

# A Review on Scientific and Sectoral Approaches to the Subject of Marketing in Metaverse

<sup>1</sup>Duygu Aydın, <sup>2</sup>İsmail Arı

<sup>1</sup>Selcuk University, Communication Faculty, Advertising Department, Konya, Türkiye

<sup>2</sup>Bandırma Onyedi Eylül University, Balıkesir, Türkiye.

**Abstract:** *Metaverse has become an important area of opportunity in terms of marketing and attracted the attention of brands as it is a three-dimensional, dynamic space where interaction with the consumer is high. Metaverse provides brands with the opportunity to use tools such as NFT while marketing their products and to take marketing to a new dimension, allowing them to achieve transformation in marketing.*

*In this study, it is aimed to draw a conceptual framework by examining the scientific and sectoral definitions of the concept of metaverse, whose definition, scope and dimensions have not been reached yet. In the study, which was carried out using the written document review method, which is one of the qualitative research methods, the subjects on which the definition of the metaverse concept was agreed, their features and findings were revealed*

**Keywords:** *Marketing, metaverse, nft, virtual economy*

## 1. Introduction

Blockchain, in its most general definition, is a decentralized data management technology [1]. Blockchain, which serves the digitalization of finance areas, offers more comprehensive transaction opportunities beyond standard financial transactions. Intelligent systems are used for these complex operations [2]. Blockchain and other distributed ledger technologies (DLTs) are technologies that enable parties that do not have specific trust in each other to exchange any type of digital data peer-to-peer, without the need for a third party or intermediary. DLTs are specific types of databases in which data is recorded, shared, and synchronized over a distributed network of computers or participants. Blockchain technology is a subset of DLT that uses cryptographic techniques to record and synchronize data in "blockchains". The difference between them is the way data is distributed, verified and recorded [3]. In summary, all types of blockchains are DLTs, but not all DLTs are blockchains. A blockchain is a database running on a distributed network of multiple nodes or computers that tracks data transactions.

These transactions are broadcast to a distributed network of nodes or computers that will validate against an agreed set of rules (a "consensus" mechanism). Once verified, this transaction will be bundled with the others into a new 'block' and added to the blockchain. The whole process ensures that each block is created in such a way that it irrefutably connects it to the previous and the next, thus forming a blockchain [4]. The unique record that creates a blockchain is shared by every node or computer in the network and is constantly updated and synchronized. As a database or ledger, ultimately a blockchain stores records of all transactions performed on a network [5]. There are many different blockchains with different functions and architectures. They can be distinguished depending on who can read, execute and verify transactions [6].

In the new era, it is expected that effective crypto money applications will be replaced by blockchain business applications that can potentially increase efficiency and reduce costs, and many large technology companies will have the opportunity to offer blockchain as a service (BaaS). These companies could be seen expanding their services to encompass blockchain platforms and tools, rather than just providing the hardware layer as they have

traditionally done. As blockchain deployment becomes less complex and expensive, it is possible that companies that stay aloof will be more willing and open to the issue [7]. Blockchain provides a fundamental transition from the traditional internet of information and communication to the internet of value, by establishing the trust achieved by the application of blockchain technology between people who do not know each other. This breakthrough advantage is likely to bring devastating changes [8]. The main challenges for moving to a value-driven structure and for organizations to derive sustainable value from technology are that it is time-consuming and expensive to integrate blockchain as infrastructure, a limited understanding of blockchain in management levels is abandoned, digitization of physical records, lack of training in blockchain technologies [9].

Blockchain, whose main purpose is to provide anonymity, security, privacy and transparency to its users, encounters many technical difficulties and limitations in these matters. In a study examining research on blockchain technology, it was revealed that most of the current research focuses on security and privacy [10]. The issue of security, one of the biggest problems of the age we live in, has become a knot that needs to be solved in the field of economy and even more in the blockchain, as in many areas of social life. As positive developments are achieved in data privacy and security, the infrastructure of the metaverse, which is still being explored with baby steps, will be created.

Which are immutable cryptoassets, are transferable rights to digital assets such as artwork, in-game items, collectibles or music [11]. Online, they are often traded in cryptocurrency and are usually encoded within smart contracts on a blockchain [12]. Despite the enormous potential impact on decentralized markets and future business opportunities, the development of NFT technologies is still at a very early stage. Within this development, some potential challenges should be carefully considered and some promising opportunities should be highlighted [13]. Although the artwork size is prominent in NFTs using Ethereum infrastructure, crypto codes can transform anything into a digital asset and make it unique [14].

The NFT market is one that continues to grow exponentially from year to year. The number of active wallets, buyers and sellers are important parameters in evaluating NFT market activity. In theory, the higher the number of active wallets, the higher the number of active users. The number of buyers and sellers is directly proportional to the number of active users. The higher the number of buyers and sellers, the larger the user base [15]. NFT buyers and sellers meet through NFT marketplaces. In NFT marketplaces, it is possible to browse the works and make purchase and sale transactions. On the blockchain, NFTs have been used for some time to commodify digital assets in the arts, music, sports and other popular entertainment. Digital art is an important part of this work. Platforms where digital assets can be bought and sold by auction and the ownership of digital assets are protected by blockchain now offer an important entertainment experience in the meta universe. In addition to AR-VR spaces, NFT crypto art events including large-scale projections, music and various visual arts, a meta-universe has formed, including the works of crypto artists. Digital assets connected to blockchain technology are seen in a wide variety of fields.

