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## Marketing in the Metaverse: Evaluation through the 7P Marketing Mix

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**Abstract:** The Covid-19 pandemic has led to marginal changes in traditional lifestyles and standards, and technological developments that bring physical reality closer to virtual reality, with the increasing influence of the digital revolution. Among these developments, Metaverse stands out the most, and due to its projection dating back much earlier than the Covid-19 pandemic, it provides the most systematic presentation as a virtual reality. With its collection of online worlds and lives, Metaverse can cause radical changes in daily life and, therefore, deserves special attention. As an alternative universe concept offered to people, this area is envisioned to provide all kinds of social interaction services, such as shopping, advertising, digital production, marketing, security, education, entertainment, and any other type of social interaction that comes to mind, just like in daily life. To benefit from these services, it is necessary to be present in the Metaverse universe as a unique avatar user. Users will be able to buy and sell digital objects with blockchain-based digital currencies, participate in digital partnerships and ventures, create digital markets, and thus increase their digital profits and pleasures. While Metaverse marketing is not based on a different logic than marketing in physical reality, it can bring a new dimension to the science of marketing as it provides a freedom-oriented activity area unencumbered by classical limitations due to blockchain advantages. A new field of activity is emerging that greatly expands the limits of marketing science with Metaverse, and all marketing actors should position themselves in the most accurate and timely manner against this innovation. This article discusses the philosophy, birth, operation, components, and development direction of Metaverse marketing based on the 7P marketing mix.

**Keywords:** 7P marketing mix, Metaverse, marketing, metahuman.

## 元界中的营销：通过 7P 营销组合进行评估

**摘要：**随着数字革命的影响越来越大，新冠肺炎大流行导致传统生活方式和标准发生边缘变化，以及使物理现实更接近虚拟现实的技术发展。在这些发展中，元界最为突出，并且由于其投影可以追溯到远早于新冠肺炎大流行，它提供了最系统的虚拟现实呈现。凭借其收集的在线世界和生活，元界可以在日常生活中引起根本性的变化，因此值得特别关注。作为提供给人们的另类宇宙概念，该区域被设想为提供各种社交互动服务，例如购物、广告、数字制作、营销、安全、教育、娱乐以及任何其他想到的社交类型，就像在日常生活中一样。要从这些服务中受益，必须以独特的头像用户身份出现在元界宇宙中。用户将能够使用基于区块链的数字货币买卖数字对象，参与数字合作伙伴关系和风险投资，创建数字市场，从而



增加他们的数字利润和乐趣。虽然元界营销与物理现实中的营销基于不同的逻辑，但它可以为营销科学带来新的维度，因为它提供了一个自由导向的活动区域，不受区块链优势带来的经典限制。一个新的活动领域正在出现，它极大地扩展了元界营销科学的极限，所有营销人员都应该以最准确、最及时的方式定位自己以应对这种创新。本文从7P营销组合出发，探讨元界营销的理念、诞生、运作、构成及发展方向。

**关键词：**7P营销组合，元界，营销，元人。

## 1. Introduction

While consumption is essentially a basic need, it has recently turned into a passion and become one of the main factors shaping the industry. The diversification of the industry and its rapid development with advanced technology, on the one hand, have caused undesirable situations such as environmental pollution, global climate change, and carbon-related widespread diseases [7], while on the other hand, they have paved the way for innovative ideas by combining passions with imagination [8]. The Metaverse project [9], which enables full-time tracking of users, transforming their virtual behaviors into data and making personalized recommendations unprecedentedly, is undoubtedly one of the most remarkable ideas among these. Although the emergence of Metaverse dates back to the fictional novel *Snow Crash*, in which Stephenson first coined the term in 1992 [10-12], the Covid-19 pandemic has accelerated the development of the project. The restrictive conditions such as closure and social distancing brought to the agenda by the Covid-19 pandemic, combined with the opportunities offered by web 3.0 technology, have made the scenarios in the cyberpunk movement led by Stephenson applicable. The cyberpunk movement is based on a life projection where science and technology have made significant progress, but people's quality of life has deteriorated over time, or the established social order has undergone a radical change [13], briefly expressed with the slogan "high technology, low life" [14]. The metaverse term used by Stephenson in his work is loaded with the meaning of developing virtual solutions by infiltrating the brains of people struggling in digital chaos and looking for ways out like a computer virus [15]. Based on Stephenson's metaverse fiction, many virtual worlds have been designed over time, and attempts have been made to realize these virtual worlds to the extent of digital capabilities.

On the other hand, there is no definitive consensus on the terminological equivalent of the concept of a metaverse. When translated literally into Turkish, metaverse means "beyond the universe" [16]. In its most common sense, however, the metaverse refers to a new reality universe where the boundaries between the physical and virtual worlds are lifted, allowing for

integrating both worlds [17]. Metaverse is based on the philosophy of enabling real individuals, who take on virtual characters in the form of avatars, to be present in augmented virtual environments and to interact fully with other avatars. In this respect, the metaverse serves as a bridge between physical reality and virtual reality.

Artificial intelligence-powered intelligent assistants are essential to digital interaction [18]. Entry into the metaverse universe is planned through virtual reality helmets or smart glasses, and smart lenses will take their place in the near future [19]. Technological infrastructure studies are ongoing in many sensory areas, such as vision enhanced by smart lenses, walking, running, effective use of hands and facial expressions, and smell detection.

All authorities on marketing agree that the metaverse universe will generate a trillion-dollar economy due to its unique products and services [20]. The cornerstone of the metaverse economy will be digital objects such as NFTs (non-fungible tokens). It will be possible for an avatar to meet its virtual hardware needs, fulfill virtual desires, and participate in virtual events by purchasing NFTs or using other digital objects, depending on its economic power. The emergence of the metaverse is an inevitable result of digital development, and it is impossible to remain indifferent to this conjuncture, which also appears as the transformation of marketing. Therefore, one must participate in every stage of change, experience, and internalize developments in real time.

To provide the most systematic analysis and the most understandable transmission of marketing in the metaverse universe, a descriptive presentation through the 7P marketing mix model was preferred as the method in this study. The 4P marketing mix model consisting of product, price, promotion, and place components has undergone changes over time with the influence of externalities such as digitalization, e-commerce, and e-advertising, and physical evidence, people, and process components have been added to the four components, giving rise to the modern marketing mix called the 7P model [21]. Marketing in the metaverse universe has been thoroughly analyzed based on the components of this 7P marketing mix model.

## 2. Products in the Metaverse Universe

Metaverse refers to a cyber space where user interactions are strengthened and developed through digital infrastructure systems [22]. The Metaverse market, which is based on highly realistic cyber relationships between users, can be analyzed through both transactional and functional marketing. However, in order to comprehensively and systematically examine marketing in the Metaverse universe, it is deemed the most appropriate to use the 7P marketing mix as a method of presentation.

Relationship marketing is based on creating value and full-time sharing [23, 24]. In this respect, it is expected that marketing in the Metaverse universe will take shape in a relational direction and develop in line with interaction with other stakeholders and continuity in the market [25]. The first step that initiates this interaction will be for users to acquire avatars and establish themselves within the system, followed by the process of digital content production. As in transactional marketing, the product (digital content) is the main axis of all market activities in relational marketing as well.

Generally, the term "product" refers to planning and developing a marketable good or service [26]. The concept of product is used synonymously with the presentation of the market by producers [27]. In the metaverse universe, the product presentation of each actor forms the basis of the benefit to be provided to other actors. It is possible to explain the product development activity, which is the most important aspect of the 7P marketing mix in the metaverse universe with some marketing theories, but game theory can provide the most systematic explanation among these theories. Because game theory, which predicts a series of processes that bring together mathematical models and was first introduced to the literature with the book "The Theory of Games and Economic Behaviour" by Von Neumann and Morgenstern in 1944 [28], based on an algorithmic foundation [29], seems to have been designed for the metaverse universe. Over time, game theory, which has developed itself, indicates that users' behaviors have changed with digital technology beyond connecting to digital environments, and as a result, new needs and expectations have emerged in companies' business models, organizational structures, and marketing practices and argues that players in the digital market need to be better understood and better strategies developed based on these findings [28]. According to the game theory, where digital users are accepted as online customers, a technological revolution has taken place in today's market conditions, and the rules of the game have completely changed. However, the clear definition of these new rules and sharing them with other market actors is also a requirement of game theory.

When creating a product within the framework of

game theory logic, it is necessary to analyze the available data at the most functional level and take into account the expectations of the customer (digital users), think like an end user, and follow a plan/strategy. While this plan/strategy is determined based on the product owner's own ability and imagination, it is shaped according to the general-regulatory rules of the metaverse universe [30].

It is thought that in the metaverse universe, a part of the products will consist of innovative ideas with NFTs and similar digital objects, and a larger part will consist of digital services representing an abstract meaning [30]. Service, in general definition, has a more or less intangible structure, which is generated during the interaction between the customer and the service provider and provides solutions to customer problems [31]. Services that will emerge through startups specific to Web 3.0 technology are expected to be the main driving force of marketing in the metaverse universe [32]. Service providers specific to the metaverse universe are likely to play an active role in many activities such as meeting the cybersecurity needs of avatars, designing and operating digital exchanges, establishing rental and advertising companies, planning avatar investments in the metaverse universe, and conducting digital social initiatives (such as consumer cooperatives, philosophical organizations, chat and support groups, industry associations, etc.). These servers can be any avatar or a virtual company (metacompany) established by a few avatars.

An alternative life where avatars can interact 24/7 is being planned with the Metaverse [33]. Ideas that can make this life more fun can be marketed as products in the most exclusive shopping items of the Metaverse universe. For example, innovative services such as virtual marriages, virtual children/parents/relatives, virtual assassinations (hacks/cracks), virtual disaster/robbery insurance software, virtual law, psychology, astrology, economic consultancy, etc. have begun taking shape and developing in the Metaverse platform, particularly for investors interested in investing in the new universe.

The most basic products in the Metaverse universe are goods and services that meet the general needs of avatars, and it seems that global enterprises such as the Meta Company dominate the supply of these products for a fee [34]. Virtual costumes, virtual identities, web 3.0 network services that avatars can use, activation of certain functions, and other basic level products are among the first examples that come to mind in this context. However, the most typical example of marketing unique to the Metaverse universe is non-fungible tokens (NFTs), which represent an invaluable token that cannot be exchanged. While NFTs are marketed in the digital platform, they reflect the Metaverse philosophy most accurately since they also have a physical reality aspect by representing a type of material value [35].

To produce NFTs, certain blockchain standards with the ability to function as unique tokens in the metaverse market, such as the ERC-721 standard on the Ethereum blockchain, need to be used [35]. As each ERC-721 product is unique in structure and value, it is almost impossible for tokens to be traded with each other. Cryptocurrencies such as Bitcoin, which can be exchanged and traded like physical currencies such as the US Dollar or the Turkish lira, are unsuitable for NFT production. Furthermore, since other nominal values can be divided into small shares, NFTs, being singular, cannot be divided [36].

