

Metaverse, a Holistic Vision of the New Virtual Reality

Metaverso, una visión holística de la nueva realidad virtual

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Abstract: Metaverse bursts into the media as a new marketing channel in September 2021, creating an explosion of reactions as brands join the race to be pioneers. Within a fully digital society and from a mature gaming industry, Metaverse is much more than an incubator of marketing and advertising ideas for brands, Metaverse is envisioned as a social disruption. This scenario raises three relevant questions to resolve over time: 1) Will the Metaverse finally take shape as a virtual society or, on the contrary, will it be integrated as one more channel of relationship within the context omnichannel? 2) how customers, brands and institutions are reacting to the Metaverse and 3) in any case, what transversal disruptive changes will be necessary in the new scenario of the Metaverse? From the deep and constant search for information in secondary sources (desk research methodology), this article seeks a holistic vision of the Metaverse, and its reading will allow defining specific areas of research on behavior patterns of people in this new virtual reality.

Keywords: Advertising; Archetype; Avatar; Augmented reality; Diffusion of Innovation Model; Extended Reality; Flow experience; Gamification; Immersive experience; Metaverse; Web 3.0.

Resumen: Metaverso irrumpe en los medios como un nuevo canal de marketing en septiembre de 2021, creando una explosión de reacciones a medida que las marcas se unen en la carrera por ser pioneras. Dentro de una sociedad totalmente digital y de una industria del juego madura, Metaverso es mucho más que una incubadora de ideas de marketing y publicidad para marcas, Metaverso se concibe como una disrupción social. Este escenario plantea tres cuestiones relevantes a resolver en el tiempo: 1) ¿Metaverso se configurará finalmente como una sociedad virtual o, por el contrario, se integrará como un canal más de relación dentro del contexto omnichannel? 2) ¿cómo están reaccionando los clientes, marcas e instituciones ante Metaverso? y 3) en todo caso, ¿qué cambios disruptivos transversales serán necesarios en el nuevo escenario del Metaverso? Desde la búsqueda profunda y constante de información en fuentes secundarias (metodología desk research), este artículo pretende una visión holística del Metaverso, y su lectura permitirá definir áreas específicas de investigación sobre patrones de comportamiento de las personas en esta nueva realidad virtual.

Palabras Clave: Arquetipo; Avatar; Experiencia de flujo; Experiencia inmersiva; Difusión del Modelo de Innovación; Gamificación; Metaverso; Publicidad; Realidad Extendida; Realidad aumentada; Second Life; Web 3.0.

INTRODUCTION

Although the birth of the Metaverse has been associated with the name change of Facebook by Mark Zuckerberg in September 2021, Telepresence, introduced by Hoffman and Novak (1996), already presaged an immersive and hedonic form of virtual relationship that would allow a relationship continuous and fluid between people and the technology. But it is from gamification that advances in virtual, augmented, and mixed reality have aroused the attention of brands and of institutions to attract and retain potential customers (ESIC, 2018).

Metaverse breaks into society allowing a parallel virtual life that represents a disruptive change in business processes throughout your marketing strategy. Aharon et al. (2022) show it is expected that metaverse will become involved in accommodate many economic sectors, including healthcare, education, social commerce, advertising, smart manufacturing, and many others. But, strictly from marketing point of view, this merge of the real and virtual worlds, opens the door to endless possibilities for brands, who see the Metaverse as an incubator for ideas. But it also becomes a new starting point for researchers, who must review study concepts such as the Uncanny Valley (Masahiro, 1970, cited in Sugiyama, 2021), Diffusion of Innovation by Rogers (2003, cited in Rodríguez-Ardura, 2008) or Social Pressure or Subjective Norm (Bilgihan et al., 2016), Theory Planned Behavior (Ajzen, 1991; Ajzen and Fishbein, 2004) in the adoption of this new virtual reality in consumption processes.

Additionally, it is important to introduce the concept of web 3.0 associated with the Metaverse, a decentralized web that coincides with the rise of blockchains, security based on third-party certification and increasingly further away from traditional certification by competent authorities. There are many questions that arise, in addition to the impact on marketing as a relationship tool. Security and trust once again occupy a central place in this process of adopting new technologies (Davis, 1996 in Lorenzo Romero et al., 2011).

This scenario raises three relevant questions to be resolved over time and that are proposed as reflection for the field of research: 1) Will the Metaverse finally be configured as a virtual society or, on the contrary, will it be integrated as one more channel of relationship within of the omnichannel context? ; 2) how will the marks react [in the Metaverse]? and 3) in any case, what transversal disruptive changes will be necessary in the new scenario of the Meta-

verse? Thus, we enter a new infinite dynamic scenario since, as Zuckerberg closes in his 2021 statement, the Metaverse will be what people want it to be. These questions cannot be resolved yet as the Metaverse is under construction (Dean, 2022; Canales, 2022; Renbarger, 2022). The race to be the first has only just begun and where each company and institution must find its own opportunity. But undoubtedly, being in the Metaverse has become an absolute digital marketing trend (IPMARK, 2022a) and synonymous with an innovative company or institution.

In the following sections, the Metaverse will be studied from the following perspectives:

1. The Metaverse is essentially related to gamification. The need for the game has become a powerful and profitable industry
2. The Metaverse allows us to embody our ideal self from the theory of the archetype
3. Metaverse allows the experience to flow from the attraction of experimentation through technology 5.0
4. The Metaverse and networking become the same possibility from the online game
5. The Metaverse incites the desire to consume from the hedonic experience together with placement advertising. The immersive experience, the 3D effects and the use of AI will make DOOH (Digital Out of Home) something essential in any brand media plan
6. What is the role of technology in this process?
7. And most importantly, major changes in the regulation of personal and business relationships will be necessary for the Metaverse to become a reality in our lives

This approach will allow us to understand its power as a marketing tool and opportunity and the implications for business from a technology perspective. Its reading will allow a holistic view of this announced paradigm and its conclusions will allow defining specific areas of research on consumer behavior patterns in the face of this new virtual reality.

