931 by designer Ferdinand Porsche in Stuttgart, Germany saw an incredible rise in the 1970s and 1980s with car models that became increasingly high-performance and appealing to the public. It was not until 1990, however, that the launch of its first SUV, the Porsche Cayenne marked the brand's entry into the luxury off-road vehicle segment. Today, the German brand has marked its image by its attention to detail and quality, as well as its use of cutting-edge technology. To celebrate its brand, Porsche attempted to tease the attention of collectors by entering the Web3 space by attempting to generate interest with the launch of an NFT. The project focused on the iconic 911 sports car with a launch of 7500 Ethereum NFTs allowing owners access to exclusive merchandise. The more passionate and radical might have allowed the German car brand a chance to enter web sales, but the sale of NTFs at a price of 0.0911 ETH-

with obvious reference to the car-in a market that had lost vigor, led Porsche to a debacle. The announcement tweet from the start had aroused criticism from collectors and enthusiasts, who had derubricated the brand's move as "tone deaf" and "incompetent" (quote). Soon after the mint began, already in the same week lower-priced resales were sounding the requiem of NFTs, a situation that prompted top management to fall back immediately to avoid the worst. But the move to withdraw the mint was also frowned upon by investors.
In an analysis related to Porsche's strategies, it becomes apparent that Web3 advocates favor those brands that attempt to build a greater idea of convenience and accessibility with NFTs. The attempt on the part of established companies to profit through high prices with minimal differential spending, yet without an underlying idea of content, has highlighted something that has certainly not led to good results.

The consequent decline of Porsche and its credibility after the unfortunate strategy with NFTs has certainly taught a hard lesson through Web3 to the German automotive brand, which has seen it forced to make up for it with alternative remedial strategies.

Case study 3: Kings of Leon's NFT Album Release

An example of the use of NFTs that could be described as creative is that concerning the case of the music band The King of Leon; a rock band formed in Nashville in the heart of Tennessee, United States that has long seen the limelight for numerous hits. Having seen its fans evolve over time-in part because of its appeal to a generation that is no longer so young-the band members decided to undertake a very bold marketing move that has seen them achieve success far beyond expectations. In fact, the King of Leon decided to launch a cryptocurrency album. With NFT seeing the album priced between $95 and $2,500, the band has come up with what already represents the idea of a limited edition. The clever strategy launched by the Nashville musicians actually has the ambitious goal of solving numerous problems related to the world of the music industry. This is primarily because the current model generally sees the artist as the last link in the chain of commercialization. In this way, NFTs can bypass streaming as well as traditional download markets both legal and illegal by directly - and without intermediaries - cashing in on sales proceeds. On the other hand, for fans, ownership of NFTs brings back a concept of the value of owning music, with a definable vinyl-like effect, but one that faces a totally avant-garde world and even makes it count as an investment. In any case, NFT's marketing efforts have certainly generated benefits for King of Leon as their album-cryptocurrency has jumped to the top of the UK charts, opening the door to thinking about the future of music. Still, the ecological issue remains. In fact, one of the main criticisms that has been levelled at the band is that of having produced an album that can be considered largely energy intensive. Indeed, it should not be forgotten that the production of NFT is responsible for the production of millions of tons of carbon dioxide emissions, a fact that has not gone unnoticed by fans of the band that became popular for the song Sex on Fire.

Conclusions

The growing popularity of Non-Fungible Tokens (NFTs) in the context of the Web3 digital revolution has generated significant interest in the marketing field. However, it is important to note that NFTs are currently at a still incomplete regulatory stage, with open challenges such as decentralization, property rights definition, and environmental impact.

Despite these issues, NFTs represent a unique opportunity for brands looking to take advantage of the first mover advantage in this emerging industry. The ability to create and market unique and authentic digital property opens new avenues for engaging consumers and creating innovative experiences.

Marketers must demonstrate readiness to address the growing consumer demand for Non-Fungible Tokens (NFTs) and have a deep understanding of the implications associated with this technology. Adoption of NFTs requires continuous monitoring of developments in the industry and careful analysis of changing consumer needs to adapt marketing strategies accordingly.

One key thing is to keep abreast of developments in the industry, which involves rigorous research and analysis of new and emerging technologies, market trends, and best practices in the NFT field.

On the other hand, it is essential to recognize that the success of marketing strategies is deeply linked to understanding the needs and desires of consumers, and in this context, NFTs are not just technological tools, but represent a form of artistic expression and digital ownership that can appeal to people on an emotional level as well.

In conclusion, NFTs can be used as an effective marketing tool to increase brand awareness, promote customer interaction, and generate excitement around the products or services offered.
Synergistically, however, marketers must balance sound knowledge regarding the dynamics of NFTs with a deep interest in consumer needs and desires. Only by combining these perspectives will it be possible to adapt

marketing strategies with respect to market conditions and fully exploit the potential of NFTs as tools for consumer engagement by offering real value that does not stop at just image.

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