NFTs are already widely used on various digital platforms. The scope of NFT use extends beyond the gaming market to include art, real estate, and other similar assets. Among these, NFTs with a particularly artistic aspect are the most prominent products in metaverse markets as a novelty that comes with web 3.0. NFTs have given rise to a new art movement called cryptoart. Cryptoart is a digital art creation whose most fundamental characteristic is to make digital files unique [37]. This definition is in line with the characteristics of the metaverse, and therefore, NFTs are one of the first things that come to mind when discussing the metaverse market.

To buy and sell NFTs in the Metaverse universe, it is necessary to first obtain an Ethereum wallet connected to a decentralized application. This wallet is necessary for various trading activities, from entering the produced NFTs into the system for a commission fee to transferring purchased or gifted products. The process of developing digital content uniquely and offering it for sale in Metaverse markets is called NFT production, or more technically, minting [1]. The stages of a minting process are illustrated in the following figure.

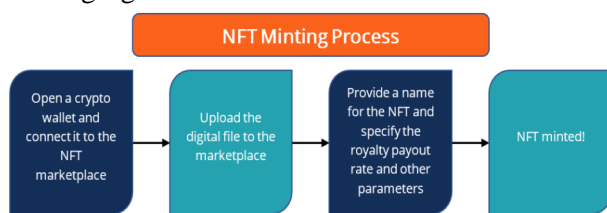


Fig. 1 Minting process [1]

Undoubtedly, other inventions, such as NFTs, will emerge in the metaverse universe over time. In this context, it seems inevitable to develop digital ideas involving innovation, market these ideas as a strategic product by digital think-tank companies, and establish digital consulting and investment companies that will provide services to avatars regarding this process [36]. Although the metaverse has aroused people's curiosity as a newly established digital revolution, it is still filled with many unknowns, making it a field that requires professional guidance and even specialized education. Such guidance and educational activities emerge as another service category specific to the metaverse universe. Metaverse presents significant opportunities

for investors in terms of product/service planning and development, while also transforming users, who are essentially marketing actors, into investors through the ease of digitalization. With Metaverse, a wide range of products will be developed both quantitatively and qualitatively, and various digital marketing models will be developed for these products [36].

### 3. Price in the Metaverse Universe

Price is the nominal or real value paid to acquire a good or service [38]. More technically, price refers to the exchange rate of one good or service for another [39]. In the Metaverse universe, price is the cryptocurrency paid for digital goods and services in exchange for the offered price.

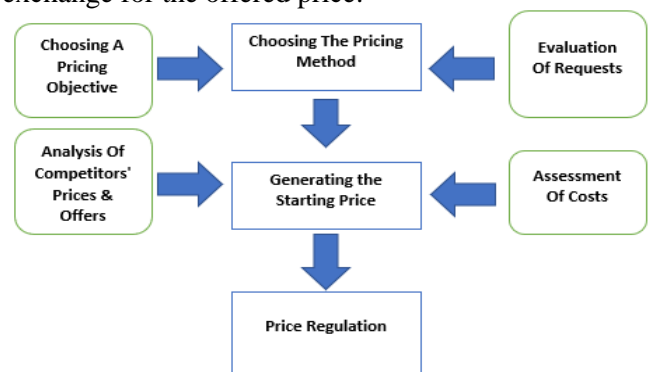


Fig. 2 Minting process [1]

In the Metaverse universe, an economy market is developing with private property and competition freedom, and minimal official authority intervention. In such markets, consumer sovereignty prevails. In markets where consumer sovereignty is valid, the price mechanism focuses on answering the question of how goods and services are produced. Users who are part of the Metaverse system, whether active or potential digital content creators and buyers, produce goods and services and offer them to the market with almost zero cost, except for the commission fees paid within the system. They are also consumers and buyers who demand these contents from the market. In this sense, the Metaverse universe is an excellent example of a perfect competitive market [40].

In the Metaverse perfect competition market, almost all users act like physical reality firms. In the Metaverse market, users with original digital designs sell digital goods and services, whereas physical reality firms' Metaverse branches also offer their own goods and services to the market using 3D web technology. Thus, a kind of digital market industry emerges. In a narrow sense, an industry is a group of firms that produce the same product [41].

Metaverse presents a new understanding of industry that is based on the marketing of digital content. In the Metaverse perfect competition market, which can also be called the Metaverse industry, the formation of price equilibrium in the short term is not expected [42]. This is because the supply and demand curves have not yet

been shaped.

It is necessary to make a special note about the profit understanding of Metaverse users. Profitability is the main goal in pricing [38]. However, in the Metaverse industry, as companies operate in the market outside of the norm, concepts such as cost, profit, and loss can have different meanings. When the hardware expenses that transform users into meta-humans and the necessary commission fees for the supply of digital content to the market are set aside, it is considered that production costs will be at a very low level in the Metaverse market, and therefore, it is seen that the users' aim is not only profitability, but also maximizing profits [43]. Indeed, in the Metaverse universe, numerous users who can offer the same goods or services, apart from NFTs, are constantly in interaction, and the number of users is constantly increasing. To maintain this interaction, the pricing mechanism in the Metaverse universe tends to shift toward structural goals that go beyond profitability and focus on social objectives over time [44]. To become a popular or respected avatar in the Metaverse, one must have the highest number of metaneighbors, metafriends, and metabusiness partners. To achieve this, digital goods and services can be priced high or even be very cheap or even free to expand the social environment.

In the Metaverse perfect competition market, the price of digital content is determined, as shown below.

Another reason is that not only homogeneous users producing the same goods but also heterogeneous users offering various goods and services are positioned within the system. For these reasons, price equilibrium in the Metaverse industry tends to occur only in the long term, as users reach saturation in making profits proportional to their supply potential (production scale) [41].

Users in the metaverse universe create their demands to some extent with their own desires. In other words, users in the metaverse universe can contribute to the pricing process as long as they can produce and offer digital content to the market. As the metaverse market is a newly established one, it is clear that supply and demand will become more predictable over time [44]; however, this situation may have some disadvantages for users, even though it may seem like an advantage of free production and pricing, in a market where numerous buyers and sellers come together and full of uncertainties. Besides the nominal losses caused by the inability to make sales, the time and effort spent on producing digital content should be considered as a significant loss. Indeed, a significant mental effort must produce digital content. For users, the fundamental cost is the time and effort spent [44].

Since the digital content production requires special efforts, cost-based pricing is thought to stand out in the metaverse market [45]. Cost-based pricing is determined by the product cost and desired profit margin [46]. It is understood that users in the metaverse

markets will pursue profitability that cannot be compared to physical reality, as reflected from cryptoexchanges. Some users who make astronomical gains from cryptoexchanges will also be positioned in the metaverse universe with the same motivation for gain, but as the metaverse project takes shape and becomes systematic over time, prices are expected to stabilize in the medium term and a kind of price stability will emerge in the long term [45].

The "price regulation" seen as the final stage in Fig. 2 plays a key role in balancing the metaverse markets [44]. Like the national currencies of countries, each metaverse sub-universe has its own unique digital currency. To operate as a user in the sub-universes, ethereum wallets need to be converted to the relevant currency. The monetary systems of the sub-universes follow a volatile path due to these conversions, and the resulting price fluctuations become a fundamental characteristic of the metaverse markets [44].

#### 4. Promotion in the Metaverse Universe

In the era of Web 3.0 (semantic web), the metaverse is considered the most important tool for brands to gain a foothold in the market [47]. This is because the classic understanding of marketing has changed with the emergence of the metaverse, which now represents a much larger space. To succeed in this new arena, it is necessary for brands to quickly grasp the reality of the metaverse and fulfill the requirements of the new market conditions at an optimum level. Just as having a website in the era of Web 1.0 and conducting e-commerce activities in the era of Web 2.0 were perceived as a matter of reputation, valued and considered essential for market success, being present in the metaverse universe in the era of Web 3.0 will be seen as an independent reputation factor [9]. In the initial stages, the reputation of brands is being measured in some aspects by their activities and interactions in the metaverse universe, and the concept of brand image has also expanded in meaning [47].

Personality, identity, and image concepts are crucial in achieving an ideal level of reputation for a brand. The brand's image refers to how it is perceived by other stakeholders in the market [9]. Considering that an avatar or a brand in the metaverse has an enormous number of external stakeholders that cannot be compared to physical reality, a transformation is expected in brand reputation, particularly in terms of the image axis, in the web 3.0 era [48]. Brand image is related to how a business is perceived by customers rather than its actual situation [49]. In the metaverse universe, every user competes to become a brand, and to do so, they must stand out more than other users, who are also potential customers. To stand out in the digital world, it is necessary to have a high number of followers, high activity, a popular account, and to use it with a business mindset. It is considered difficult for low-active, passive users to survive in the metaverse

market [48]. Therefore, it is expected that image consultants specific to the metaverse will emerge over time [50].

To establish a presence in the Metaverse market, advertisements are as important as having a good image. Advertising, which is the most classic promotional tool transferred from physical reality to virtual reality, is an inevitable method to stand out among millions of users with similar features. In physical reality, advertising refers to promoting and persuading a product, service, or idea to market circles positively through mass media by a responsible party in exchange for a predetermined price [51]. As can be seen from the definition, mass media is used to conduct advertising activities, and therefore, choosing the most accurate communication tool is important in advertising [52]. Choosing the right communication channel is a more prioritized issue for advertisements in the Metaverse markets because communication in the digital realm is quite different from communication in physical reality.

In the Metaverse universe, although all communication tools are digital, various communication methods are encountered due to differences such as effective or ineffective, continuous or intermittent, purposeful or structural communication. Communication that occurs between users through electronic message networks can create a positive communication ground in the promotion/advertising axis, as well as negative communication in the disinformation (product denigration) axis [53]. To intensify these effects in the positive area, it is beneficial to use one-to-one communication in Metaverse networks more effectively, respond quickly to incoming questions and requests, and convey innovations to other users in the network more quickly and in detail [53]. In the Metaverse universe, advertising, which comes from a tradition in physical reality, is expected to be the most important marketing communication tool. It is evaluated that advertising in the Metaverse universe will develop significantly to ensure awareness before sales and to hold onto the market after sales [29]. Therefore, advertising companies specific to the Metaverse universe, which is a new market field for many users, have already started to be established [54].

It is inevitable for large companies to use the advantages of digital media in advertising their brands in physical reality [55]. In the metaverse universe, where physical and virtual realities merge, and each user acts like a large company, the importance of advertising increases even more [53]. It is thought that a widespread advertising activity will be carried out on three-dimensional digital billboards placed in sub-universes, cities, lands, walls or interiors of places, virtual billboards, and similar other places in the metaverse universe. Metaverse advertising, which focuses on promoting active metaverse users in the

short term, maintains the sales of branded users in the market in the medium and long term. The large metaverse marketing with millions of marketing actors provides the following advantages with advertising activities [56]:

- Creating awareness for the presence of the user's avatar;
- Facilitating the user's market communication and interaction;
- Creating popular sellers, content, and markets;
- Increasing the visibility of the digital goods or services launched by the user in the market;
- Showing that physical reality companies also exist in virtual reality;
- Building user/brand loyalty;
- Ensuring the repurchase of bought digital content;
- Preventing sales fluctuations and sudden movements;
- Encouraging users to try out the digital products offered in the market;
- Promoting stock expansion and sales tracking to make users spend more time in the metaverse universe;
- Creating collaboration opportunities with other users to pave the way for digital entrepreneurship;
- Combating competitor users' sales promotion techniques;
- Developing competitive digital content production.