The methodology followed is desk research, a research method that bases its results on a deep and constant search for information within secondary sources. Since Metaverse has become a marketing trend, many brands have echoed it, so the sources consulted will not only be of an academic nature but

also of a business nature to directly understand the news of the sector (Barrera and Shah, 2023). A quantitative investigation has not been considered opportune given the general unknowledge of the Metaverse in society, which could provide inconclusive results. Nor has qualitative research been contemplated in companies due to the bias that the sector and its state of digital transformation would entail, still ongoing for most of them.

1. WHAT IS METAVERSE?

1.1. Metaverse evolution

90s was the substratum where the concept of Metaverse was born, in a euphoric society before the paradigm that the democratization of the Internet supposed. About 1992, the protagonist of the novel *Snow Crash* (Neal Stephenson, 1992), could transcend his socially unattractive self and become a Samurai, pay in electronic money (bitcoin) and interact with his surroundings through virtual glasses. Games like “The Sims” (Will Wright, early 2000s by Maxis and Electronic Arts¹) or “Second Life” (Linden Lab, June 2003), allowed us to glimpse the attractive possibility of a virtual life for people.

With e-commerce in its infancy and taking its first steps as a multi-channel strategist, brands began their race against time to digitally engage with their customers through their websites. We were on the threshold of the technological explosion, which marked the beginning of Marketing 2.0. (Jiménez-Zarco and Pacheco-Bernal, 2022), where all companies wanted to be present to offer their products and services and provide a unique experience (Holbrook and Hirschman, 1982).

This new virtual relationship advocated a new form of experiential relationship from technology (Dwivedi et al., 2022a). Concepts such as the flow experience (Csikszentmihalyi, 1990), digital customer experience (Swaid and Wigan, 2012), fun and hedonism as a marketing tool (Hirschman and Holbrook, 1982; Hosany and Witham, 2010; Loroz, 2004; Pine and Gilmore, 1998) or e-reputation (De Quevedo, 2010). Concepts that became an object of interest for the researcher who observes how technology offers a rich environment conducive to complex and multidimensional company-client rela-

1 https://as.com/meristation/2020/02/10/reportajes/1581316040_563677.html

tionships. The reference framework soon welcomed multiple studies on consumer behaviour in new channels, as well as on the determinants and consequences derived from an adequate digital customer experience (Méndez-Aparicio, 2019). Similarly, there have been many studies on technology adoption (TAM, Davis, 1989, cited in Venkatesh and Davis, 2000) and the Theory of Planned Behaviour (TPB, Ajzen, 1991, Ajzen and Fishbein, 2004) as a model for the penetration of innovation in the society.

However, once the daily use of technology normalized the ideal digital expectations (Pelegrín-Borondo et al., 2016) of the user, the perceived usefulness and quality of the virtual platform prevailed as a determinant of digital satisfaction, minimizing the relevance of the perceived flow experience in web browsing (Méndez-Aparicio et al., 2020). In this way, electronic commerce has reached a spectacular development in recent years thanks to digital usability and the democratization of its use. In fact, s-commerce has become a 2022 trend (Global Trends Report, WARC, 2022) as a new marketing communication platform, much more visual and effective, where a new company-client relationship can be established.

Currently, the incorporation of technology in people's lives is already a reality and as such, its naturalization is imposed from the 5G umbrella, which allows this humanization of digital transactions. This new technological reality implies important changes in the company-customer relationship (Dwivedi et al., 2022a). Known as marketing 5.0, it proposes "the application of technologies that imitate humans to create, communicate, deliver and improve customer value" in the words of its creators Kotler, Kartajaya and Setiawan (Kotler et al, 2021). This new approach to marketing must solve three great challenges of this century: the generation gap, the inequality of prosperity and the digital divide. So, streaming, blockchain, NFT, mixed and augmented reality, voice recognition, image recognition, natural language processing and personal and emotional treatment from artificial intelligence become the challenge of digital transformation for companies in their customer relationship strategy. It is the so-called view of Kotler et al. (Kotler et al., 2021) "Technology for humanity". This context returns us to the hedonic enjoyment of technology while digitally interacting with brands (Congress DEC, 2022).

These technological advances have allowed multiple metaverses to have been developed from the concept of immersive experience. This is the case of the industrial metaverses (they carry out the mapping and expansion operations of the physical industry in the virtual space to significantly improve intelligent manufacturing, Kang et al., 2022), the learning platforms (Game Ba-

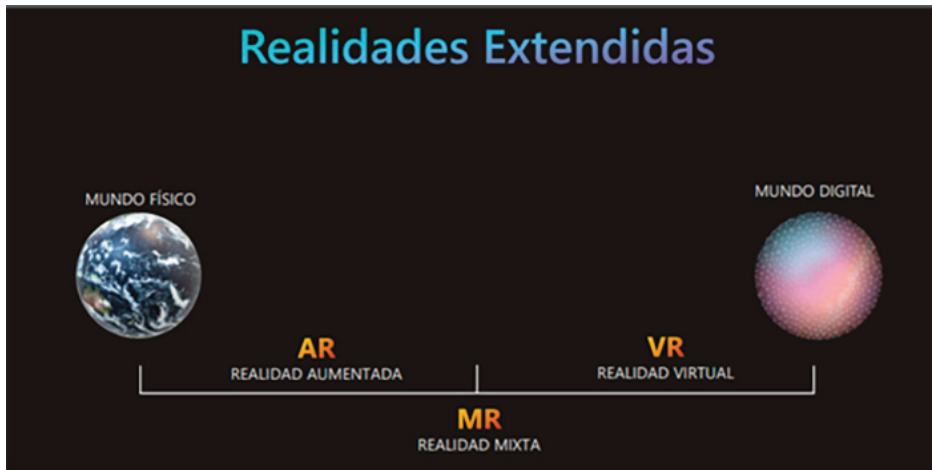
sed Learning, GBL, Getchell, et al., 2010) or the hedonic worlds of video games that understand the Metaverse as an opportunity for immersive experience that mimic persistence (Nevelsteen, 2018). However, these “metaverses” are not the Metaverse conceived as a virtual world, whose persistence characteristic becomes essential, as we will see below.