Users who buy digital assets experience a new understanding of e-commerce. Art galleries auction and auction digital NFT artworks, various crypto companies set up digital hubs on Metaverse where employees can meet and collaborate, game platforms where players can earn cryptocurrency, buy ads with digital billboards, sponsored content, musicians performing and music Commercial experiences such as the operation of venues are among these examples [16]

## **2. Conceptual Framework of Metaverse**

The word metaverse first appeared in 1992 in Neal Stephenson's fiction work Snow Crash. The depiction of a utopian metaverse is turning into a new universe description, the boundaries of which are starting to become clear at the point reached today, but also expanding gradually. The expectation of a dystopia, where virtual and reality are now completely intertwined, stands aside as a strong opinion. In an article by Herman and Browning, it is pointed out that experiences progress at different levels in this utopian universe where social rules are rewritten and a value construction is attempted on its own. Accordingly, gaming platforms such as Roblox and Fortnite,

where players can build their own worlds, are part of the metaverse experience. Users with an unchangeable token or crypto asset are also part of the metaversal experience. Moving to further experiences, for example attending a business meeting or a party using a digital avatar, means steps towards becoming a native of the metaverse [17]. Being collaboratively designed, this new system has the potential to transform our social interactions, commerce, and the internet economy in general [18]. Rev Lebedian, vice president of simulation technology at NVIDIA, stated that most virtual worlds will be reflections of the real world and will be linked in real time. Accordingly, people enter a virtual world with VR and AR devices, AIs enter our world through physical robots [19].

The dimensions of the metaverse were defined in a study as follows: persistent, reactive, social, limitless, everyday, decentralized, user-defined, creative and interoperable [20].

*Persistent:* Virtual environments have a feature that continues to work even when a specific user is not connected [21]. Regardless of whether users are online or not, Metaverse is a virtual environment with continuity and continuity. Assets and actions continue uninterrupted [22]. Metaverse includes simulation technologies that create continuous virtual worlds physically [23]. The metaverse is defined as a vast network of persistent, real-time rendered three-dimensional worlds and simulations that support the continuity of objects, identity, actions, and data, and can be simultaneously experienced by an unlimited number of users, each with an individual sense of being [24].

*Reactive:* Metaverse provides its users with the opportunity to react and respond in real time. With the advantages of being an uninterrupted world, metaverse can provide continuous service to its users during many activities. Users can get feedback as soon as they make a request.

*Social:* Metaverse offers useful opportunities such as socializing, meeting new people, strengthening existing relationships and creating new communities [25]. When a significant amount of user interaction occurs, the metaverse becomes a social community. This situation offers people new and different opportunities in terms of socialization [26].

*Limitless:* Metaverse is unlimited in terms of number of users, experiences and actions. It allows an unlimited number of users to socialize, learn, work, collaborate, create and play games in some cyberspaces. It is a world where all activities, items and spaces can be experienced in the form of digitalization. Metaverse is a place where anything is possible. There are no limits except people's imagination and ability to build [27].

*Everyday:* Metaverse is an extension of our daily life. It can meet our social needs with lower costs and higher security [28]. Some techniques are being developed in order to increase and popularize user interaction in Metaverse. With these techniques, the metaverse will connect the physical world and the digital world, all people in the real world will be able to work with avatars and virtual objects, that is, both physical and virtual worlds will constantly affect each other. In this way, it has the ability to positively affect people's daily lives [29].

*Decentralized:* As it is known, one of the most discussed features of blockchain technology is its decentralization. Like blockchain, Metaverse is decentralized. At this point, the prominent concept is the concept of decentralized management. Open metaverse can provide the ability to manage metaverse platforms and components. It can effectively use the tools of decentralized management, such as gaming clans, that allow people to organize themselves on this platform [30].

*User-defined:* In the metaverse universe, users can freely live, connect, create objects and actions, and participate in any way they want. These possibilities give user-defined feature to the worlds created by users. Also, the reason and purpose of being in these worlds is completely dependent on and decided by their users. The developers of the platform do not provide a narrative to follow, there are no goals or tasks defined by the system [31].

*Creative:* In the Metaverse, people are not passive consumers, but creators who express themselves, shape and interact with their virtual identities. The purpose of existence and how to exist in the Metaverse depends entirely on the creativity of the users. There are no targets or tasks defined by the system. Metaverse offers a unique experience for collaborative creativity as well as individual creativity [32].

*Interoperable:* Interoperability is expressed as a kind of consensus or contract that becomes the standard when formalized. With interoperability, users can have full access to any medium without changing login credentials or losing the chain of digital assets [33].

Virtual commerce is business activity conducted in an immersive virtual environment. Virtual commerce, one of the latest developments in e-commerce, has turned into an extraordinary business tool supported by technological developments and business innovation in the last two decades [34]. Investment developments are seen in sectors based on the virtual economy, but it can be said that the metaverse is still in its infancy [35]. Considering the dimensions of the Metaverse, it can be said that it will be an economic value with a step-by-step and stable growth potential.

### **3. Metaverse Focused Marketing Approaches**

Brands are faced with a new understanding of digital consumption. In this new world, content producers meet directly with consumers without the need for an intermediary or a central currency. This situation increases the potential of brands and consumers to connect individually. Brands can improve user experiences, especially with NFTs, and thus increase brand loyalty and awareness [36]. The three-dimensional structure of Metaverse offers an important opportunity to brands. Advertisements and all other marketing initiatives can thus offer consumers three-dimensional experiences [37]. As in the Gucci and Roblox collaboration, brands can sell players products that they can use in-game [38]. Brands can reward people for whom they collect information about their products with crowdfunding, receive feedback and try their products through NFT [39]. The main goal of marketing is to reach consumers. Metaverse-oriented marketing activities have started to be implemented with the expectation that the consumer will be in these networks in the near future. For brands that want to stay ahead of the competition, getting involved early in this new experience area of the internet is important. When we look at the marketing efforts of the brands so far, it is seen that the prominent application approaches in Metaverse are often realized in the fields of experience marketing, gamification, sponsorship and social responsibility.

Louis Vuitton brand first designed clothes for some of the characters of the game in cooperation with League of Legends, then entered this market with a total of 30 NFTs, 10 of which were created by digital artist Bleep, within the scope of the game integrating blockchain technology [40]. As a second step, he started a game to celebrate the 200th anniversary of the brand's foundation. The aim of the game is to reach the birthday party of the founder of the brand [41]. The first retail clothing store to open in the metaverse world was created by the clothing company H&M in the city of "CEEK VR" built on the metaverse. H&M's new collections can be viewed and ordered easily in this store [42]. United Colors of Benetton has brought Milan Fashion Week to the Metaverse. The brand, which creates different gaming experiences for visitors, offers QR codes to use at the end of the games for purchases they can make from physical stores. This practice was expressed by Benetton Group CEO Massimo Renon as "creating the emotional ecosystem in physical retail in the virtual store" [43].