Taking into account the numerous deterrent factors that arise in the metaverse universe, including presentation and content similarities and the abundance of users constantly entering the market, special efforts must be made to ensure customer loyalty [57]. However, customer loyalty is critical for sales retention. To achieve customer loyalty in the metaverse universe, it is necessary to first recognize that users are a new generation of customers. The new generation of customers is easily bored, seeks entertainment [58], is open to innovations, and pursues quality [59]. To appeal to these types of consumers, it is necessary to offer products and services with content that meets their needs.

## 5. Distribution in the Metaverse Universe

Distribution, as a marketing mix, refers to delivering the product or service to the buyer in the most favorable way in terms of place and time. In the classical sense, place refers to the physical reality where a product is exchanged between the seller and the buyer. In terms of services, place refers to the physical area where the service will be provided. The firm should pay attention to how to deliver the product at the right time and in the right place and which channel to use to deliver the product [60].

The metaverse universe brings a new dimension to many marketing concepts such as distribution, supply, and delivery as the ultimate point of digitalization [57]. Nevertheless, the distinction between goods and

services is still valid in the metaverse market, and ethical principles that dominate the physical distribution are also observed in virtual reality. It is thought that these principles and other rules specific to the metaverse will develop and settle over time [57]. At this point, the concept of metaverse law comes into play. It is predicted that a decentralized life will be maintained parallel to the blockchain mentality in the metaverse universe [61], but it is not considered to be established in a chaotic plane [62]. The metaverse universe, which is not only a new digital era but also a huge market, is expected to have a meta-constitution that includes general rules, standard contracts for use, buying and selling, necessary smart contracts for operating in the market, ethical codes, and even basic mandatory norms that all users must comply with to give confidence to investors [62] because the metaverse is, above all, a large investment arena where high volumes of money are invested, and each user acts as a potential trader.

The distribution of products such as NFTs begins with the purchase of the item with cryptocurrency, just like in e-commerce. However, unlike e-commerce, physical delivery of the product to the buyer's address is required [57]. Since all products in the Metaverse market are digital, delivery is completed and the distribution process is finalized by registering the item in the buyer's name in the blockchain system as soon as the product is purchased [62]. For services such as digital music festivals, digital weddings, and digital travel tours, a distribution process that is closer to physical reality is implemented. Even though users can conduct distribution activities directly, as in physical reality, they can also indirectly distribute products through logistics companies established in the metaverse universe, although it is not necessary to use intermediaries [63].

Physical reality is fraught with threats such as the Covid-19 pandemic, hyperinflation, climate crisis, and war. Among these global threats, it is necessary to develop the right strategies against them by creating value-added and branding [58]. All marketing efforts in the metaverse universe are shaped by these requirements [64]. It is a great misconception to assume that digital environments are free from natural disasters that will complicate the supply chain, reduce profit margins, lead users to bankruptcy, or cause similar destruction as in physical reality.

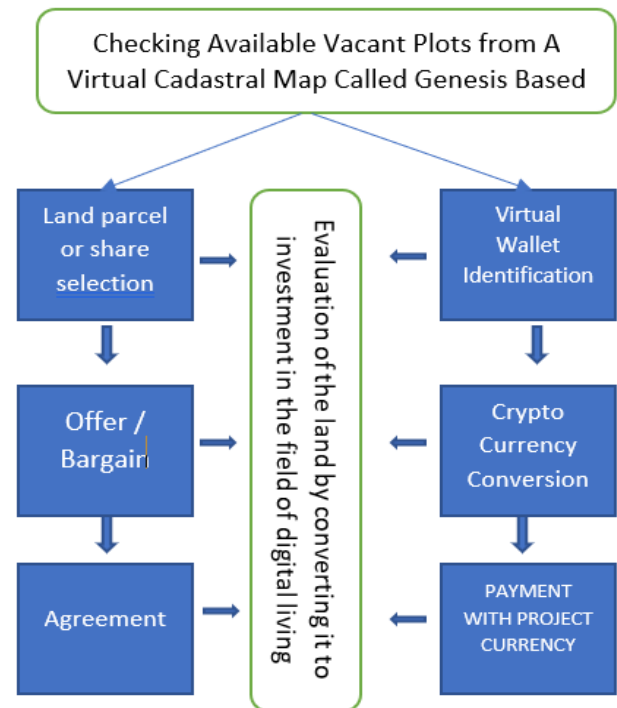


Fig. 3 Land distribution process in the Metaverse market [2]

Natural disasters in digital environments are the emergence of system attacks such as hacks and cracks, long-term power and internet outages, or legal barriers that occur in physical reality. It is advisable for actors in the metaverse market to consider these risks and release their products for distribution [64]. The above figure illustrates how the distribution process of a plot works in the metaverse market, devoid of external threats and risks, considering knowledge gained from concrete application analyses.

As can be understood from the above template, in the metaverse market, direct distribution provides a fast shopping process, and sales mainly develop on the producer/consumer axis, including C2C (consumer to consumer), C2B (consumer to business), B2B (business to business), and B2C (business to consumer) sales [65].

## 6. Physical Evidence in the Metaverse Universe

In marketing science, physical evidence refers to the impression left on the customer during the purchase and post-purchase interaction with the product or service [66]. It is closely related to the promotion component. Companies operating in unpredictable markets, such as the metaverse, can ensure the loyalty of their existing customers and acquire new ones by providing satisfactory experiences, thus achieving the desired level of business performance and attaining the desired growth and market share [66, 67].

In the metaverse market, where numerous distracting factors are present due to its innovative digital dimension, the impression left on the customer is a particularly important issue. The metaverse era, where traditional marketing has evolved into

postmodern marketing, is also described as the age of volatility, uncertainty, complexity, and ambiguity, abbreviated as VUCA by combining the first letters of these terms, due to these distracting factors [68]. In such an era, long-term planning by companies is emphasized as a marketing strategy. Making quick decisions, such as being the first company to introduce a product to the market in a VUCA market, enables companies to exhibit agile marketing tactics, which according to [69], is called strategic agility. For instance, being the first user to produce and introduce NFTs, which refers to unique and one-of-a-kind digital content, is a strategic move that yields significant profits to the user and allows for better positioning among other users in the metaverse market, according to [70].

Playing a leading role among similar initiatives in the metaverse market to leave the best impression on customers is a marketing tactic that should not be overlooked. Therefore, innovative ideas emerge as the most important physical evidence [71]. Examples such as a Swedish ready-to-wear brand opening a virtual store in the metaverse market and providing three-dimensional services to customers without replacing real stores [72], a Turkish initiative opening Göbeklitepe as a three-dimensional museum for avatars to visit [73], and other similar examples offer unforgettable experiences due to their pioneering roles. Given these examples, customers' perceptions of a brand that they purchase or are interested in, being legitimate and active in the real world, are directly affected. This is the pivotal point where physical evidence plays a decisive role [74]. The following table presents the physical evidence in the metaverse market.

When considering the aforementioned examples, it becomes evident that playing a leading role among similar initiatives in the metaverse market is a crucial marketing tactic that should not be overlooked. Therefore, innovative ideas emerge as the most important physical evidence [71]. For instance, a Swedish clothing brand opened a virtual store in the metaverse market and offered three-dimensional services that do not require physical stores [72], while a Turkish venture opened Göbeklitepe as a three-dimensional museum for avatars to visit [73], among other similar examples. Thanks to their pioneering efforts, these examples provide unforgettable experiences that will be remembered for years to come.

Considering these examples, it directly influences customers' perceptions that they know the brand they are interested in or have purchased from is legitimate and active in real life. This is where physical evidence becomes crucial [74]. The following table illustrates the physical evidence in the metaverse market.

The physical details seen in the table determine the customer's impression and tendency to repeat purchase as a result of buying a product or service. Undoubtedly, parallel to the expansion of the dimensions of the

metaverse market and its development with digital capabilities, these physical proofs can show diversity [3].

## 7. Humans in the Metaverse Universe

The people element of the marketing mix refers to all the personnel that the seller or company uses in the production and sales process [75]. The execution of marketing, its emergence, and development are human-centered. The interaction of the product or service with third parties is provided by the human factor [76]. Even when this interaction occurs through algorithm-based systems in the digital environment, there is a need for personnel who will establish, manage, and maintain/improve the system [77]. As the Metaverse market is a system based on the most sophisticated digital network infrastructure, the employment of experts in fields such as software, artificial intelligence, and blockchain carries great importance, and this leads to a marketing landscape in which the human element is much more decisive [78].

In a way, Metaverse is organizing traditional retailing similar to shopping malls. However, just as shopping malls have created an advanced system that has given traditional retailing a new order [58], Metaverse takes the shopping center culture to the most advanced level with digital systems. The basic characteristics of retail consumers that avatars will interact with are: knowing the product better than the seller, having less time as time goes by, being exposed to more product offerings than before, encountering unique products each time, being disloyal, fickle, accustomed to quality and abundance, and expecting their demands to be met the same way everywhere in the world [58]. Marketing actors who analyze the basic characteristics, tendencies, and expectations of the consumer will conduct more profitable activities in the Metaverse market.

The following table lists the potential strengths and weaknesses of the actors in the Metaverse market and the opportunities and threats they will face.

Table 1 Physical evidence in the Metaverse marketplace [3]

PHYSICAL EVIDENCE	GOODS	SERVICE
MATERIAL VALUE	Hardware detail, appearance features, usability.	Advantages of the experience gained.
MORAL VALUE	Being able to exhibit the product and share it with other users.	To be regarded as a cause of dignity, to take pleasure etc.
QUALITY	Structural details with a special infrastructure of labor, time and capability.	Contribution to knowledge and culture permanence.
SIZE	Details in pixels.	Temporal on the basis of virtual space details.
TRACEABILITY	It can be specific to one or a certain group of avatars.	Customizable one or a specific group of avatars.
REGISTRATION	On the blockchain permanent registration with smart contracts.	A blockchain-based usable rights.
EXPIRY	As long as the avatar holds it.	Until the end of the recognized right.