1.2. Definition and characteristics of Metaverse

There are multiple definitions as can be seen in the review of the literature by authors Park and Sim (2022), where words like world, immersive, avatar, realism, parallel, feeling, technology, 3D, 5G, community, experience, etc. interact. But one of the most approximate is “Metaverse is a compound word of meta and universe, meaning beyond, a temporal-spatial aspect where the real world and the virtual world are mixed (Cunningham, 2010 in Park and Sim, 2022). Definition that Park and Sim nuances when saying “is a compound word of transcendence meta and universe and refers to a three-dimensional virtual world where avatars engage in political, economic, social, and cultural activities” (Park and Sim, 2022). This convergence will be more immersive the greater the absence of real physical stimuli. As can be seen in figure 1, in augmented reality the simultaneity of sensations with the real world is allowed, a necessary fact, for example, in its use in medicine, the automotive industry or its use in security and supervision of installations, for example, but where you can interact with digital elements. On the contrary, in the purely digital environment, the perception of the real world disappears, and this is where the true immersive experience is achieved. For each of these perceptions the devices are different. For example, for augmented reality a mobile phone would be perfectly suitable, for virtual reality special glasses and, finally, there are mixed reality devices that allow immersion, but do not isolate users (Microsoft in Congress DEC, 2022).

These worlds are designed to be highly social, where participants interact in real time online through their avatar. In these worlds there may be a sense of ownership, which also implies a virtual economy, as will be developed below (Peña de San Antonio, 2022). Another of the Metaverse conditions is that the life of the avatar must be persistent and interoperable (Ball, 2022). And according to Hackl et al. (2022), must be unique. These characteristics pose a Metaverse construction problem since the current distributed computing presents important doubts about whether these architectures can really support a single virtual world, that is, persistent and interoperable (Nevelsteen, 2018).

Figure 1. Extended Reality



Source: Hurtado (2022, in Congress DEC MetaExperience, 2022)

2. METAVERSE: NEW REALITY OR NEW CHANNEL?

2.1. *Metaverse, a new customer reality*

In a climate of expectation towards marketing 5.0, Metaverse has burst explosively into society when Mark Zuckerberg announced in September 2021 the renaming of Facebook. Meta arises with a new positioning, “Live in the future” (Pérez Sarmenti, 2021), and with the goal of encouraging “people to invest in their virtual space, instead of others, where users can enjoy the best possible experience, and even encouraging companies to use it when doing business” (LaSexta, 2021). With a well-orchestrated media campaign, Metaverse has become a recurring theme in marketing and has been immediately echoed by all brands.

Metaverse inherits known concepts, and incorporates others, which it combines in a spectacular psychological cocktail shaker:

1. The value of playfulness. People love to play (Gil, 2020, Orús, 2022a) and the sense of flow it produces, on the border of hedonism and challenge, motivates and attracts us (Csikszentmihalyi, 1990).

2. The archetype theory. According to this theory, the main character—called Avatar—merges or incarnates with their ideal according to their uni-

versal unconscious symbols (Jung's psychoanalytic theory, 1911, quoted in Gubern, 2002).

3. Experimentation through 5.0 technology. Augmented reality and IoT enable real virtual experiences (Feierherd et al., 2019).

4. The need for socialisation. As we move up the Maslow's pyramid (Desmet and Fokkinga, 2020), the need for affiliation and contact keeps us hyper-connected, due to the success of social networks and online gaming communities (Barrera and Shah, 2023; Orús, 2022b).

5. The desire for consumption. We like to consume due to the hedonic experience it produces which insulates us from distress and anxiety (Harnish et al., 2021). And we also like to be exclusive owners of objects coveted by others (Goor et al., 2020) and that explains the craze for owning NFTs (Non-fungible token in Wang et al., 2021).

6. People want to live stories. Content marketing will evolve in Metaverso towards a gamified story, where the storytelling will be immersive and interactive. Disbelief is eliminated and affinity is built (iabSpain, 2023)

As a result, in the Metaverse the costumer lives through his avatar new possible or unattainable experiences, endowing this virtual self with powers, abilities, personality and appearance, identifying the "playful subject" with the "playful self" (Fernández-Vara, 2009). Navarro-Remesal (2019) points out that even in certain contexts such as social networks, the individual's own reality is blurred, such that the individual can embody multiple parallel social representations vis-à-vis the environment, which overlap with (or over) the real world. This new world of avatars, where there is no distinction between the physical and the virtual and the technological (Pinedo, 2022), allows the virtual personality to differ from the real one, from the creation of a new self as a parallel personal reality where fantasies can be developed.

This perspective has been studied from the sociology of virtual communities (Hine, 2000, cited in Angelone, 2019) in social networks. The big difference in Metaverse is that virtual life does have physical repercussions on people (Playoffnations, 2021, quoted in *economíadehoy.es*, 2021). Thus, the avatar created to play Super Mario Bros (1985) on the Wii (2006) or "The Sims" of the 2000s, has left a mark on millennial society that is inherited by generation Z and Metaverse. Why start with this generation as consumers of Metaverse products, included in video games or in those contents whose use and enjoyment is considered playful? Because it is a generation assiduous to

the game, eminently digital and that, according to Playoffnations (Economiadehoy.es, 2021; Playoffnations, 2022), “it is the best breeding ground and experiment to understand virtual behaviour patterns and then create generic examples.”

Metaverse is a very attractive platform for young people, as confirmed by The New Consumer in 2021 analysis. This report indicates that 45% of those surveyed belonging to generation Z feel more comfortable in an online environment (Cortès, 2022).

From this perspective, Metaverse becomes a spectacular field of study of customer behaviour, as understood by companies.