Gucci has also been one of the brands adopting new technologies such as Metaverse. In 2021, he decided to enter the world of the metaverse by purchasing digital real estate on The Sandbox platform. Gucci has announced to its followers that it will start selling virtual clothing products that players can use within the platform in the future [44]. Adidas announced its partnership with Coinbase on Twitter. SAND is known as the native cryptocurrency of Sandbox. SAND conveyed the partnership to its followers by tweeting that Adidas will develop an "adiVerse" with the Metaverse platform. It is also known that Adidas entered the NFT industry by collaborating with Roblox [45]. Nike has applied to the US Patent and Trademark Office to sell virtual shoes and clothing. At the same time, it joined with the video game platform Roblox and brought Nikeland to life on the said platform. Players play games in Nikeland and can also collect rewards such as construction materials or gold medals for their avatars to buy virtual goods [46]. The Givenchy brand supported the LGBTQIA+ community with the NFT project, and they created a work aimed at raising awareness against gender-based inequalities with activist Amar Singh and digital art organization Rewind Collective. In addition, the proceeds from the sale of the virtual artwork produced were donated to an association that aims to help LGBT individuals lead a better life. Thus, the Givenchy

brand became the first brand to officially use NFT for social responsibility purposes. Within 2 seconds of the sale of the works in question, the Jeunes Association earned 128 thousand dollars [47]. The Clinique brand designed its first NFT called 'MetaOptimist' in three editions. It has approached the demands of its customers for brand heritage from a different perspective. Rather than sell their NFTs, the brand wanted Smart Rewards members to share their stories of optimism and hope for the future. These members are entitled to one product package per year for ten years [48].

Le Petit Marseillais brand realized the NFT project with a focus on sustainability and took steps to protect biodiversity with this project. He started a social responsibility project in cooperation with National Geographic Turkey Magazine. The project aims to raise awareness by bringing together the power of technology and art under the name of "Beeing Hope". The NFT art collection was created with the works of the artists involved in the Project [49]. Pepsi has released an NFT collection called "The Pepsi Mic Drop". The collection consists of 1893 NFTs, known as Pepsi's founding date. This collection is described as "a tribute to pop and musical artists". The NFTs of the collection, which is planned to take place on the Ethereum blockchain, including props, effects and accessories, are offered to Pepsi followers free of charge [50]. McDonald's published its first NFT, which it called "Big Mac Cube", to celebrate the headquarters building opened 31 years ago in Shanghai [51]. McDonald's sponsored the virtual event organized by the YouTube channel OfflineTV in this study. The Metaverse pop-up experience, offered within the framework of the virtual event, engages users in a game so that they can have the opportunity to win special digital products. The purpose of this event is stated as strengthening the bonds established between OfflineTV and fans who cannot participate in a face-to-face event [52]. Coca-Cola has partnered with digital art company TAFI for the NFT collection. Digital versions of the brand's 1956 model beverage vending machine and other products were designed by the company with which Coca-Cola cooperates. Products offered for sale by auction in the NFT marketplace called OpenSea were sold at record prices [53]. Nvidia and BMW have partnered to create a virtual factory. Nvidia CEO Huang said in a statement, "The basic technology of people is intelligence. We are in the process of automating intelligence so that we can increase our own intelligence." A certificate was created that certifies that it is properly maintained by recording all its data [54].

#### 4. Method

Metaverse is a fairly new and unknown area for both the academic community and brands. Scientific studies on the subject are not yet sufficient for us to understand this universe. The aim of this study is to give information about both scientific and sectoral approaches to Metaverse together. The research includes a qualitative study and document analysis was used as a method. The documents constituting the primary source of the research data were collected and examined. Although document analysis is generally used as a complement to other methods in the literature, it is also preferred alone in some studies [55]. In this study, written documents, visual documents, internet resources and video documents were used as data collection tools.

#### 5. Results

In the reviewed documents Scientific definitions about the metaverse are shown in the Table I.

TABLE I: SCIENTIFIC DEFINITIONS OF METAVERSE

Author	Year	Definition
<i>Stephenson, N. [56]</i>	1992	Metaverse is a huge virtual environment parallel to the physical world, in which users interact through digital avatars.
<i>Wright et al. [57]</i>	2008	Metaverse is a comprehensive 3D networked virtual world that can simultaneously support large numbers of people for social interaction. It is a universe that is comprehensive, coherent, and capable of imitating or completely different from the real-world universe.
<i>Ayiter, E. [58]</i>	2012	Metaverses are collective, online, persistent, three-dimensional virtual worlds where all