Table 2 SWOT analysis of marketing actors in the Metaverse universe [4, 5]

Marketing Actors	Internal Factors		External Factors	
	Strengths	Weaknesses	Opportunities	Threats
<b>Users (Avatars)</b>	<ul style="list-style-type: none"> <li>• Unique product development opportunity</li> <li>• Serial decision-making process</li> <li>• Fast supply planning</li> </ul>	<ul style="list-style-type: none"> <li>• System uncertainty</li> <li>• Infrastructure problems /flaws</li> <li>• New user disadvantages</li> <li>• Design difficulties</li> </ul>	<ul style="list-style-type: none"> <li>• Lean smart contracts</li> <li>• Flexible Protocols</li> <li>• Flexible bargaining protocols</li> <li>• Easy payment possibility</li> </ul>	<ul style="list-style-type: none"> <li>• Market uncertainty</li> <li>• Model sales insufficiency</li> <li>• Interventions like hack/crack</li> <li>• Fragile crypto money market</li> </ul>
<b>Virtual Companies of The Metaverse Market</b>	<ul style="list-style-type: none"> <li>• Strong coordination</li> <li>• Ease of product duplication</li> <li>• Operational without stocks</li> <li>• Minimizable Expenses</li> </ul>	<ul style="list-style-type: none"> <li>• Difficulty in visibility</li> <li>• Sales planning difficulty</li> <li>• Commission payments</li> <li>• Digital compliance Problem</li> </ul>	<ul style="list-style-type: none"> <li>• Decentralization</li> <li>• Blockchain assured sales</li> <li>• Roaming Ease</li> <li>• Elasticity of supply price flexibility</li> </ul>	<ul style="list-style-type: none"> <li>• Consumer indecision</li> <li>• Hold on to the Market difficulty from the lower universe caused problems</li> <li>• Demand flexibility</li> </ul>
<b>Physical Companies That Have Reached/Representatives In The Metaverse Market</b>	<ul style="list-style-type: none"> <li>• Ease of digital recording</li> <li>• Advanced technological solutions</li> <li>• Easy sales planning</li> <li>• Flexible stocks</li> </ul>	<ul style="list-style-type: none"> <li>• Weak Coordination</li> <li>• Educated employee requirements.</li> <li>• Building Security wall</li> <li>• Advertising-promotion expenses</li> </ul>	<ul style="list-style-type: none"> <li>• Low budget adequacy</li> <li>• Practical sub-universe apps</li> <li>• Easy digital payment option</li> <li>• Physical market experience</li> </ul>	<ul style="list-style-type: none"> <li>• Decentralized</li> <li>• Compelling conditions of competition</li> <li>• The uncertainty of choice of the new generation consumer</li> <li>• Legal infrastructure uncertainty</li> </ul>

The listed factors demonstrate the advantages and disadvantages that both metahuman and metafirm avatars should consider at all stages, including production, distribution, pricing, promotion, and process management.

Another important issue marketing actors should pay attention to is overcoming the hesitation and barriers that arise with the unknown and pre-cautiousness in the global world regarding the metaverse market. Actors in the metaverse market should primarily promote themselves in the best way possible as a marketing policy. While this promotion encourages real or legal persons in the physical world to virtual reality on the one hand, on the other hand, it should be based on a communication language that eliminates existing doubts and establishes trust [79]. Using socio-psychological tools effectively, having the ability to accurately read market expectations [80], and especially using game theory are essential to achieve the goal during the communication process.

The game theory in marketing science is also a valid theory in communication science. According to the English theorist William Stephenson, mass media performs the function of providing pleasure, which is the essence of game theory [81]. This function allows people to escape from work and enjoy themselves. Audience members participate in mass media for entertainment or as part of a game; they do not seek to be informed, developed, or educated [81]. Although the Metaverse universe offers a revolutionary digital technology interaction, it is ultimately an integrated game arena. When actors in the Metaverse market approach third parties without departing from this reality, they express themselves more effectively, persuasively, and realistically. In other words, the Metaverse market can be understood most accurately and explained most easily when considered together with game theories in marketing and communication

science.

## 8. The Process in the Metaverse Universe

The process is the component of the marketing mix that defines the sequence, flow, and technique of activities and operations, as well as the concrete elements of the process, while the process itself is an abstract and ancillary element representing the total of the activities [82]. While the other components of the marketing mix, excluding process, are fundamental and tangible elements of the process [83], the process is an intangible and ancillary element representing the total of the activities.

With the penetration of digital developments into every aspect of human life, change in the concept of the process has become inevitable. When traditional marketing based on physical reality is viewed only from a logistical perspective, the cost of a document from abroad for circulating a market product is around 80 US dollars, and about 30 institutions are involved in an average international commercial shipment, requiring the handling of about 200 document movements [84]. However, with the implementation and popularization of software such as blockchain, all of these processes will be shortened, and costs will be significantly reduced [85].

By integrating the approval processes of documents at every stage of international trade into blockchain technology, a transparent, fast, and significantly cost-reduced trade network has been established [84]. Although Metaverse is a development that surpasses this design, in the blockchain-based Metaverse market, all marketing concepts, particularly processes, are open to re-interpretation [86].

The philosophy of relationship marketing, which stands out in the Metaverse market, is a customer (avatar) value-oriented process management [87]. The key concepts that play a decisive role in relationship marketing processes are communication, interaction, value, trust, and empathy [23]. In order for a relationship marketing to be successful, healthy relationships with customers must be established and the sustainability of this relationship must be ensured. To achieve this, marketing communication activities need to be coordinated in the most accurate and integrated way [88].

Relationship marketing is increasingly becoming a process of creating value for the customers rather than tangible products. Such a process can only be achieved with successful interaction in the market [89]. The actors of the Metaverse market will be able to create value with digital content only to the extent that they manage goods, services, information, and other resources well and realize attractive offers. The user, who is also a buyer, must be able to correctly analyze the value perception of other users and the value creation process associated with it at the initial stage [88]. The key to creating value is to establish a trust-

based relationship with other Metaverse actors [90]. In this context, it is more appropriate to focus on satisfaction and continuity, which sustain social relationships, rather than content supply [91].

To develop relationships established in the Metaverse universe and gain new perspectives for the future, it is necessary to have an understanding that grasps both the requirements and realities of the system [90].

The following figure presents the stages of a marketing process built upon analyses of trends (expectations), digital technology, avatars (users), and applications (apps) in the metaverse universe, in a general outline.

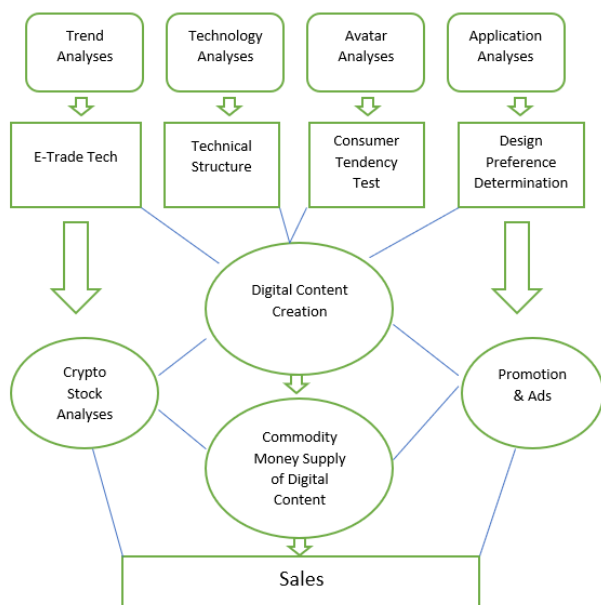


Fig. 4 Marketing process in the Metaverse universe [6]

As seen from Fig. 4, to achieve success in the metaverse market, it is necessary to first plan the process management with a good analysis and to keep in mind that there is a relationship and interaction-intensive environment at every stage of the marketing process. Another important fact to be aware of is that since all operations are based on blockchain, being an excellent system user will provide an advantage in the market.

## 9. Results and Evaluation

Physical currency markets try to overcome economic crises such as destabilization of price stability, disruption of supply chains, hyperinflation, etc. with decentralized cryptocurrencies and blockchain networks where secure transactions are made, creating a new economic system. The main application area of the new economic system is the metaverse universe, where physical reality meets virtual reality and thus augmented reality emerges.

Although the metaverse universe is perceived as a macro-level gaming platform, it is also a large market with its unique norms, where full competition conditions prevail and its boundaries are unpredictable.

The purpose of the metaverse market is not to interfere with the libertarian philosophy that constitutes the basic philosophy of the universe, but rather to provide the most appropriate financial and social conditions for relationships to function in a maximum level of freedom and healthy way. In the study, it is seen that the analysis conducted through the P7 marketing mix reveals that the metaverse universe is suitable for achieving this purpose. As a result of the analysis, the findings and recommendations related to marketing in the metaverse universe are listed below:

i. It is evaluated that cryptocurrencies, which deeply affect the entire financial system, will have their main usage area in the metaverse market. National governments and international financial institutions have begun developing economic policies compatible with the metaverse system due to the volume and continuous growth trend of the market. Instead of each national government or international financial institution developing their digital currency, accepting the use of a single global digital currency would be in line with the spirit of the metaverse project. Because, unlike the real world, there are no biological, ethnic, social, or other distinctions in the metaverse universe, a holistic structure is adopted.

ii. The metaverse is built on blockchain technology. It is evaluated that national governments and international financial institutions should strengthen their blockchain infrastructures with structural reforms and make their institutional networks and operations compatible with blockchain technology by recognizing that the metaverse universe is a critical market area.

iii. The interest of policy actors in the metaverse market can eliminate doubts about the metaverse market and contribute to the development of awareness of the subject. Developments such as Turkey giving digital images (NFT) created for Turksat 5B to a business person [92], and the digital image of Istanbul, decorated with important details about Turkish history, being gifted to a politician as NFT work [93] demonstrate the interest of policy actors in the metaverse system. However, this interest can be focused on marketing. In this context, public economic institutions can use the metaverse universe in activities such as buying and selling, advertising, and promoting public actions in the metaverse universe, as well as organizing virtual meetings, conferences, and rallies as examples.

IV. The opportunities presented by the Metaverse project and the intense interest it has garnered have led to expectations of a virtual reality aspect in promotional and advertising campaigns in addition to their physical reality counterparts. Three-dimensional promotional and advertising campaigns have become an important tool for reaching those who spend a significant portion of their time in the Metaverse universe.

V. Being present in the Metaverse universe is

perceived as a complementary element for personal prestige and corporate image in the public eye. However, to make this prestige and image stronger, it is necessary to be a qualified avatar in the Metaverse universe. To have a qualified avatar, it is necessary to be an active user in areas such as buying, selling, and renting while not losing sight of the fact that the Metaverse universe is a global market.

VI. With the Metaverse, the meaning of the concept of the new generation of customers is changing. Being present in the Metaverse market for innovative and hasty customers who are tired of the monotony of traditional shopping and spend time on the web 3.0 platform will be adopted as an event with a game-like feel and will become a lifestyle over time. Marketing actors who want to capture the new generation of customers must constantly pursue new ideas and improve themselves.

VII. A new sector is emerging to meet a series of needs, from providing the necessary tools for users to enter and adapt to the Metaverse market to acquiring marketing culture. This sector, which is software and hardware-oriented, makes a significant contribution to the development of marketing in the Metaverse universe. Investing in software and hardware and closely monitoring technology is crucial for successful personal or corporate activity in the Metaverse market.

VIII. The Metaverse also represents a convenience for marketing activities. One reason for this convenience is the freedom to participate in the market as an avatar, and another reason is the significantly lower costs. It is clear that expenses such as commissions, promotions, and accounting, which are spent in physical reality, will be minimized. In this respect, it is expected that Metaverse-based and web 3.0-based marketing will deal a severe blow to classic e-commerce based on web 2.0. It is considered necessary for companies operating under the classic market understanding to enter the transformation process without delay.