2.2. Metaverse, new channel for companies

Everybody wants to be present in this new scenario, but while for clients it is a new reality for companies and institutions, it is a new channel to add within the wide range of today’s existing. There is a clear explanation for the virality of the Metaverse into organizational context. Based on gamification, video game producers have led the current bases of the Metaverse, and millions of users have normalized the use of avatars (Cortès, 2022). Metaverse explores and exploits how gamification allows brands to “introduce game mechanics and game design in non-game contexts” (Gil, 2020) from different digital tactics. This marketing strategy is aimed at customer learning and message remembering while increasing consumer engagement, generating high value for the business (Huotari and Hamari, 2012).

But Metaverse is much more than a gamification tactic, as it allows for multiple customer rewards, as indicated in its semantics. Thus, Metaverse allows virtual access to unattainable products, making the brand known and creating the need for possession in potential consumers (Dikcius et al., 2021). Therefore, a new scenario opens where the principles of marketing are repeated in this new channel. It will not only be necessary to listen to their demands, but to raise awareness and interest to attract consumers, generate conversions and recover the expected marketing return (Turletti, 2018). This opportunity has provided innovative brands with an unbridled race to position themselves by understanding the potential of their possibilities, measuring the reaction of the competition, and studying the virtual profiles of their customers.

The substrate of a mature gaming industry today forms a virtual digital ecosystem that recursively brings together massive audiences (Orús, 2022a; iabSpain, 2023). And its idiosyncrasy allows a relaxed relationship between user and company. But, for Metaverse to be successful for brands, it will be necessary to develop new communicational concepts, scientifically reviewing the roles of advertising under three fundamental aspects: a) conceptually by defining the boundaries of Metaverse according to the context; b) from an adequate methodological framework that allows individual and group consumption behaviours to be evaluated and metrics to be established and c) a structuralist approach, as indicated by Kim (2021), necessary to identify and classify the characteristics of the message, the embedded user and interaction between the message and multiple users in the Metaverse.

Regarding the Metaverse as a channel of social interaction, the platforms themselves have turned it into a communication channel, as indicated by Roblox figures, which show how users between the ages of 15 and 25 create more messages on the platform than those they send via email. Other channels such as WhatsApp (Cortès, 2022). This experiential marketing offers a strong appeal to consolidate stable and lasting relationships between brand and customer, (Urdea et al., 2021) and Metaverse presents a unique opportunity to offer playful experiences.

3. METAVERSE INFLUENCE ON BRANDS AND INSTITUTIONS

As previously mentioned, Metaverse is presented as an opportunity for loyalty and attraction for customers from an attractive and playful communication channel and brands and institutions want to be present in this new scenario. And according to the opinion of the main marketing consultants ““The metaverse is still in its infancy, but it will advance very quickly. If companies do not act now, they will find themselves operating in worlds designed by and for others.”“ (Paul Daugherty², Accenture, 2023).

Thus, we find Burger King³ in gaming scenarios (Burger King in Fortnite, Mora, 2022a) and Gucci exhibits its products in a virtual walk through the store, where you can see its catalogue and collections (Mora, 2022a; IP-

2 Group Chief Executive–Technology & Chief Technology Officer (Accenture, 2023)

3 https://twitter.com/burgerking_es/status/1420093388532105224?lang=en

MARK, 2022b) or Carrefour⁴, where you can recover healthy living from its organic supermarket (Mora, 2022c). Similarly, Nike has created Nikeland⁵ (Martínez, 2022) within the Roblox platform. In this 3D world, players are invited to an immersive adventure with the brand's objectives: a healthy and sporty life. And in the case of Coca Cola⁶, Metaverse serves as an excuse to launch a new "pixel" flavour, Zero Sugar Byte, aimed at "younger and "techie" consumers" and which takes the opportunity to announce its "gaming" presence in Fortnite (Lastra, 2022). It is in this segment where Metaverse establishes its target audience, as in the case of Lego⁷ in its partnership with Epic Games to create a Metaverse for children, appealing to their right to play safely, privately and with tools that control their digital experience, (Mora, 2022d). In short, and in the words of Zuckerberg, "this parallel world will move hundreds of billions of dollars in the next ten years, as evidenced by the expected business figure of some 800,000 million by 2024" (Dwivedi et al., 2022b; Pascual, 2022).

But beyond maintaining a dual relationship in two different environments, Metaverse is preparing to advance the omniverse (Song et al., 2022). In the not-too-distant future, McDonald's will allow you to place your orders from Metaverse and receive them in real life. To this end, it has already filed ten Metaverse-related applications for both McDonald's and McCafé with the U.S. Patent and Trademark Office in early 2022 (The Money Post, 2022), and is seeking software experts to develop Metaverse shopping scenarios with real-world interaction, audio and video downloadable and a concert hall from McCafé, both real and online (Dean, 2022). The Metaverse Panera Bread has already applied for a brand for this spectrum, with NFT, virtual entertainment services with Metaverse customer reward loyalty (The Money Post, 2022). But beyond this, Nvidia⁸ is committed to face-to-face-digital integration, making the latter an extension of the real world (Hummel and Kooten, 2019). Along the same lines, some football clubs are planning to increase their member services, such as real/virtual/exclusive interviews with their favourite players.

4 <https://www.youtube.com/watch?v=axzXwVzi3oQ>

5 <https://www.roblox.com/nikeland>

6 https://www.youtube.com/watch?v=l_rTVSs1MY

7 <https://www.marketingdirecto.com/digital-general/digital/lego-epic-games-metaverso-ninos>

8 <https://www.nvidia.com/en-us/omniverse/>

Thus, Real Madrid⁹ plans to sell millions of season tickets as virtual members of its team (Lorenzo, 2022).