		content is user-generated. Therefore, another name that can be used appropriately for these worlds is the term "builder" worlds.
<i>Dionsio et al, [59]</i>	20 13	Metaverse is a completely immersive three-dimensional digital environment, in contrast to the concept of inclusive cyberspace that reflects the entire online space.
<i>Ning et al., [60]</i>	20 21	Metaverse is a blockchain technology-based ecosystem based on augmented reality technology, combining various new technologies to provide an immersive experience, and using digital twins to create a mirror image of the real world. It connects the virtual world and the real world in an ecosystem and allows each user to create content and edit this world.
<i>Jefferies, [61]</i>	20 21	The Metaverse is the convergence of physical and digital, capable of delivering shared experiences that are permanent, real-time, and allow for a full sense of existence to the point where people embody. Virtual identities will become interchangeable with physical identities.
<i>Duan et al., [62]</i>	20 21	Metaverse is a combination of the word "verse", which comes from the root of the word "meta" and "universe". It refers to the next generation internet where users can interact with each other and software applications as avatars in a three-dimensional virtual space.
<i>Damar, M., [63]</i>	20 21	Metaverse is a shared virtual world where all actions can be performed with augmented and virtual reality.
<i>Lee, et al., [64]</i>	20 21	Metaverse describes a hypothetical synthetic environment linked to the physical world.
<i>Grider, D. [65]</i>	20 21	Metaverse is expressed as a set of experiential, interconnected, 3D virtual worlds where people anywhere can socialize in real time in order to create a permanent and user-owned internet economy that encompasses the physical and digital worlds.
<i>Soepeno, R., [66]</i>	20 21	Metaverse is a 3D virtual augmented reality where anyone can experience anything indisputably in a virtual and connected environment. This includes using applications in an augmented and tactile virtual environment, meeting people in virtual reality and also in a virtual animated body, performing physical activities that exist in virtual holographic environment.
<i>Narin, N.G., [67]</i>	20 21	Metaverse refers to a virtual universe where people feel completely mentally with interactive augmented virtual reality devices today.
<i>Di Pietro, R., &amp; Cresci, S., [68]</i>	20 21	A metaverse is a combination of persistent, multi-user, shared, 3D virtual spaces that are intertwined with the physical world and merged together to create a unified and perpetual virtual universe.
<i>Park, S. &amp; Kim, Y.G., [69]</i>	20 21	It is the virtual world that expands more in various social areas (fashion, events, games, education, etc.) based on immersive interaction and makes it more possible to connect to real life with virtual money.
<i>Cheng, R., et al., [70]</i>	20 22	It is a universe that connects all virtual worlds via the Internet, aiming to create a common virtual space where users represented as digital avatars can communicate and collaborate as if they were in the physical world.
<i>Visconti, R.M., [71]</i>	20 22	Metaverse is an internet evolution towards shared activities (mostly via social networks) with an exponential increase in creativity

		unleashed by a decentralized ecosystem and integrated technologies.
<i>Mystakidis, S.,</i>	20	Metaverse, a surreal universe, is a continuous,
<i>[72]</i>	22	persistent and multi-user environment that combines physical reality with digital virtual.
<i>Sriram, G.K.,</i>	20	Considered as the new form of the Internet,
<i>[73]</i>	22	Metaverse is a transformation from the real world to the virtual world.

There are some common points in the scientific definitions made. First of all, the three-dimensional feature is emphasized in most of the definitions. In addition, the expressions 'huge, inclusive, immersive, interactive' are frequently used for the metaverse. The features of being decentralized, open to interaction, being real-time, usable with avatars, being permanent and experiential are also frequently emphasized.

The definitions made by professionals about the Metaverse are shown in the Table II.

TABLE II: SECTORAL DEFINITIONS OF METAVERSE

Corporate Rep.	Job Descrip.	Definition
<i>Daren Tsui</i> [74]	<i>Together Labs, CEO</i>	Metaverse is a computer-generated simulation of a 3D space that users can interact with. The Metaverse must have three key properties: It must exist (social presence), it must be persistent (a kind of continuity happens when users come back), and most importantly it must be shared (more than one person will need to interact in the Metaverse).
<i>Keith Stuart</i> [75]	<i>The Guardian, Games Editor</i>	Described as a platform-independent digital space, Metaverse is a permanent hub that can be defined by users. In the future, it will be important to react quickly to social situations in the metaverse.
<i>Kerry Murphy</i> [76]	<i>The Fabricant, Founder &amp; CEO</i>	It is stated that the Metaverse, which is only a digital layer of our lives, will exist when everything done digitally is completely and seamlessly connected. The Metaverse includes the journey of physical life into the digital realm.
<i>Jon Morris</i> [77]	<i>Nowhere, CEO</i>	Life in the Metaverse will begin when 2D user-generated content, videos, and chat become 3D player-generated experiences. This technology can expand the sense of collective presence beyond real life, where one can truly be with anyone, anywhere, at any time.
<i>Neha Singh</i> [78]	<i>Obsess, Founder &amp; CEO</i>	Metaverse is to do all kinds of activities in the virtual world like our virtual twin and to be one step above it.
<i>Ryan Mullins</i> [79]	<i>Aglet, Founder &amp; CEO</i>	The Metaverse is a new virtual dimension that sits on top of physical reality. It is the next phase of the internet and a universe about sharing the same space virtually and physically.
<i>Carolina Arguelles Navas</i> [80]	<i>Snap, Group Product Marketing Manager</i>	The metaverse is the merging space of the physical and the digital. The Metaverse is a space to see and interact with things that exist both physically and overlay digital content.
<i>Leon NG</i> [81]	<i>LNG Studios Founder &amp; CEO</i>	The Metaverse is a digital twin of our world, but then you can have endless amounts of worlds.
<i>Kai Bond</i> [82]	<i>Courtside Ventures, Partner</i>	The metaverse is a digital representation of the physical world, a continuum of time and space.
<i>Don Stein</i> [83]	<i>Roomkey, Founder</i>	The Metaverse is a parallel universe of virtual worlds, rooms, and people.
<i>Grant Paterson</i> [84]	<i>Wunderman Thompson, Head of</i>	Metaverse is the creation of a permanent virtual world where consumers can switch between different virtual experiences. It will be powered by a