IX. Although the Metaverse is an augmented reality universe, it is ultimately a virtual environment, and therefore, the risks that may be encountered in any virtual environment also apply to the Metaverse (the threats listed in Table 2 show the existence of these risks). For example, it has been reported that the blockchain system, which was touted as being impossible to break, can be broken, especially with quantum computers [94]. Indeed, news about cryptothefts has begun to increase [95]. Legal risks specific to the Metaverse universe also exist. The main risks of this type are the violation of rights caused by the arbitrary storage and unauthorized use of personal data, which also have criminal penalties in physical reality. It is expected that a risk management discipline specific to the Metaverse market will be developed for all economic and legal risks. Users can contribute to these developments with complaints, feedback, and

suggestions, making the Metaverse universe a participatory market that is owned by all actors.

The development of digital technology and its increasing presence in human life naturally leads to the emergence of macrosystems such as the Metaverse. It is unlikely that national governments will remain indifferent to these innovations. Rather than being a simple actor within the system, it is necessary to strive to be a game-changer. Global companies leading the establishment of the Metaverse universe expect their investments to result in significant profits. To gain a share of the market, it is first necessary to understand marketing in the Metaverse universe well, then to be a part of important initiatives' leading teams, and always to showcase original ideas in the market.

## References

- [1] WANG Q., LI R., WANG Q., and CHEN S. *Non-Fungible Token (NFT): Overview, Evaluation, Opportunities and Challenges*, 2021. <https://doi.org/10.48550/arXiv.2105.07447>
- [2] BENEITEZ F. *15 tendencias de marketing digital en 2023 que no te puedes perder*. IEBS Business School, 2023. <https://www.iebschool.com/blog/tendencias-marketing-digital/>
- [3] TEKBAŞ İ. *Muhasebenin Dijital Dönüşümü ve Mali Mühendislik: Finans ve Muhasebeye Fütürist Bakış*. Ceres Yayınları, İstanbul, 2019.
- [4] DALE S. *Making the Metaverse: Hardware Hurdles, Discussed by IDTechEx*, 2021. <https://www.idtechex.com/fr/research-article/making-the-metaverse-hardware-hurdles-discussed-by-id-techex/25314>
- [5] QUANTILUS. *SWOT Analysis of the Metaverse for Businesses*, 2022. <https://quantilus.com/swot-analysis-of-the-metaverse-for-businesses/>
- [6] SHEN B., TAN W., GUO J., ZHAO L., and QIN P. How to Promote User Purchase in Metaverse? A Systematic Literature Review on Consumer Behavior Research and Virtual Commerce Application Design. *Applied Sciences*, 2021, 11(23): 11087. <https://doi.org/10.3390/app112311087>
- [7] ŞEN K. H., ANIL F., and ŞEN O. Carbon Emissions Market and Trading. In: *Proceedings of the 1st International Conference on Air – Land – Sea Interaction*. Khezer University, Baki, 2019: 38-47.
- [8] ÇETİN İ. Teknolojinin İstihdama ve İş Hukukuna Etkisi. *Sayıştı Dergisi*, 2014, 95: 49-76. <https://dergipark.org.tr/tr/pub/sayistay/issue/61550/919140>
- [9] ASLAN E. Ş., & KOLANCI D. Semantik Web'in Marka İtibarına Etkisi Üzerine Bir Araştırma. *The Journal of International Scientific Researches*, 2018, 3(4): 208-220. <http://dx.doi.org/10.23834/isrjournal.493403>
- [10] DAMER B. Meeting in the Ether: A Brief History of Virtual Worlds as a Medium for User-Created Events. *Journal of Virtual Worlds Research: Past, Present & Future*, 2008, 1(1): 108-115. <http://dx.doi.org/10.1080/17493460903020877>
- [11] DIONISIO J. D. N., BURNS W. G., and GILBERT R. 3D Virtual Worlds and the Metaverse: Current Status and Future Possibilities. *ACM Computing Surveys*, 2013, 45(3): 34. <http://dx.doi.org/10.1145/2480741.2480751>
- [12] GRIMSHAW M. *The Oxford Handbook of Virtuality*. Oxford University Press, New York, 2014.

- [13] HASSLER D. M., & WILCOX C. *New Boundaries in Political Science Fiction*. University of South Carolina Press, Columbia, South Carolina, 2008.
- [14] KETTERER D. *Canadian Science Fiction and Fantasy*. Indiana University Press, Indianapolis, Indiana, 1992.
- [15] STEPHENSON N. *Parazit (Snow Crash)*. Altıkırkbeş Yayınları, İstanbul, 2016.
- [16] DEMİRBAĞ İ. Üç Boyutlu Sanal Dünyalar. *Açıköğretim Uygulamaları ve Araştırmaları Dergisi*, 2020, 6(4): 97-112. <https://dergipark.org.tr/en/pub/auad/issue/57638/777535>
- [17] İLİC U. *Yabancı Dil Öğretiminde Üç Boyutlu Sanal Dünyalar Uygulaması*. Yüksek Lisans Tezi, Bilgisayar ve Öğretim Teknolojileri Eğitimi Anabilim Dalı, Fen Bilimleri Enstitüsü, Ege Üniversitesi, 2013. <http://dx.doi.org/10.13140/RG.2.2.11478.24649>
- [18] ŞAHİN E., & KAYA F. *Pazarlamada Yeni Dönem - Endüstri 4.0, Yapay Zeka ve Akıllı Asistanlar*. Çizgi Kitabevi, Konya, 2019.
- [19] HACKL C. *Defining the Metaverse Today*, 2021. <https://www.forbes.com/sites/cathyhackl/2021/05/02/defining-the-metaverse-today/?sh=3c6411496448>
- [20] METAVERSE. *Digital Identity White Paper*, 2017. <https://metaverse.nyc3.digitaloceanspaces.com/whitepaper/Metaverse-digital-identity-white-paper-v1.0-EN.pdf>
- [21] ALANKUŞ Z. *Pandemi Sürecinde Pazarlama Stratejileri ve Bill Gates Tipi Pazarlama*. LAP Lambert Publishing, Chisinau, 2021.
- [22] SUZUKI S., KANEMATSU H., DANA M. B., OGAWA N., YAJIMA K., NAKAHIRA K. T., SHIRAI T., KAWAGUCHI M., KOBAYASHI T., and YOSHITAKE M. Virtual Experiments in Metaverse and Their Applications to Collaborative Projects: The Framework and Its Significance. *Procedia Computer Science*, 2020, 176: 2125-2132. <https://doi.org/10.1016/j.procs.2020.09.249>
- [23] ŞENER H. Y. İlişkisel Pazarlama ve Müşteri Değeri. In: ERDOĞAN B. Z. (ed.) *Pazarlama*. Ekin Yayınevi, Bursa, 2014: 28-53.
- [24] YURTSEVER Y. T. *İlişkisel Pazarlama Faaliyetlerinin Müşteri Tatmin ve Sadakati İle İlişkisi: Beş Yıldızlı Otel Örneği*. Yüksek Lisans Tezi, Okan Üniversitesi, İstanbul, 2017.
- [25] RAUSCHNABEL P. A., RABIN B. J., DIECK M. C., KREY N., and JUNG T. What is Augmented Reality Marketing? Its Definition, Complexity, and Future. *Journal of Business Research*, 2022, 142(1): 1140-1150. <http://dx.doi.org/10.1016/j.jbusres.2021.12.084>
- [26] SÜMER S. I., & ESER Z. Pazarlama Karması Elemanlarının Evrimi. *Gazi Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 2006, 8(1): 165-186. <https://dergipark.org.tr/tr/pub/gaziuiibfd/issue/28336/301168>
- [27] ER İ. Ürün Yönetimi. In: ERDOĞAN B. Z. (ed.) *Pazarlama*. Ekin Yayınevi, Bursa, 2014: 198-241.
- [28] TAYFUN N. Ö., & ÖÇLÜ B. Oyun Teorisi. In: YAĞCI M. İ., & ÇABUK S. (eds.) *Pazarlama Teorileri – 2*. MediaCat Yayıncılık, İstanbul, 2021: 275-302.
- [29] LEE L. H., BRAUD T., ZHOU P., WANG L., XU D., LIN Z., KUMAR A., BERMEJO C., and HUI P. All One Needs to Know about Metaverse: A complete Survey on Technological Singularity, Virtual Ecosystem, and Research Agenda. *Journal of Latex Class Files*, 2021, 14(8): 1-66. <https://pengyuan-zhou.github.io/papers/metaversearxiv.pdf>
- [30] DUAN H., LI J. FAN S., LIN Z., WU X., and CAI W. Metaverse for Social Good: A University Campus Prototype. Proceedings of the 29th ACM International Conference on Multimedia, Hong Kong, 2021, pp. 153-161. <https://doi.org/10.1145/3474085.3479238>
- [31] ÖZTÜRK S. A. *Hizmet Pazarlaması*. Ekin Yayınevi, Bursa, 2006.
- [32] ŞAHİN B. *Startuplar Pazarda: Türk Startupların Pazarlama Anlayışı Üzerine Bir Kesit*. Gazi Kitabevi, Ankara, 2019.
- [33] DAMAR M. Metaverse Shape of Your Life for Future: A Bibliometric Snapshot. *Journal of Metaverse*, 2021, 1(1): 1-8. <https://dergipark.org.tr/en/pub/jmv/issue/67581/1051371>
- [34] GRIFFITH K. *Space Please! Facebook's Metaverse Creates 'Personal Bubble' around Avatars after Reports of Rampant Harassment and Virtual Groping*. Daily Mail, 2022. <https://www.dailymail.co.uk/news/article-10479875/Facebooks-metaverse-creates-personal-bubble-avatars-reports-rampant-harassment.html>
- [35] DURSUN N. NFT/Kripto Sanat Ve Hareketli Grafik İlişkisi. *International Journal of Social, Humanities and Administrative Sciences*, 2021, 7(40): 1037-1055. <http://dx.doi.org/10.31589/JOSHAS.649>
- [36] HACKL C. *Metaverse Weekly: Virtual Gucci Pursues, Digital People, Direct to Avatar Ecosystem, Nerf, NFTs and Beyond*. Forbes, 2022. <https://www.forbes.com/sites/cathyhackl/2021/06/01/metaverse-weekly-virtual-gucci-pursues-digital-people-direct-to-avatar-ecosystem-nerf-nfts-and-beyond/?sh=2c0ff00a72c9>
- [37] ARAPOĞLU F. Sanatta Aktüel Gündem: Kripto Sanat (NFT). *Aurum Sosyal Bilimler Dergisi*, 2021, 6(1): 91-93. <https://dergipark.org.tr/en/pub/aurum/issue/63197/950474>
- [38] BAKIRTAŞ H. Fiyat ve Fiyat Kararlarının Yönetimi. In: ERDOĞAN B. Z. (ed.) *Pazarlama*. Ekin Yayınevi, Bursa, 2014: 241-268.
- [39] GÖKDERE A. *Bankacılar İçin Ekonomi Bilgisi*. Banka ve Ticaret Hukuku Araştırma Enstitüsü Yayınları, Ankara, 1997.
- [40] MANKIW N. G. *Principles of Microeconomics*. Cengage Learning Publishing, Stamford, 2015.
- [41] TÜRKAY O. *İktisat Teorisine Giriş: Mikroiktisat*. İmaj Yayıncılık, Ankara, 1996.
- [42] GOETZEN N. *The Metaverse Promises to Redefine Marketing—Here's How to Get Started*. Insider Intelligence, 2022. <https://www.emarketer.com/content/metaverse-promises-redefine-marketing-here-s-how-started>
- [43] RAO L. *How Are Avatars Constructing Digital Identities in the Metaverse?* Nasdaq, 2022. <https://www.nasdaq.com/articles/how-are-avatars-constructing-digital-identities-in-the-metaverse>
- [44] DIXON P. *Hemen Her Şeyin Geleceği*. Türkiye İş Bankası Kültür Yayınları, İstanbul, 2020.
- [45] SAMBUR B. *Covid-19 Sonrası Dünya Düzeni*. Orion Yayınevi, Ankara, 2020.
- [46] BEST R. J. *Market-Based Management: Strategies for Growing Customer Value and Profitability*. Pearson/Prentice Hall Publishing, Upper Saddle River, New Jersey, 2005.
- [47] SIMPLEBO. *Toutes les Statistiques d'Internet à Connaître en 2022*, 2022. <https://blog.simplebo.fr/toutes-les-statistiques-a-connaître-en-2022>
- [48] META-MEDIA. *Cahier de Tendances Médias 2021: Du Métavers Aux Métamédias, Tentative de Décodage*