There is also a growing interest in these immersive spaces for institutions. It is worth mentioning the opportunity presented by digital twin spaces in the health sector, cloning hospital management and patient evolution flows (Open Systems, 2022). Also, its use in Institutions to guide the citizen from the Metaverse through cloned public spaces, case of the Government of Navarra (2022) or the considered success story of the Faculty of Agriculture of the University of Laos (Khansulivong, Wicha y Temdee, 2023). And it is increasingly used in company safety management, where the virtual interaction of the internet of things displayed in the digital twin of facilities and factories allows inspections to be carried out without putting the health of workers at risk (Iberdrola case, DEC, 2022). But where Metaverse is having the greatest power of attraction is in the world of teaching and outreach. As indicated by the author of the report “Analysis and reflections on the potential impact of the Metaverse in the educational sector” (Cortès, 2022), up to 14 key aspects can be considered for said assimilation of teaching spaces. In addition to the aspects mentioned as members of generation Z and Alpha, Metaverse allows student diversity and personalization in learning capacity, it is a powerful attraction of the attention necessary for study, it allows a new form of interaction between teacher and student and what is most relevant for society, it covers the gap between the educational offer and the demand for talent (Cortès, 2022).

As success stories where Metaverso is already being monetized, in addition to those already mentioned, in Hyundai Mobility Adventure the user can try the latest in cars, they can go out to a virtual party in Amnesia Ibiza (where unique NFTs are offered), or bid at Sotheby’s, the iconic auction house that bets on online bidding through Sotheby’s Metaverse, with payment in cryptocurrencies (IEBS Scholl, 2022), record a record in Metaverse with XR BBC Maida Vale Recording Studios (Cairns et al., 2022), among many other cases. It is up to Accentur, who consider the factory of the future of the Mars company in Illinois, United States, as a success story, where digital twin technology and models will be applied to Mars factories around the world in the next three years (Accenture, 2022).

9 https://www.defensacentral.com/real_madrid/1642943882-el-real-madrid-podria-vender-millones-de-abonos-gracias-al-metaverso-ir-al-bernabeu-sin-salir-de-casa

Even sectors such as the financial sector have been strongly affected by Metaverse due to the arrival of cryptocurrencies. In Metaverse, cryptocurrencies are the usual form of payment. Despite the perceived risk about the security of the process and action in case of the theft or loss of virtual keys, cryptocurrencies can be a great opportunity to energise and modernise the financial system (Casanueva, 2021). However, in anticipation of the future, banks have already made their advertising incursions in order not to be left behind. For example, Bankinter¹⁰, appealing to *Customer Centric*, has chosen Km 0 in Madrid to indicate that “the Metaverse is yours” (Bankinter, 2022; Mora, 2022b).

Faced with such a situation, we ask ourselves the question: will Metaverse finally take shape as a virtual society or, on the contrary, will it be integrated as one more relationship channel within the omnichannel context?

How to populate these empty worlds is then posed as an immediate need. We are sociable by nature (Tanford and Jung, 2017), and users will begin to demand their right of entry to Metaverse as a community. This has also been understood by the platforms and so Next Earth is selling La Rioja (García Arnaiz, 2022), in plots and its most important monuments. For example, Las Gaunas football field, Yuso Monastery, the La Ribera bullring, the Rioja Cultural Centre and Calahorra City Hall have already been purchased. The question is: to what end? Presumably, speculation is the objective, and to reverse the investment from the rental and sale of its virtual land. These decentralised (privately owned) Metaverses require legislation yet to come. The NextEarth has not only invested in virtual plots, but it has also triggered a virilization of the sector, which will be the object of a lucrative business in the coming decades (García Arnaiz, 2022), as already initiated by the Metahood or Decentraland platforms, with similar services (Mora, 2022a).

In short, strolling through a virtual universe, shopping, interacting, enjoying shows and events, will become Zuckerberg’s dream “that we will be able to live a life beyond and free ourselves from physical space” (Marketing Directo, 2022).

10 <https://www.elmundo.es/economia/empresas/2021/10/06/615d9703fc6c8347468b4589.html>

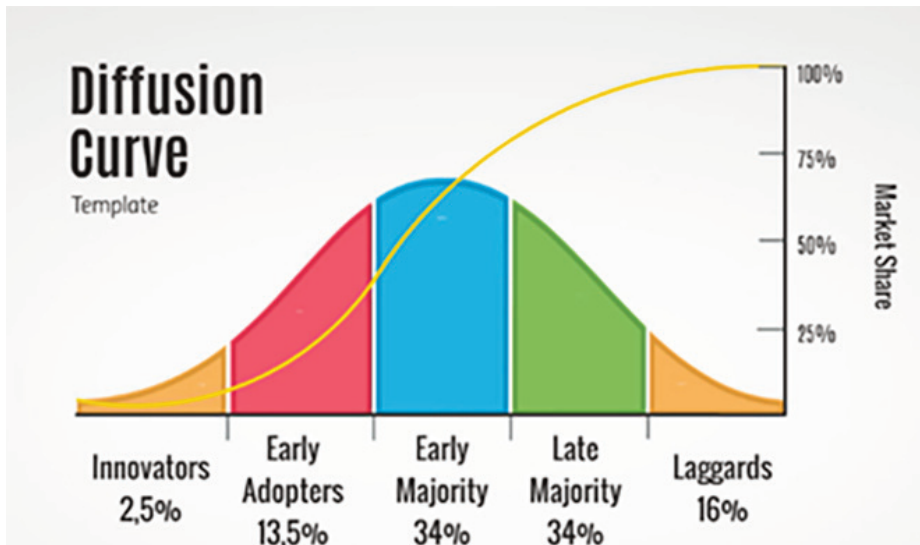
4. DISRUPTIVE CHANGES AND NEW CHALLENGES IN THE METAVERSE

4.1 Metaverse, a new adoption of technology for the client

If we couple this need for socialisation with the pressure from our environment on the adoption of technology and theory of planned behaviour (David, 1989, cited in Besley and Case, 1993; Schifter and Ajzen, 1985), the business opportunity arises for many brands because of the mass appeal it will have, as well as for institutions, which find a great opportunity for social marketing in Metaverse.