	<i>Gaming and Esports</i>	virtual economy, where typical financial transactions take place.
Josh Rush [85]	<i>Surreal, CEO</i>	In the simplest terms, it is a fully connected three-dimensional visualization of the internet. A virtual world that exists beyond analog.
Helena Dong [86]	<i>Creative Technologist</i>	The metaverse could be a multiverse, as if there were multiple worlds coexisting and evolving between different realities. It seems to be a field that encompasses all kinds of realities.
Philippe Brown [87]	<i>Brown &amp; Hudson, Founder</i>	The Metaverse is an open-source, interconnected set of worlds that can be seamlessly traversed. Metaverse's vision is different worlds, allowing for seamless movement between them.
Alexander Fernandez [88]	<i>Streamline Media Group, CEO &amp; Founder</i>	The Metaverse is where physical personality and digital personality become a unified reality. What happens in one affects the other.
Matthew Ball [89]	<i>Essayist, VC</i>	The Metaverse is a vast network of persistent, real-time rendered three-dimensional worlds and simulations that support the continuity of identity, objects, data, and entitlements, each with an individual sense of being, that can be effectively experienced simultaneously by an unlimited number of users.
Emma Jane MacKinnon Lee [90]	<i>Digitalax, Founder &amp; CEO</i>	The Metaverse is fully interactive reality layered across every part of life. It is the connective tissue between humanity that has not yet been built.
Elena Piech [91]	<i>AMP Creative, Experiential Producer</i>	It is the gradual convergence of the digital world with the physical world. It is a world where there is no difference between digital avatars and physical selves.
Rafael Brown [92]	<i>Symbol Zero, CEO</i>	Current technologies are not metaverse. Because metaverse is passive, streaming video, not chat. It includes real-time, non-existent technologies that provide an immersive experience and interaction with the not-yet-built entity.
Mark Zuckerberg [93]	<i>Facebook, CEO</i>	The metaverse is not a "place". The Metaverse is basically a time when immersive digital worlds have become the primary way we live our lives and spend our time.
Bill Gates [94]	<i>Microsoft, Founder</i>	Metaverse is a virtual world that will enable more people to use avatars for interaction in the coming years. Its basic idea is the use of avatars in a virtual environment that enhances the feeling of being in a real room.

In the sectoral definitions, the issues of permanence/continuity, connection, diversity, sharing, combination of physical and digital, real-time experience, virtual economy, multiverse and digital personality draw attention.

## 6. Conclusion

Although the existence of Metaverse is very new, it is developing quite rapidly and thus its marketing opportunities are increasing rapidly. The fact that the platform is essentially a game format based on virtual reality is one of the factors that facilitates marketing. Brands design NFTs in concepts suitable for brand communications and present them to their target audiences. In a way, this means a new medium where brands convey their messages to their target audiences in marketing communication. It is clear that NFTs in particular are very suitable tools for marketing communication. By marketing their NFTs through various marketplace platforms, brands can create a new way of interacting with target audiences and increase brand awareness, brand image and brand loyalty. At the



same time, Metaverse is inherently well suited for planning and executing projects such as social responsibility, real-time marketing, and experiential marketing. Many brands are stepping into these new platforms in order to increase their values such as brand awareness, brand image and brand loyalty, and the platform provides benefits to brands in this direction. In addition, the compatibility of IOT and Big Data concepts with Metaverse has been noticed by brands, and Metaverse has been started to be used effectively, especially in terms of data management and personalized advertising. In summary, the new possibilities offered by Metaverse and NFTs have brought great innovations in marketing and marketing communication and are used by brands for many purposes.

In the study, scientific and sectoral definitions of the concept of Metaverse were examined and a whole point of view was tried to be put forward. The prominent issues in the scientific definitions are that it is a new form of the internet, it is connected to three-dimensional and augmented reality technology, it is experienced with virtual identities, it is permanent, decentralized and multi-user. In scientific definitions, the subject is approached especially in terms of the transformative effect of technology on life and culture. Accordingly, attention is drawn to the convergence between the virtual and the real world and the process of constructing an eternal existence. In the definitions made by industry professionals, attention is drawn to an interactive, collective, permanent and shared virtual economy. Here again, the expressions of multiverses and interconnected networks being constructed are emphasized.

Metaverse is not a place or a technology. In its simplest form, we can say that it is the new state of the internet. But that would be a pretty technical statement. Metaverse is much more than that. When imagined as a not-yet-built entity, it awakens in our minds insights that include infinity. Based on all perspectives, the following definition was created in this study.

“The metaverse is a collectively connected network and multi-universe that is being built, which brings the virtual and real worlds closer together, where an unlimited number of users can interact, live online, permanent and three-dimensional experiences through digital avatars, depending on augmented reality technology.”

Although the subject of the metaverse seems to be more of a marketing and trade-oriented issue, it will evolve into a completely different dimension in the future. For example, the use of avatars has the potential to open up many social and individual realities to discussion. Avatars' form, formal features, race, bodily expressions, communication style, etc. It will reveal many discussion topics of the world we know, such as equality, justice, morality, security, ideology, with a new opening in the meta-universe. For areas of freedom, rules and norms, perhaps there will be situations between old habits and perspectives and the impulse to build new orders. What will be the journey of an avatar whose physical body has ended in the digital world? Answers to such questions await us. Therefore, many issues that we will discuss for a long time in our social life and that we need to adapt in some way are waiting for us. Metaverse, whose place in the economy is always at the forefront, has a high potential to create transformation in all areas of life.

## 7. References

- [1] Yli-Huumo, J., Ko, D., Park, S., Choi, S., & Smolander, K. (2016). Where is Current Research on Blockchain Technology?. PLoS ONE, 11 (10), (pp. 1-27).  
<https://doi.org/10.1371/journal.pone.0163477>
- [2] Gedik, G. (2020). Akıllı Sözleşmelerin Vergilendirme Süreci Üzerindeki Etkileri. MHD, 16 (185), (pp. 1199-1224).
- [3] EU. (2019). Blockchain Now and Tomorrow. Belgium: European Commission, Joint Research Centre.
- [4] Kardaş, S. (2019). Blokzincir Teknolojisi: Uzlaşma Protokolleri. DÜMF Mühendislik Dergisi , 10 (2), (pp. 481-496).  
<https://doi.org/10.24012/dumf.426805>
- [5] BIS. (2017). Distributed Ledger Technology in Payment, Clearing and Settlement. 12 (29), Retrived September 15, 2022 from  
<https://www.bis.org/cpmi/publ/d157.pdf>
- [6] EU. (2019). Blockchain Now and Tomorrow. Belgium: European Commission, Joint Research Centre.