D'un Buzz, 2022. <https://www.meta-media.fr/2021/12/21/cahier-de-tendances-medias-2021-du-metavers-aux-metamedias-tentative-de-decodage-dun-buzz.html>

[49] USTA B., & FAIZ E. Marka Aşkı, Marka Güveni ve Marka İmajının Marka Sadakatine Etkisi: Düzce İlindeki Otomobil Kullanıcıları Üzerine Bir Uygulama. *Yönetim, Ekonomi ve Pazarlama Araştırmaları Dergisi*, 2020, 4(4): 287-300. <http://dx.doi.org/10.29226/TR1001.2020.211>

[50] MOY C., & GADGIL A. *Opportunities in the Metaverse: How Businesses Can Explore the Metaverse and Navigate the Hype vs. Reality*, 2022. <https://www.jpmmorgan.com/content/dam/jpm/treasury-services/documents/opportunities-in-the-metaverse.pdf>

[51] ISLAMOĞLU A. H. *Pazarlama Yönetimi*. Beta Yayınları, İstanbul, 2008.

[52] ÜNLÜ S., & TOLON M. Tutundurma Faaliyetlerinin Tüketici Satın Alma Davranışlarına Etkisinin Belirlenmesi: Türk GSM Sektöründe Bir Araştırma. *Atatürk Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 2012, 26(2): 273-295.

<https://dergipark.org.tr/tr/pub/atauniiibd/issue/2705/35675>

[53] DUCHESNES D. *17 Tendances du Marketing Digital Que Vous Ne Devriez Pas Ignorer en 2022 (et Après)*, 2022. <https://daniloduchesnes.com/blog/tendances-marketing-digital/>

[54] TITONE T. *Advertising in the Metaverse*. Ad Tech Explained, 2021. <https://adtechexplained.com/advertising-in-the-metaverse/>

[55] İRAK H. Dijitalizasyon ve Halkla İlişkiler. *Ahi Evran Akademi*, 2021, 2(1): 122-132. <https://dergipark.org.tr/en/pub/aea/issue/62716/939483>

[56] UZUNER S. *Metaverse Nedir? Geleceği Nasıl Etkileyecek?* Karel, 2021. <https://www.karel.com.tr/blog/metaverse-nedir-gelecegi-nasil-etkileyecek>

[57] ANACONA J. D., MILLÁN E. E., and GÓMEZ C. A. Aplicación De Los Metaversos y La Realidad Virtual En La Enseñanza. *Entre Ciencia e Ingeniería*, 2019, 13(25): 59-67. <https://doi.org/10.31908/19098367.4015>

[58] ANIL F. *Pazarlamadan Perakendeye: Perakende, MBA, Ekonomi, Pazarlama, Yönetim*. Beta Yayınevi, İstanbul, 2020.

[59] ANIL F. *Yeni Nesil İş Modeli: Pazarlama 5.0*. Hümanist Yayınevi, İstanbul, 2020.

[60] GÜRDİN B. 1983-2021 Yılları Arasında Turizm Pazarlaması Alanında Yapılan Çalışmaların Bibliyometrik Analizi. *International Social Sciences Studies Journal*, 2021, 7(85): 3155-3163. <http://dx.doi.org/10.26449/sss.3402>

[61] VERGNE J. P. The Future of Trust Will Be Dystopian or Decentralized: Escaping the Metaverse. *Revista de Occidente on the Future of Trust*, 2021, Özel Sayı: 1-8. <https://doi.org/10.2139/ssrn.3925635>

[62] TSUKANOV İ. *Metaverse Nasıl Şekillenecek*, 2022. <https://dtf.ru/life/924660-cto-tako-e-metavseleonnaya-i-kogda-ona-poyavitsya>

[63] KAYABAŞI A. Dağıtım Kanalları ve Lojistik. In: ERDOĞAN B. Z. (ed.) *Pazarlama*. Ekin Yayınevi, Bursa, 2014: 269-317.

[64] YURIEVNA R. M. *Kreativizmin Felsefi Kavramsallaştırmaları: Bir Sosyokültürel Analiz*. Doktora Tezi, Tuva Devlet Üniversitesi, Kızıl, 2021.

[65] ALANKUŞ Z. Covid-19'un Gölgesinde Dijital Pazarlama ve Yeni Yaklaşımlar. *Uluslararası Halkla*

*İlişkiler ve Reklam Çalışmaları Dergisi*, 2021, 4(1): 94-125. <https://dergipark.org.tr/en/pub/hire/issue/61852/844258>

[66] KOÇOĞLU İ., & DEMİR Ş. N. Teknoloji Temelli Pazarlama Stratejilerinin Müşteri Davranışlarına Etkisi. *Business & Management Studies: An International Journal*, 2020, 8(1): 846-882. <http://dx.doi.org/10.15295/bmij.v8i1.1387>

[67] ALANKUŞ Z., & ÇETİN İ. Bireysel ve Toplu İş Hukuku Uyuamalarından Örneklerle Çalışma Hayatında İletişimin Önemi. *Karatahta İş Yazıları Dergisi*, 2021, 21: 1-42. <https://dergikaratahta.com/makale/250/bireysel-ve-toplu-is-hukuku-uygulamalarindan-orneklerle-calisma-hayatinda-iletisimin-onemi->

[68] KAIVO-OJA J. R. L., & LAURAEUS I. T. The VUCA approach as a solution concept to corporate foresight challenges and global technological disruption. *Foresight*, 2018, 20(1): 27-49. <https://doi.org/10.1108/FS-06-2017-0022>

[69] DOZ Y., & KOSONEN M. *Hızlı Strateji: Stratejik Çeviklik, Değişen Koşullara Uyum Becerisi*. Türkiye İş Bankası Kültür Yayınları, İstanbul, 2017.

[70] KOTLER P., KARTAJAYA H., and SETIAWAN I. *Pazarlama 5.0*. In: GEZER T. (ed.) *İnsan İçin Teknoloji*. Nişantaşı Üniversitesi Yayınları, İstanbul, 2021.

[71] CLAUDIO L. *Aportes de la Tecnología de Redes de Computadoras y los Metaversos a una Narrativa Colaborativa en la Ópera: una "Net Ópera 2.0"*. Yüksek Lisans Tezi, Elektronik Sanat Teknolojisi ve Estetiği Anabilim Dalı, Universidad Nacional de Tres de Febrero, La Plata, 2016.

[72] BÜYÜKDÜMLÜ Ş. *H&M, Metaverse Dünyasındaki İlk Mağazasını Açtı*. Pazarlamasyon, 2022. <https://www.pazarlamasyon.com/h-m-metaverse-dunyasindaki-ilk-magazasini-acti>

[73] HÜRRIYET. *Göbeklitepe'ye Sanal Mağaza Açıyor*, 2022. <https://www.hurriyet.com.tr/yazarlar/sefer-levent/gobeklitepe-ye-sanal-magaza-aciyor-41964431>

[74] SOLINO A. *Pazarlama Karması Nedir?*, 2021. <https://www.albertsolino.com/blog/pazarlama-karmasi-nedir/>

[75] ANJANI H. D., IRHAM L., and WALUYATI R. Relationship of 7P Marketing Mix and Consumers' Loyalty in Traditional Markets. *Agro Ekonomi*, 2018, 29(2): 261-273. <http://dx.doi.org/10.22146/ae.36400>

[76] SARIYER N. *Pazarlama İletişimi Araçları*. Eğitim Yayınevi, Konya, 2018.

[77] ÇETİN İ. Kamu Yönetiminde Verimliliğin Hukuki Çerçevesi. *Türk İdare Dergisi*, 2021, 492: 107-140. <https://search.trdizin.gov.tr/tr/yayin/detay/505335/kamu-yonetiminde-verimlilik-hukuki-cercevesi>

[78] AYDIN S. *Metaverse ve Metaverse Projeleri*, 2021. <https://hukukvebilisim.org/metaverse-ve-metaverse-projeleri/>

[79] GÜRBÜZ E. Pazarlama Karması Elemanları ve Güven. *Turkish Studies, Economics, Finance and Politics*, 2018, 13(30): 165-178. <http://dx.doi.org/10.7827/TurkishStudies.14498>

[80] GOLDMAN SACHS. *Framing the Future of Web 3.0: Metaverse Edition*, 2022. <https://www.goldmansachs.com/insights/pages/gs-research/framing-the-future-of-web-3.0-metaverse-edition/report.pdf>

[81] MUTLU E. *İletişim Sözlüğü*. Ütopya Yayınevi, Ankara, 2017.

[82] ZEITHAML V. A., BITNER M. J., and GREMLER D. D. *Services Marketing, Integrating Customer Focus across the Firm*. McGraw-Hill Publishing, New York, 2006.