As Rogers (2003, cited in Rodríguez Ardura, 2008) indicates in his Diffusion of Innovation Model, in the implementation of a disruptive change there are certain archetypes of people that produce a normal distribution in the form of a Gaussian function. It begins when the innovators and early adopters start to become measurable market share; it peaks when the first large majority adopts the change and closes with the laggards in the last wave (see Figure 2).

Figure 2. Innovation Diffusion Model. Rogers Archetypes



Source: Rogers (2003)

Therefore, innovative customer profiles are key, as well as a certain elite, prone to change and social influence, with a high level of income and culture. But no less so are the adapters, the first followers who pave the way for the great masses, sharing their experiences in innovation and who are what really convince the majority, who are highly averse to change due to the perceived risk. This model should be the roadmap for any marketing strategy given the typified response rate. This democratization of technology is increasingly widespread, as analyzed in the study by Wunderman Thompson (2021), where 78% of those surveyed understand that “their lives and daily activities depend on technology”.

Rogers’ archetypes are universal and can therefore be extrapolated to companies and, therefore, the most innovative ones will be the leaders in the Metaverse. Including the Unique Proposition Selling (USP), differential value of the brand from the gamification and the trend, embedding its message in the benefits of the Metaverse, is the new digital customer experience. And this experience only increases brand loyalty (Méndez Aparicio, 2019). It can be concluded that the times of Metaverso will be linked, therefore, to the adoption of technology by users, but also dependent on the present and future developments of brands (iabSpain, 2023), a virtuous circuit from the technological determinism of which we will talk about later.

4.2 Metaverse, the impact of a new channel for companies

As a marketing strategy, Metaverse will allow companies to enhance the physical environment of brick-and-mortar stores by observing consumer behavior by interacting with other customers and store staff as it happens (Swiley, 2016). This is possible as the Metaverse connects with AR as the avatar’s life forms from “multiform contacts and overlaps between multiple points in the real world and a distinct and different Metaverse”, giving rise to a new type of augmented reality interaction (Wright et al., 2008) between the client and the brand. Lu and Smith (2007) concluded in their comparative research on AR versus traditional e-commerce that AR provides more direct information about the consumer. Schwartz (2012) establishes a direct relationship between AR and attitude, as well as purchase intention. While Park et al. (2008, cited in Wright et al., 2008) show that 3D visual simulation on an e-commerce site influences the quality of information perceived, improves mood and therefore attitude and purchase intention.

Also, Metaverse in the research field becomes a target. As the researchers indicate, there are hardly any sectoral studies that indicate the opportunity of extended reality, ER, in the study of consumer behavior (Swilley, 2016).

However, how is this media deployment possible if the Metaverse does not yet exist technologically? (Mora, 2022a). As we have seen in the evolution of the Metaverse, technological determinism shapes and determines the advancements in the Metaverse. Research in artificial intelligence, real-time transmission, the Internet of things and bodies, improvements in augmented reality and the democratization of the necessary hardware costs mean that the Metaverse is still considered a reality under construction since multiple factors converge (Philipp et al., 2022). In a race to provide content for the new world, the big technology companies open their doors to software developers to work on their projects related to this concept, as is the case of Microsoft (The Money Post, 2022). Under this approach, while the platforms are being developed, public opinion models the Metaverse as an incubator of barriers and opportunities for companies. As already indicated and in the words of Zuckerberg, the Metaverse will be defined by the users themselves in their demands (Zuckerberg, 2022).

The big question is: how will brands react? We are in full digital transformation, where companies are still in a process of technological conversion of their processes to offer a digital and competitive experience to their clients, with big data and artificial intelligence as objectives. This race that began five years ago (Extra Software.es, 2021), with a roadmap still to be completed in many cases, raises the following question: are companies prepared to face this revolution? At first, it seems difficult. And not only because of the overlapping priorities in terms of modernizing their business processes, but because Metaverse must meet other needs radically different from those of traditional business.

While it was already a complex objective to correlate structured and unstructured data on purchasing and consumption behaviour in the different available channels, unify their information in big data and generate actionable responses for the company from artificial intelligence (Méndez-Aparicio et al., 2021), we are now faced with unknown behaviours based on the assumption of personalities and unforeseen customer responses, the result of unusual behaviour in an open world. Thus, it is conceivable that corporate big data will need to process both real and virtual customer profiles, as has been the case with social networks, from the perspective of multiple parallel social repre-

sentations, documented by Wright et al. (2008), which they have termed augmented duality.

Another aspect that will radically change our economy is the democratization of virtual currencies or cryptocurrencies. There are many of them, which are unknown, subject to speculation and ultimately not so secure against cyber-attacks (Escoda, 2014). Peer-to-peer certification (blockchain), which avoids the presence of financial intermediaries, augured agility in the economy, especially in emerging economies lacking powerful online payment infrastructures. Faced with this, countries' central banks are beginning to put their virtual currency into circulation to avoid speculation, the legal vacuum, and the need for security.

Cyber security will be of relevance in this new channel. Numerous researchers are already warning about the precariousness of the anonymity of virtual wallet owners through the Ethereum Name Service (ENS) and the well-known attraction of digital criminals or the proliferation of malicious smart contracts. This is the case of 'sleepminging' which falsifies the provenance of NFT (Canales, 2022).

Coupled with the need for interoperability and persistence, the Metaverse must be unique, reproducing our virtual reality as a unique and unrepeatably new self, far from the idea of multiple Metaverses that exists today. This idea seems linked to the need for standardization to be imposed as the only way to democratize the Metaverse and cryptocurrencies. As happened with Internet technology in the 90s (hardware and software), mobility and its accessories, operating systems, and Internet browsers, have finally ended up in digital monopolies, such as Meta, Microsoft or Google, where all brands want to be and that slows down the development of other platforms (Meier, 2021). We are therefore witnessing a war that has only just begun between the current that advocates the decentralization of the web, known as 3.0 or the structure of "fenced gardens", which have generated an ecosystem of their own resources, scarcely interoperable. Thus, it is not surprising the alliances that are predicted in the construction of the Metaverse, such as the one described as "without origin" between Meta and Microsoft or Zoom (del Castillo, 2022). These giants have announced that Microsoft's virtual and augmented reality products will be available and integrated into Quest, the Meta platform, fully operable with Zuckerberg's virtual reality glasses, as well as all office automation features (Word, Excel, PowerPoint, or Outlook), the integration of video games with current hardware, and the necessary tools for meetings, such as

Zoom. This not only provides the continuity of the user in his virtual life but also guarantees his current monopoly in leisure and work environments.