- [7] Batra, G., Olson, R., Pathak, S., Santhanam, N., & Soundararajan, H. (2019). Blockchain 2.0: What's in Store for The Two Ends Semiconductors (Suppliers) and Industrials (Consumers)? McKinsey&Company.  
<https://doi.org/10.3390/fi11120258>
- [8] Makridakis, S., & Christodoulou, K. (2019). Blockchain: Current Challenges and Future Prospects/Applications. MDPI , 11 (258), (pp. 1-16).
- [9] Seth, N. (2019). Blockchain Still Shows Great Promise After the Hype. Forbes. Retrived July 10, 2022 from <https://www.forbes.com/sites/forbestechcouncil/2019/08/23/blockchain-still-shows-great-promise-after-the-hype/#4cf6167a4ecb>
- [10] Yli-Huumo, J., Ko, D., Park, S., Choi, S., & Smolander, K. (2016). Where is Current Research on Blockchain Technology?. PLoS ONE, 11 (10), (pp. 1-27).  
<https://doi.org/10.1371/journal.pone.0163477>
- [11] Ante L. (2022). The Non-Fungible Token (NFT) Market and Its Relationship with Bitcoin and Ethereum. *FinTech*. 1 (3), (pp. 216-224).  
<https://doi.org/10.3390/fintech1030017>
- [12] Nadini, M., Alessandretti, L., Di Giacinto, F. *et al.* (2021). Mapping the NFT Revolution: Market Trends, Trade Networks, and Visual Features. *Sci Rep*. 11 (20902).  
<https://doi.org/10.1038/s41598-021-00053-8>
- [13] Wang, Q., Li, R., Wang, Q., & Chen, S. (2021). Non-Fungible Token (NFT): Overview, Evaluation, Opportunities and Challenges. (pp. 1-22).
- [14] Dursun, N. (2021). NFT / Kripto Sanat ve Hareketli Grafik İlişkisi. *International Journal of Social, Humanities and Administrative Sciences*, 7 (40), (pp. 1037-1055).  
<https://doi.org/10.31589/JOSHAS.649>
- [15] NFT Industrial Development Report (2021). Cabin VC, Q1. Retrived December 29, 2022 from <https://www.cabin.vc/img/NFTIndustrialDevelopmentReportQ12021-EN.pdf>
- [16] Grider, D. (2021). The Metaverse. Grayscale Research. (pp. 1-18).
- [17] Herrman, J., & Browning, K. (2021). Are We in the Metaverse Yet? The New York Times. (pp. 1-5).
- [18] Grider, D. (2021). The Metaverse. Grayscale Research. (pp. 1-18).
- [19] Caulfield, B. (2021). What Is the Metaverse? Retrived June 1, 2022 from <https://blogs.nvidia.com/blog/2021/08/10/what-is-the-metaverse/>
- [20] Wunderman Thompson Intelligence Report (2021). Into the Metaverse. New York. (pp. 1-93).
- [21] Gilbert, R.L. (2011). The P.R.O.S.E. (Psychological Research on Synthetic Environments) Project: Conducting In-World Psychological Research on 3D Virtual Worlds. *Journal of Virtual Worlds Research - Psychological Research on Virtual Worlds*. 4 (1), (pp. 3-18).  
<https://doi.org/10.4101/jvwr.v4i1.2108>
- [22] Wunderman Thompson Intelligence Report (2021). Into the Metaverse. New York. (pp. 1-93).
- [23] Dionsio, J. D., Burns, W. G., & Gilbert, R. (2013). 3D Virtual Worlds and the Metaverse: Current Status and Future Possibilities. *ACM Computing Surveys* , 45 (3), (pp. 1-38).  
<https://doi.org/10.1145/2480741.2480751>
- [24] Jefferies. (2021). "Going Outside is Highly Overrated": Metaverse Primer. Equity Research. (pp. 1-29).
- [25] Wunderman Thompson Intelligence Report (2021). Into the Metaverse. New York. (pp. 1-93).
- [26] Lee, L. H., Braud, T., Zhou, P., Wang, L., Xu, D., Lin, Z., et al. (2021). All One Needs to Know about Metaverse: A Complete Survey on Technological Singularity, Virtual Ecosystem, and Research Agenda. *Journal of Latex Class Files*, 14 (8), (pp. 1-66).