- [83] HOŞCAN N. *Seyahat Acentelerinde Sürdürülebilir Pazarlama Yaklaşımının Kullanımı: Batı Karadeniz Destinasyonu Örneği*. Doktora Tezi, Ankara Üniversitesi, Ankara, 2017. <https://dspace.ankara.edu.tr/xmlui/handle/20.500.12575/37667>
- [84] KOZLU C., & KARACA H. *Uluslararası Pazarlama: Dijitalleşen Dünyaya Yeni Yaklaşımlar*. Türkiye İş Bankası Kültür Yayınları, İstanbul, 2019.
- [85] ÖZALP A. *Uluslararası Ticaretin Finansmanı, Prensipleri ve Blockchain*. Türkmen Yayınevi, İstanbul, 2018.
- [86] RUDIN P. *The Metaverse*, 2022. <https://journal.getabstract.com/en/2021/12/06/the-metaverse/>
- [87] KILIÇ S., & KENDIRLI H. Ç. Endüstriyel Pazarlarda İlişkisel Pazarlamanın Yeni Ekonomideki Yeri ve Önemi. *Üçüncü Sektör Kooperatifçilik Dergisi*, 2005, 148(2): 20-36.
- [88] GRÖNROOS C. The Relationship Marketing Process: Communication, Interaction, Dialogue, Value. *Journal of Business & Industrial Marketing*, 2004, 19(2): 100-103. <https://doi.org/10.1108/08858620410523981>
- [89] HOŞGÖR H., & CENGİZ E. İlişkisel Pazarlama Stratejileri, İlişkisel Kalite Unsurları ve Davranışsal Niyetler. *Hacettepe Sağlık İdaresi Dergisi*, 2020, 23(3): 465-484. <https://dergipark.org.tr/tr/pub/hacettepesid/issue/56803/795807>
- [90] KUŞ O. Metaverse: 'Dijital Büyük Patlamada' Fırsatlar Ve Endişelere Yönelik Algılar. *Intermedia International e-Journal*, 2021, 8(15): 245-266. <http://dx.doi.org/10.21645/intermedia.2021.109>
- [91] DOYLE P. *Değer Temelli Pazarlama*. MediaCat Yayıncılık, İstanbul, 2003.
- [92] KALELIOĞLU E. *Cumhurbaşkanı Erdoğan'ın Elon Musk'a Hediye Ettiği 'Uzay Temalı' NFT Ortaya Çıktı*. WebTekno, 2021. <https://www.webtekno.com/cumhurbaskani-erdogan-elon-musk-nft-hediye-h118601.html>
- [93] KALELIOĞLU E. *Cumhurbaşkanı Erdoğan'a NFT Olarak "İstanbul'un Dijital Anahtarı" Hediye Edildi*. WebTekno, 2021. <https://www.webtekno.com/cumhurbaskani-erdogan-nft-istanbul-dijital-anahta-ri-hediye-edildi-h119026.html>
- [94] TAŞ O., & KIANI F. Blok Zinciri Teknolojisine Yapılan Saldırıları Üzerine bir İnceleme. *Bilişim Teknolojileri Dergisi*, 2018, 11(4): 369-382. <https://doi.org/10.17671/gazibtd.451695>
- [95] TEZCAN A. *Kripto Para Sitesi pNetwork Hacklendi: 12 Milyon Dolarlık Bitcoin Çalındı*. WebTekno, 2021. <https://www.webtekno.com/kripto-para-sitesi-pnetwork-hacklendi-12-milyon-dolarlik-bitcoin-calindi-h115155.html>

#### Referanslar:

- [1] WANG Q., LI R., WANG Q. ve CHEN S. İrreplerebilirler (non-homogeneous tokens): Overview, Evaluation, Opportunity and Challenge, 2021. <https://doi.org/10.48550/arXiv.2105.07447>
- [2] BENEITEZ F. 15 Digital Marketing Trends for 2023 You Can't Miss. International Business School, 2023. <https://www.iebschool.com/blog/tendencias-marketing-digital/>

- [3] TEKBAŞ İ. 会计与金融工程的数字化转型：金融与会计的未来视角。谷神星亚因拉里，伊斯坦布尔，2019年。
- [4] DALE S. 打造元界：硬件障碍，由IDTechEx讨论，2021年。 <https://www.idtechex.com/fr/research-article/making-the-metaverse-hardware-hurdles-discussed-by-id-techex/25314>
- [5] 量子。2022年企业元界的SWOT分析。 <https://quantilus.com/swot-analysis-of-the-metaverse-for-businesses/>
- [6] SHEN B., TAN W., GUO J., ZHAO L., QIN P. 元界如何促进用户购买？消费者行为研究和虚拟商务应用程序设计的系统文献综述。应用科学，2021，11(23): 11087. <https://doi.org/10.3390/app112311087>
- [7] ŞEN K. H., ANIL F. ve ŞEN O. 碳排放市场和交易。载于：第一届空陆海相互作用国际会议论文集。凯泽尔大学，巴基，2019：38-47。
- [8] 切廷伊。技术对就业和劳动法的影响。萨伊什蒂·德吉西，2014，95：49-76. <https://dergipark.org.tr/tr/pub/sayistay/issue/61550/919140>
- [9] ASLAN E. Ş., & KOLANCI D. 语义网对品牌声誉影响的研究。国际科学研究杂志，2018，3(4): 208-220. <http://dx.doi.org/10.23834/isrjournal.493403>
- [10] DAMER B. 以太会议：虚拟世界作为用户创建事件媒介的简史。虚拟世界研究杂志：过去、现在和未来，2008年，1(1)：108-115。 <http://dx.doi.org/10.1080/17493460903020877>
- [11] DIONISIO J. D. N., BURNS W. G. ve GILBERT R. 3D虚拟世界和元宇宙：现状和未来可能性。美国计算机学会计算调查，2013年，45(3)：34。 <http://dx.doi.org/10.1145/2480741.2480751>
- [12] GRIMSHAW M. 牛津虚拟性手册。牛津大学出版社，纽约，2014年。
- [13] HASSLER D. M., & WILCOX C. 政治科幻小说的新边界。南卡罗来纳大学出版社，南卡罗来纳州哥伦比亚，2008年。
- [14] KETTERER D. 加拿大科幻小说和奇幻小说。印第安纳大学出版社，印第安纳州印第安纳波利斯，1992年。
- [15] STEPHENSON N. 寄生虫（雪崩）。六点四十五刊，伊斯坦布尔，2016年。
- [16] 德米尔巴伊。三维虚拟世界。开放教育实践与研究杂志，2020，6(4): 97-112. <https://dergipark.org.tr/en/pub/auad/issue/57638/777535>
- [17] İLİC U. 三维虚拟世界在外语教学中的应用。埃格大学科学技术学院计算机教育与教学技术系硕士论文，2013. <http://dx.doi.org/10.13140/RG.2.2.11478.24649>
- [18] ŞAHİN E., & KAYA F. 营销新纪元——工业4.0、人工智能与智能助手。奇兹吉·基塔贝维，科尼亚，2019年。
- [19] HACKL C. 定义元宇宙，2021年。 <https://www.forbes.com/sites/cathyhackl/2021/05/02/defining-the-metaverse-today/?sh=3c6411496448>
- [20] 元宇宙。数字身份白皮书，2017年。 <https://metaverse.nyc3.digitaloceanspaces.com/whitepaper/Metaverse-digital-identity-white-paper-v1.0-EN.pdf>
- [21] ALANKUŞ Z. 大流行过程中的营销策略和比尔盖茨式营销。兰伯特出版社，基希纳乌，2021年。
- [22] SUZUKI S., KANEMATSU H., DANA M.B., OGAWA N., YAJIMA K., NAKAHIRA K.T., SHIRAI

- T.、KAWAGUCHI M.、KOBAYASHI T. 和 YOSHITAKE M. 元界中的虚拟实验及其在协作中的应用项目：框架及其意义。程序计算机科学, 2020, 176: 2125-2132. <https://doi.org/10.1016/j.procs.2020.09.249>
- [23] ŞENER H. Y. 关系营销与客户价值。在：ERDOĞAN B. Z. (编辑)。帕扎拉马。伊健出版社，布尔萨，2014年：28-53。
- [24] YURTSEVER Y. T. 客户满意度和忠诚度的关系营销活动：五星级酒店示例。奥坎大学硕士论文，伊斯坦布尔，2017年。
- [25] RAUSCHNABEL P. A.、RABIN B. J.、DIECK M. C.、KREY N. 和 JUNG T. 什么是增强现实营销？它的定义、复杂性和未来。商业研究杂志, 2022年, 142(1): 1140-1150。 <http://dx.doi.org/10.1016/j.jbusres.2021.12.084>
- [26] SÜMER S.I., & ESER Z. 营销组合元素的演变。嘎子大学经济与行政科学学院学报, 2006, 8(1): 165-186。 <https://dergipark.org.tr/tr/pub/gaziuibfd/issue/28336/301168>
- [27] 呃。于伦·约内提米。在：ERDOĞAN B. Z. (编辑) 帕扎拉马。伊健出版社，布尔萨，2014：198-241。
- [28] TAYFUN N. Ö., & ÖÇLÜ B. 奥云特奥里西。在：YAĞCI M. İ., & ÇABUK S. (编辑。) 营销理论 - 2. 媒体猫出版, 伊斯坦布尔, 2021: 275-302.
- [29] LEE L. H., BRAUD T., ZHOU P., WANG L., XU D., LIN Z., KUMAR A., BERMEJO C., 和 HUI P. 关于元界的人人都需要了解：一项完整的调查技术奇点、虚拟生态系统和研究议程。乳胶类文件杂志, 2021年, 14(8): 1-66。 <https://pengyuan-zhou.github.io/papers/metaversearxiv.pdf>
- [30] DUAN H., LI J. FAN S., LIN Z., WU X., 和 CAI W. 为社会公益而设的元宇宙：大学校园原型。第29届美国计算机学会国际多媒体会议论文集, 香港, 2021年, 第153-161页。 <https://doi.org/10.1145/3474085.3479238>
- [31] ÖZTÜRK S. A. 服务营销。伊健出版社，布尔萨，2006年。
- [32] ŞAHİN B. 市场上的初创公司：土耳其初创公司营销方式的一节。加齐·基塔贝维，安卡拉，2019年。
- [33] DAMAR M. 你未来生活的元宇宙形态：文献计量快照。元界杂志, 2021, 1(1): 1-8. <https://dergipark.org.tr/en/pub/jmv/issue/67581/1051371>
- [34] GRIFFITH K. 空间请！在猖獗的骚扰和虚拟摸索报告后，Facebook的元界在化身周围创造了“个人泡沫”。每日邮报, 2022年。 <https://www.dailymail.co.uk/news/article-10479875/Facebooks-metaverse-creates-personal-bubble-avatars-reports-rampant-harassment.html>
- [35] DURSUN N. 非同质化代币/加密艺术和动态图形关系。国际社会、人文与行政科学杂志, 2021, 7(40): 1037-1055。 <http://dx.doi.org/10.31589/JOSHAS.649>
- [36] HACKL C. 元界周刊：虚拟古驰追求、数字人、直接到头像生态系统、削弱、非同质化代币及其他。福布斯, 2022年。 <https://www.forbes.com/sites/cathyhackl/2021/06/01/metaverse-weekly-virtual-gucci-pursues-digital-people-direct-to-avatar-ecosystem-nerf-nfts-和超越/?sh=2c0ff00a72c9>
- [37] ARAPOĞLU F. 当前艺术议程：加密艺术（非同质化代币）。金社会科学杂志, 2021, 6(1): 91-93。 <https://dergipark.org.tr/en/pub/aurum/issue/63197/950474>
- [38] BAKIRTAŞ H. 价格和价格决策管理。在：埃尔多安 B. Z. (编辑) 帕扎拉马。伊健出版社，布尔萨，2014：241-268。
- [39] GÖKDERE A. 银行家经济学。银行与商法研究所出版物，安卡拉，1997年。
- [40] MANKIW N. G. 微观经济学原理。参与学习出版，斯坦福，2015年。
- [41] TÜRKAY O. 经济理论概论：微观经济学。伊玛吉·亚因西勒克，安卡拉，1996年。
- [42] GOETZEN N. 元界承诺重新定义营销——这里是如何开始。内部情报, 2022年。 <https://www.emarketer.com/content/metaverse-promises-redefine-marketing-here-s-how-started>
- [43] RAO L. 化身如何在元界中构建数字身份？纳斯达克, 2022年。 <https://www.nasdaq.com/articles/how-are-avatars-constructing-digital-identities-in-the-metaverse>
- [44] DIXON P. 几乎所有事物的未来。土耳其语是万能药出版社，伊斯坦布尔，2020年。
- [45] SAMBUR B. 新冠肺炎之后的世界秩序。猎户座出版社，安卡拉，2020年。
- [46] BEST R.J. 基于市场的管理：增加客户价值和盈利能力的策略。皮尔逊/普伦蒂斯霍尔出版社，新泽西州上萨德尔河，2005年。
- [47] 辛普莱博。2022年互联网统计数据, 2022. <https://blog.simplebo.fr/toutes-les-statistiques-a-connaître-en-2022>
- [48] 元媒体。媒体趋势书2021：从元界到元媒体，尝试破译舆论, 2022。 <https://www.metamedia.fr/2021/12/21/cahier-de-tendances-medias-2021-du-metavers-aux-metamedias-tentative-de-decodage-dun-buzz.html>
- [49] USTA B., & FAİZ E. 品牌喜爱、品牌信任和品牌形象对品牌忠诚度的影响：在杜兹汽车用户中的应用。管理、经济学和市场营销研究杂志, 2020, 4(4): 287-300。 <http://dx.doi.org/10.29226/TR1001.2020.211>
- [50] MOY C. 和 GADGIL A. 元界中的机会：企业如何探索元界并驾驭炒作与现实, 2022年。 <https://www.jpmorgan.com/content/dam/jpm/treasury-服务/文档/机会-in-the-metaverse.pdf>
- [51] ISLAMOĞLU A. H. 市场营销管理。贝塔亚因拉里，伊斯坦布尔，2008年。
- [52] ÜNLÜ S., & TOLON M. 确定促销活动对消费者购买行为的影响：一项针对土耳其全球移动通信系统行业的研究。阿塔图尔克大学经济与行政科学杂志, 2012, 26(2): 273-295。 <https://dergipark.org.tr/tr/pub/atauniiibd/issue/2705/35675>
- [53] DUCHESNES D. 2022年（及以后）不容忽视的17种数字营销趋势, 2022. <https://daniloduchesnes.com/blog/tendances-marketing-digital/>
- [54] TITONE T. 元界中的广告。广告技术解释, 2021年。 <https://adtechexplained.com/advertising-in-the-metaverse/>
- [55] İRAK H. 数字化和公共关系。阿希埃夫兰学院, 2021年, 2(1): 122-132。 <https://dergipark.org.tr/en/pub/aea/issue/62716/939483>
- [56] UZUNER S. 元界是什么？对未来有什么影响？卡雷尔, 2021年。 <https://www.karel.com.tr/blog/metaverse-nedir-gelecegi-nasil-etkileyecek>
- [57] ANACONA J. D.、MILLÁN E. E. 和 GÓMEZ C. A.