5. CONCLUSION

As has been seen, although Metaverse will be a new virtual reality in the future, it is still a communication and distribution channel between brands and institutions and their customers. For this reason, it is not only relevant to understand the opportunities and challenges that they represent for everyone, but it is also necessary to define what place they want to occupy one and others in this new virtual society.

Metaverse is here to stay, as predicted by the expectation and investment it has triggered. From the theory of technological determinism (Fanjul, 2019), living in Metaverse will determine changes in social behaviours, leisure, and consumption habits. Referred to as Web 3.0 or the Spatial Web (Cook et al., 2020), researchers predict a dramatic change in the way we interact with the digital world (Austin, 2021, cited in Kim, 2021). These continuous speculations about its innate complexity do not allow for a clear definition or to establish objectives and scope since, today, it is a concept still to be built.

But what is unquestionable is that it opens a framework of study from the pre- and post-Metaverse. Multiple unknowns will have to be contemplated, such as the application in advertising (iabSpain, 2023); the validity of traditional metrics and Key Performance Indicators (KPI); will it be an owned media, an earned media; will it be possible to identify the sponsor? It will be necessary to define the ethical boundary that protects persuasive intent from response induction; and most importantly, how to tailor the relationship between customer and company, identifying the advantages or disadvantages of Metaverse in “cognitive, affective and behavioural effects” (Kim, 2021). To this end, as indicated by the author, brands should define their communication objectives based on the functional approach: shopping, entertainment or socialisation, and adequately process the effect of the advertising message, including the negative ones, which damage their image or the customer. The next step, already underway, will be interaction as companies adapt their financial systems and channels, with the resulting technological disruption in their processes. The concept of virtual property also emerges as an object of study since NFTs are already a reality.

Thus, all areas of knowledge such as Law and Political Science, Art and Humanities, Economics and Business, Health Sciences, Digital Skills, City and Urban Planning, Computer Science, Multimedia and Communication (Cortès, 2022), will be involved in shaping and delimiting this new way of conceiving reality.

BIBLIOGRAPHIC REFERENCES

Aharon, D. Y.; Demir, E.; Siev, S. (2022). Real Returns from Unreal World? Market Reaction to Metaverse Disclosures. *Research in International Business and Finance*, 63, 1-12

<https://doi.org/10.1016/j.ribaf.2022.101778>

Accenture (2022). Accenture and Mars develop the “Factory of the Future” using Artificial Intelligence, Cloud, Edge and digital twins.

<https://newsroom.accenture.es/>

Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.

[https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)

Ajzen, I.; Fishbein, M. (2004). Preguntas planteadas por un enfoque de acción razonada: comentario sobre Ogden (2003). *Health Psychology*, 23(4), 431-434.

<https://psycnet.apa.org/doi/10.1037/0278-6133.23.4.431>

Angelone, L. (2019). Virtual Ethnography: The Post Possibilities of Not Being Ther. *Mid-Western Educational Researcher*, 31(3), 275-295.

<https://www.mwera.org/MWER/volumes/v31/issue3/V31n3-Angelone-DISTINGUISHED-PAPER.pdf>

Asociación DEC (2022). VIII Congress MetaEXperience.

<https://asociaciondec.org/eventos/congreso/congreso-2022/>

Austin, S. (2021). “The New Wave of Web 3.0 Metaverse Innovation.” *Entrepreneur*, September 8.

<https://www.entrepreneur.com/article/380250>

Ball, M. (2022). The Metaverse. And how it will revolutionize everything. Liveright

Barrera, K. G.; Shah, D. (2023). Marketing en el metaverso: comprensión conceptual, marco y agenda de investigación. *Revista de Investigación Empresarial*, 155, 113420.

https://www.researchgate.net/publication/365515409_Marketing_in_the_Metaverse_Conceptual_understanding_framework_and_research_agenda

Bankinter (2022). Bankinter presenta “el metaverso es tuyo” con un QR gigante en la Puerta del Sol de Madrid.

<https://www.bankinter.com/blog/noticias-bankinter/publicidad-madrid--metaverso-es-tuyo>

Besley, T.; Case, A. (1993). Modeling technology adoption in developing countries. *The American Economic Review*, 83(2), 396-402.

<https://www.jstor.org/stable/2117697>

Bilgihan, A.; Barreda, A.; Okumus, F.; Nusair, K. (2016). Consumer perception of knowledge sharing in travel related online social networks. *Tourism Management*, 52, 287-296.

<https://doi.org/10.1016/j.tourman.2015.07.002>

Cairns, P.; Hunt, A.; Cooper, J.; Johnston, D.; Lee, B.; Daffern, H.; Kearney, G. (2022). Recording Music in the Metaverse: A Case Study of XR BBC Maida Vale Recording Studios. Paper 12, August. Audio Engineering Society.

<http://www.aes.org/e-lib/browse.cfm?elib=21842>

Canales, K. (2022). NFT en el mundo real: 4 posibles casos de uso más allá de los dibujos animados de monos aburridos.

<https://www.businessinsider.es/4-formas-usar-nft-mundo-real-no-te-habias-planteado-1027183>

Casanueva, I. (2021). ¿El impacto de las criptomonedas en el sistema financiero global es similar al que tuvo la llegada de Internet?. Confilegal.