- [27] Soepeno, R. (2021). Metaverse: A Potential Threat to Humanity and Ethics. Endonezya: Sampoerna University.
- [28] Duan, H., Li, J., Fan, S., Lin, Z., Wu, X., & Can, W. (2021). Metaverse for Social Good: A University Campus Prototype. Proceedings of the 29th ACM International Conference on Multimedia, New York: Virtual Event. (pp. 1-9).
- [29] Lee, L. H., Braud, T., Zhou, P., Wang, L., Xu, D., Lin, Z., et al. (2021). All One Needs to Know about Metaverse: A Complete Survey on Technological Singularity, Virtual Ecosystem, and Research Agenda. Journal of Latex Class Files , 14 (8), (pp. 1-66).
- [30] Burke, J. (2021). The Open Metaverse OS. Outlier Ventures. (pp. 1-34).
- [31] Ayiter, E. (2012). Acquisitions for Creativity: 'Produsage' in the Metaverse. S. Bornhofen, J. Heudin, A. Lioret, & J. Torrel içinde, Virtual Worlds: Artificial Ecosystems and Digital Art Exploration. Paris: Science-eBook. (pp. 7-18).
- [32] Ayiter, E. (2012). Acquisitions for Creativity: 'Produsage' in the Metaverse. S. Bornhofen, J. Heudin, A. Lioret, & J. Torrel içinde, Virtual Worlds: Artificial Ecosystems and Digital Art Exploration. Paris: Science-eBook. (pp. 7-18).
- [33] Dionsio, J. D., Burns, W. G., & Gilbert, R. (2013). 3D Virtual Worlds and the Metaverse: Current Status and Future Possibilities. ACM Computing Surveys , 45 (3), (pp. 1-38).  
<https://doi.org/10.1145/2480741.2480751>
- [34] Shen, B., Tan, W., Guo, J., Zhao, L., & Qin, P. (2021). How to Promote User Purchase in Metaverse? A Systematic Literature Review on Consumer Behavior Research and Virtual Commerce Application Design. Appl. Sci. (11), (pp. 1-29).
- [35] Grider, D. (2021). The Metaverse. Grayscale Research. (pp. 1-18).
- [36] Marketing Türkiye. (2021). Retrived June 13, 2022 from  
<https://www.marketingturkiye.com.tr/soylesiler/metaverse-markalara-nasil-bir-dunya-vadediyor/>
- [37] Mileva, G. (2021). Metaverse'ü Anlamak. Retrived June 13, 2022 from  
<https://www.campaigntr.com/metaverseu-anlamak/>
- [38] Yüksel, Y. (2022). Daha Şimdiden Metaverse'te Varlığını Göstermeye Başlayan 9 Büyük Marka. Retrived March 13, 2022 from  
<https://www.webtekno.com/metaversete-varligini-gostermeye-baslamis-markalar-h117659.html>
- [39] Kılıç, F. (2021). Pazarlamacılar NFT'yi Nasıl Kullanmalı? Retrived January 13, 2022 from  
<https://www.marketingturkiye.com.tr/haberler/nft-pazarlama-dunyasi/>
- [40] Gökırmaklı, I. (2021). Retrived June 1, 2022 from  
<https://vogue.com.tr/haber-moda/louis-vuitton-oyunu-baslatti>
- [41] Bigumigu. (2022). Louis Vuitton'dan Maskot Vivienne'li Mobil Oyun. Retrived March 13, 2022 from  
<https://bigumigu.com/haber/louis-vuittondan-maskot-vivienneli-mobil-oyun/>
- [42] Büyükdumlu, Ş. (2021). H&M, Metaverse Dünyasındaki İlk Mağazasını Açtı. Retrived March 13, 2022 from  
<https://www.pazarlamasyon.com/h-m-metaverse-dnyasındaki-ilk-magazasini-acti>
- [43] Hadımlı, G. (2022). Benetton Milano Moda Haftası için Metaverse'teydi. Retrived March 13, 2022 from  
<https://mediacat.com/benetton-milano-moda-haftasi-icin-metaverseteydi/>
- [44] KoinBülteni (2022). Gucci, Kendi Sanal Dünyasını Kurmak için The Sandbox (SAND)
- [45] Brand Planet. (2021). Adidas Metaverse Planlarının Detaylarını Paylaştı. Retrived March 13, 2022  
<https://www.thebrandplanet.com/post/adidas-metaverse-planlarinin-detaylarini-paylasti>
- [46] Uçar, S. (2021). Nike'in Yeni Metaverse Hamlesi: Nikeland. Retrived March 13, 2022 from  
<https://mediacat.com/nikein-yeni-metaverse-hamlesi-nikeland/>
- [47] Şenses, S. (2021). Givenchy'den LGBTQIA+ Topluluğuna Destek. Retrived March 13, 2022 from  
<https://mediacat.com/givenchyden-lgbtqia-topluluguna-destek/>
- [48] Yüksel, Y. (2022). Daha Şimdiden Metaverse'te Varlığını Göstermeye Başlayan 9 Büyük Marka. Retrived March 13, 2022 from  
<https://www.webtekno.com/metaversete-varligini-gostermeye-baslamis-markalar-h117659.html>

- [49] Gazan, O. (2022). Arıların Umudu Olan NFT Koleksiyonu. Retrived March 13, 2022 from <https://bigumigu.com/haber/arilarin-umudu-olan-nft-koleksiyonu/>
- [50] Beyazdağ, C. (2021). NFT kulübünün Yeni Üyesi Pepsi. Retrived March 13, 2022 from <https://mediacat.com/nft-kulubunun-yeni-uyesi-pepsi/>
- [51] Doğan, F. (2021). NFT Furyasına McDonald's da Katıldı! Retrived March 13, 2022 from <https://shiftdelete.net/nft-furyasina-mcdonalds-da-katildi>
- [52] Şenses, S. (2021). McDonald's'tan Metaverse Hamlesi. Retrived March 13, 2022 from <https://mediacat.com/mcdonaldstan-metaverse-hamlesi/>
- [53] Önder N. (2021). Coca-Cola, NFT Pazarında Yeni Bir Rekabetin Fitolini Ateşledi! Retrived March 13, 2022 from <https://www.marketingturkiye.com.tr/haberler/nft-alaninda-esen-coca-cola-ruzgari-yeni-bir-rekabetin-habercisi-mi/>
- [54] Yüksel, Y. (2021). Metaverse'ün Reklamcılık Sektörüne Etkileri Neler Olacak? Retrived March 13, 2022 from <https://www.webtekno.com/metaverse-reklamcilik-sektorune-etkileri-h117329.html>
- [55] Sak, R., Sak, İ. T., Şendil, Ç. Ö., & Nas, E. (2021). Bir Araştırma Yöntemi Olarak Doküman Analizi. *Eğitim Dergisi* , 4 (1), (pp. 227-250).  
<https://doi.org/10.33400/kuje.843306>
- [56] Stephenson, N. (2003). *Snow Crash: A Novel. Spectra.*
- [57] Wright, M., Ekeus, H., Coyne, R., Stewart, J., Travlou, P., & Williams, R. (2008). Augmented Duality: Overlapping a Metaverse with the Real World. In *Proceedings of the 2008 International Conference on Advances in Computer Entertainment Technology.* (pp. 263-266).  
<https://doi.org/10.1145/1501750.1501812>
- [58] Ayiter, E. (2012). Acquisitions for Creativity: 'Producers' in the Metaverse. S. Bornhofen, J. Heudin, A. Lioret, & J. Torrel içinde, *Virtual Worlds: Artificial Ecosystems and Digital Art Exploration.* Paris: Science-eBook. (pp. 7-18).
- [59] Dionsio, J. D., Burns, W. G., & Gilbert, R. (2013). 3D Virtual Worlds and the Metaverse: Current Status and Future Possibilities. *ACM Computing Surveys* , 45 (3), (pp. 1-38).
- [60] Ning, H., Wang, H., Lin, Y., Wang, W., Dhelim, S., Farha, F., & Daneshmand, M. (2021). A Survey on Metaverse: the State-of-the-art, Technologies, Applications, and Challenges. *arXiv preprint arXiv:2111.09673.*
- [61] Jefferies. (2021). "Going Outside is Highly Overrated": Metaverse Primer. *Equity Research.* (pp. 1-29).
- [62] Duan, H., Li, J., Fan, S., Lin, Z., Wu, X., & Can, W. (2021). Metaverse for Social Good: A University Campus Prototype. *Proceedings of the 29th ACM International Conference on Multimedia, New York: Virtual Event.* (pp. 1-9).  
<https://doi.org/10.1145/3474085.3479238>
- [63] Damar, M. (2021). Metaverse Shape of Your Life for Future: A Bibliometric Snapshot. *Journal of Metaverse*, 1 (1), (pp. 1-8).
- [64] Lee, L. H., Braud, T., Zhou, P., Wang, L., Xu, D., Lin, Z., et al. (2021). All One Needs to Know about Metaverse: A Complete Survey on Technological Singularity, Virtual Ecosystem, and Research Agenda. *Journal of Latex Class Files* , 14 (8), (pp. 1-66).
- [65] Grider, D. (2021). *The Metaverse.* Grayscale Research. (pp. 1-18).
- [66] Soepeno, R. (2021). *Metaverse: A Potential Threat to Humanity and Ethics.* Endonezya: Sampoerna University.
- [67] Narin, N. G. (2021). A Content Analysis of the Metaverse Articles. *Journal of Metaverse*, 1(1), (pp. 17-24).
- [68] Di Pietro, R., & Cresci, S. (2021). Metaverse: Security and Privacy Issues. *Third IEEE International Conference on Trust, Privacy and Security in Intelligent Systems and Applications (TPS-ISA)* (pp. 281-288).  
<https://doi.org/10.1109/TPSISA52974.2021.00032>