- 虚拟世界与虚拟现实在教学中的应用。科学与工程, 2019, 13(25): 59-67. <https://doi.org/10.31908/19098367.4015>
- [58] ANIL F. 从营销到零售：零售，工商管理硕士，经济学，市场营销，管理学。贝塔出版社，伊斯坦布尔，2020年。
- [59] ANIL F. 下一代商业模式：营销5.0。人道主义者亚耶涅维，伊斯坦布尔，2020年。
- [60] GÜRDİN B. 1983-2021年旅游营销领域研究文献计量分析。国际社会科学杂志, 2021, 7(85): 3155-3163. <http://dx.doi.org/10.26449/sss.3402>
- [61] VERGNE J. P. 信任的未来将是反乌托邦或去中心化的：逃离元宇宙。西方评论关于信任的未来，2021年，厄泽尔·萨伊：1-8。 <https://doi.org/10.2139/ssrn.3925635>
- [62] 苏卡诺夫。元界将如何塑造，2022年。 <https://dtf.ru/life/924660-cto-tako-e-metavseleennaya-i-kogda-ona-poyavitsya>
- [63] KAYABAŞI A. 分销渠道和物流。在：ERDOĞAN B. Z. (编辑) 帕扎拉马。伊健出版社，布尔萨，2014年：269-317。
- [64] YURIEVNA R. M. 创造性主义的哲学概念化：社会文化分析。博士论文，图瓦国立大学，克孜尔，2021年。
- [65] ALANKUŞ Z. 新冠肺炎阴影下的数字营销和新方法。国际公共关系与广告研究杂志, 2021, 4(1): 94-125. <https://dergipark.org.tr/en/pub/hire/issue/61852/844258>
- [66] KOÇOĞLU İ., & DEMİR Ş. N. 基于技术的营销策略对客户行为的影响。商业与管理研究：国际期刊, 2020年, 8(1) : 846-882。 <http://dx.doi.org/10.15295/bmij.v8i1.1387>
- [67] ALANKUŞ Z., & ÇETİN İ. 以个人和集体劳动法实践为例说明工作生活中沟通的重要性。商业写作的黑板杂志, 2021年, 21 : 1-42。 <https://dergikaratahta.com/makale/250/bireysel-ve-toplu-is-hukuku-uygulamalarindan-orneklerle-calisma-hayatinda-iletisimin-onemi->
- [68] KAIVO-OJA J. R. L., & LAURAEUS I. T. VUCA方法作为企业远见挑战和全球技术颠覆的解决方案概念。前瞻, 2018, 20(1): 27-49. <https://doi.org/10.1108/FS-06-2017-0022>
- [69] DOZ Y., & KOSONEN M. 快速战略：战略敏捷性，适应不断变化的条件。土耳其银行文化出版物，伊斯坦布尔，2017年。
- [70] KOTLER P., KARTAJAYA H. 和 SETIAWAN I. 帕扎拉马5.0。收录于：GEZER T. (编辑) 人类技术。尼桑塔西大学出版社，伊斯坦布尔，2021年。
- [71] CLAUDIO L. 计算机网络技术和元宇宙对歌剧协作叙事的贡献：“网络歌剧 2.0”。硕士论文，电子艺术技术与美学系，拉普拉塔特雷斯德费布雷罗大学，2016。
- [72] BÜYÜKDÜMLÜ Ş. H&M在元宇宙世界开设第一家门店。帕扎拉马西翁, 2022年。 <https://www.pazarlamasyon.com/h-m-metaverse-dunyasindaki-ilk-magazasini-acti>
- [73] 自由报。在哥贝克力石阵开设虚拟商店，2022年。 <https://www.hurriyet.com.tr/yazarlar/sefer-levent/gobeklitepeye-sanal-magaza-aciyor-41964431>
- [74] SOLINO A. 什么是营销组合？, 2021. <https://www.albertsolino.com/blog/pazarlama-karmasi-nedir/>
- [75] ANJANI H. D., IRHAM L. 和 WALUYATI R. 传统市场中7P营销组合与消费者忠诚度的关系。农业经济, 2018, 29(2): 261-273. <http://dx.doi.org/10.22146/ae.36400>
- [76] SARIYER N. 营销传播工具。埃蒂姆·亚耶涅维，科尼亚，2018年。
- [77] 切廷伊。公共行政效率的法律框架。土耳其行政杂志, 2021年, 492 : 107-140。 <https://search.trdizin.gov.tr/tr/yayin/detay/505335/kamuyonetiminde-verimlilik-hukuki-cercevesi>
- [78] AYDIN S. 元界和元界项目, 2021年。 <https://hukukvebilisim.org/metaverse-ve-metaverse-projeleri/>
- [79] GÜRBÜZ E. 营销组合元素和信任。土耳其研究, 经济学, 金融与政治, 2018, 13(30): 165-178. <http://dx.doi.org/10.7827/TurkishStudies.14498>
- [80] 高盛。构建网络3.0的未来：元界版, 2022年。 <https://www.goldmansachs.com/insights/pages/gs-research/framing-the-future-of-web-3.0-metaverse-edition/report.pdf>
- [81] MUTLU E. 伊莱蒂西姆·索兹鲁格。乌托皮亚·亚伊涅维，安卡拉，2017年。
- [82] ZEITHAML V. A., BITNER M. J. 和 GREMLER D. D. 服务营销，在整个公司整合以客户为中心。麦格劳-希尔出版社，纽约，2006年。
- [83] HOŞCAN N. 旅行社可持续营销方法的运用：以西黑海目的地为例。多克托拉特兹，安卡拉大学，安卡拉，2017年。 <https://dSPACE.ankara.edu.tr/xmlui/handle/20.500.12575/37667>
- [84] KOZLU C., & KARACA H. 国际营销：数字化世界的新方法。土耳其银行文化出版物，伊斯坦布尔，2019年。
- [85] ÖZALP A. 国际贸易金融、原理与区块链。土库曼亚耶涅维，伊斯坦布尔，2018年。
- [86] RUDIN P. 元宇宙, 2022. <https://journal.getabstract.com/en/2021/12/06/the-metaverse/>
- [87] KILIÇ S., & KENDIRLI H. Ç. 关系营销在新经济工业市场中的地位和重要性。第三部门合作社杂志, 2005, 148(2): 20-36。
- [88] GRÖNROOS C. 关系营销过程：沟通、互动、对话、价值。商业与工业营销杂志, 2004年, 19(2) : 100-103。 <https://doi.org/10.1108/08858620410523981>
- [89] HOŞGÖR H., & CENGİZ E. 关系营销策略、关系质量要素和行为意图。醋酸醋卫生行政杂志, 2020, 23(3): 465-484。 <https://dergipark.org.tr/tr/pub/hacettepesid/issue/56803/795807>
- [90] KUŞ O. 元界：对“数字大爆炸”中机遇和担忧的看法。中间体国际电子期刊, 2021, 8(15): 245-266. <http://dx.doi.org/10.21645/intermedia.2021.109>
- [91] DOYLE P. 德尔·特梅利·帕扎拉马。媒体猫出版，伊斯坦布尔，2003年。
- [92] KALELIOĞLU E. 埃尔多安总统赠送给埃隆·马斯克的“太空主题”非同质化代币揭晓。WebTekno, 2021年。 <https://www.webtekno.com/cumhurbaskani-erdogan-elon-musk-nft-hediye-h118601.html>
- [93] KALELIOĞLU E. 非同质化代币赠送给埃尔多安总统的“伊斯坦布尔数字钥匙”。WebTekno, 2021年。 <https://www.webtekno.com/cumhurbaskani-erdogan-nft-istanbul-dijital-anahta-ri-hediye-edildi-h119026.html>

- 
- [94] TAŞ O., & KIANI F. 区块链技术攻击研究。信息技术杂志，2018年，11(4)：369-382。  
<https://doi.org/10.17671/gazibtd.451695>
- [95] TEZCAN A. 加密货币网站p网络被黑：价值1200万美元的比特币被盗。WebTekno，2021年。  
<https://www.webtekno.com/kripto-para-sitesi-pnetwork-hacklendi-12-milyon-dolarlik-bitcoin-calindi-h115155.html>