- [69] Park, S. M., & Kim, Y. G. (2022). A Metaverse: Taxonomy, Components, Applications, and Open Challenges. *Ieee Access*, 10, (pp. 4209-4251).  
<https://doi.org/10.1109/ACCESS.2021.3140175>
- [70] Cheng, R., Wu, N., Chen, S., & Han, B. (2022). Will Metaverse Be Next internet? Vision, Hype, and Reality. *arXiv preprint arXiv:2201.12894*.  
<https://doi.org/10.1109/MNET.117.2200055>
- [71] Visconti, R. M. (2022). From Physical Reality to the Metaverse: a Multilayer Network Valuation. *Journal of Metaverse*, 2(1), (pp. 16-22).
- [72] Mystakidis, S. (2022). Metaverse. *Encyclopedia*, 2(1), (pp. 486-497).  
<https://doi.org/10.3390/encyclopedia2010031>
- [73] Sriram, G. K. (2022). A Comprehensive Survey on Metaverse. *International Research Journal of Modernization in Engineering Technology*, 4(2), (pp. 772-775).
- [74] Wunderman Thompson Intelligence Report (2021). *Into the Metaverse*. New York. (pp. 1-93).
- [75] Wunderman Thompson Intelligence Report (2021). *Into the Metaverse*. New York. (pp. 1-93).
- [76] Wunderman Thompson Intelligence Report (2021). *Into the Metaverse*. New York. (pp. 1-93).
- [77] Wunderman Thompson Intelligence Report (2021). *Into the Metaverse*. New York. (pp. 1-93).
- [78] Wunderman Thompson Intelligence Report (2021). *Into the Metaverse*. New York. (pp. 1-93).
- [79] Wunderman Thompson Intelligence Report (2021). *Into the Metaverse*. New York. (pp. 1-93).
- [80] Wunderman Thompson Intelligence Report (2021). *Into the Metaverse*. New York. (pp. 1-93).
- [81] Wunderman Thompson Intelligence Report (2021). *Into the Metaverse*. New York. (pp. 1-93).
- [82] Wunderman Thompson Intelligence Report (2021). *Into the Metaverse*. New York. (pp. 1-93).
- [83] Wunderman Thompson Intelligence Report (2021). *Into the Metaverse*. New York. (pp. 1-93).
- [84] Wunderman Thompson Intelligence Report (2021). *Into the Metaverse*. New York. (pp. 1-93).
- [85] Wunderman Thompson Intelligence Report (2021). *Into the Metaverse*. New York. (pp. 1-93).
- [86] Wunderman Thompson Intelligence Report (2021). *Into the Metaverse*. New York. (pp. 1-93).
- [87] Wunderman Thompson Intelligence Report (2021). *Into the Metaverse*. New York. (pp. 1-93).
- [88] Wunderman Thompson Intelligence Report (2021). *Into the Metaverse*. New York. (pp. 1-93).
- [89] Jefferies. (2021). "Going Outside is Highly Overrated": Metaverse Primer. *Equity Research*. (pp. 1-29).
- [90] Jefferies. (2021). "Going Outside is Highly Overrated": Metaverse Primer. *Equity Research*. (pp. 1-29).
- [91] Jefferies. (2021). "Going Outside is Highly Overrated": Metaverse Primer. *Equity Research*. (pp. 1-29).
- [92] Jefferies. (2021). "Going Outside is Highly Overrated": Metaverse Primer. *Equity Research*. (pp. 1-29).
- [93] Retrived September 10, 2022 from  
<https://www.businessinsider.com/mark-zuckerberg-reasonable-construct-metaverse-time-not-place-podcast-interview-2022-2?amp>
- [94] Retrived September 10, 2022 from  
<https://www.cnn.com/amp/2021/12/09/bill-gates-metaverse-will-host-most-virtual-meetings-in-a-few-years.html>