<https://confilegal.com/20211217-el-impacto-de-las-criptomonedas-en-el-sistema-financiero-global-es-similar-al-que-tuvo-la-llegada-de-internet/>

Cook, A.; Bechtel, M.; Anderson, S.; Novak, D. R.; Nodi, N.; Parekh, J. (2020). The Spatial Web and Web 3.0: What Business Leaders Should Know about the Next Era of Computing. Deloitte Insights.

https://www2.deloitte.com/content/dam/insights/us/articles/6645_Spatial-web-strategy/DI_Spatial-web-strategy.pdf

Cortès, M. (2022). Analyses and insights on the potential impact of the metaverse on the education sector. UOC, eLinC.

<http://hdl.handle.net/10609/141246>

Csikszentmihalyi, M. (1990). *Flow: The Psychology of Optimal Experience*. Harper & Row.

Dean, G. (2022). McDonald's ha presentado una marca para un restaurante en el metaverso que realmente entregará comida a domicilio. *Business Insider*.

<https://www.businessinsider.es/mcdonalds-ha-presentado-marca-restaurante-metaverso-1010033>

De Quevedo, E. (2010). Reputación Corporativa. In Pucheta Martínez, María Consuelo. *Información y Comunicación de la Responsabilidad Social Corporativa*. Editorial Netbiblos. 191-273.

del Castillo, C. (2022). Facebook y Microsoft anuncian una alianza sin precedentes para impulsar el metaverso. *elDiario*.

https://www.eldiario.es/tecnologia/facebook-microsoft-anuncian-alianza-precedentes-impulsar-metaverso_1_9615791.html

Dikcius, Vi.; Urbonavicius, S.; Adomaviciute, K.; Degutis, M.; Zimaitis, I. (2021). Learning Marketing Online: the Role of Social Interactions and Gamification Rewards. *Journal of Marketing Education*, 43(2), 159-173.

<http://dx.doi.org/10.16967/rpe.v3n1a7>

Dwivedi, Y. K.; Hughes, L.; Wang, Y.; Alalwan, A. A.; Ahn, S. J.; Balakrishnan, J.; Wirtz, J. (2022a). Metaverse Marketing: How the Metaverse will shape the Future of Consumer Research and Practice. *Psychology & Marketing*, 40, 750-776.

<https://doi.org/10.1002/mar.21767>

Dwivedi, Y. K.; Hughes, L.; Baabdullah, A. M.; Ribeiro-Navarrete, S.; Giannakis, M.; Al-Debei, M. M.; Wamba, S. F. (2022b). Metaverse beyond the hype: Multidisciplinary Perspectives on Emerging Challenges, Opportunities, and Agenda for Research, Practice and Policy. *International Journal of Information Management*, 66, 102542.

Economiadehoy.es. (2021). Playoffnations y DeuSens se unen para crear un Metaverso 'made in Spain'.

<https://www.economiadehoy.es/noticia/77713/tecnologia/playoffnations-y-deusens-se-unen-para-crear-un-metaverso-made-in-spain.html>

Empresa Actual (2020). Pasado, presente y futuro del comercio electrónico.

<https://www.empresaactual.com/historia-del-comercio-electronico/>

Escoda, A. (2014). Bitcoin: ¿burbuja especulativa o moneda del futuro?. Caixabank Research.

<https://www.caixabankresearch.com/es/economia-y-mercados/mercados-financieros/bitcoin-burbuja-especulativa-o-moneda-del-futuro>

ESIC (2018). Gamificación y realidad virtual: la fidelidad está en el juego.

<https://www.esic.edu/rethink/tecnologia/gamificacion-realidad-virtual-la-fidelidad-esta-juego>

Extra Software (2021). Hacia la Transformación Digital de España en 2021.

<https://www.extrasoft.es/transformacion-digital-de-espana-en-2021/>

Fanjul, S. (2019). Determinismo tecnológico: ¿controlamos a la tecnología o nos controla ella? El País.

https://elpais.com/retina/2019/04/04/tendencias/-1554366463_687502.html

Feierherd, G. E.; González, F.; Viera, L.; Romano, L.; Delía, L. N.; Huertas, F.; Depetris, B. O. (2019). Realidad virtual y aumentada, big data y dispositivos móviles: aplicaciones en turismo. In XXI Workshop de Investigadores en Ciencias de la Computación (WICC 2019, Universidad Nacional de San Juan).

http://sedici.unlp.edu.ar/bitstream/handle/10915/77226/Documento_completo.%20Aplicaciones%20en%20Turismo.pdf-PDFA.pdf?sequence=1&isAllowed=y

Fernández-Vara, C. (2009). Play's the thing: A framework to study videogames as performance. 2009 DiGRA International Conference: Breaking New Ground: Innovation in Games, Play, Practice and Theory (September 2009).

<http://hdl.handle.net/1721.1/100276>

García Arnaiz, D. (2022). La Rioja, a la venta de forma virtual: parcelas disponibles en Next Earth. NueveCuatroUno.com.

<https://nuevecuatrouno.com/2022/02/06/larioja-metaverso-logrono-nextearth/>

Getchell, K.; Oliver, I.; Miller, A. H.; Allison, C. (2010). Metaverses as a Platform for Game Based Learning. In 2010 24th IEEE International Conference on Advanced Information Networking and Applications. 1195-1202. IEEE.

<http://dx.doi.org/10.1109/AINA.2010.125>

Gil, O. (2020). Gamification: qué es y cómo implantarla en tu plan de marketing. Cyberclick.

<https://www.cyberclick.es/que-es/gamification>

Gobierno Navarra (2022). El Gobierno de Navarra, reconocido por estimular y apoyar la innovación tecnológica en el sector cultural tras la puesta en marcha de su espacio en el metaverso.

<https://www.navarra.es/es/-/nota-prensa/el-gobierno-de-navarra-reconocido-por-estimular-y-apoyar-la-innovacion-tecnologica-en-el-sector-cultural-tras-la-puesta-en-marcha-de-su-espacio-en-el-metaverso>

Goor, D.; Ordabayeva, N.; Keinan, A.; Crener, S. (2020). The Impostor Syndrome from Luxury Consumption. *Journal of Consumer Research*, 46(6), 1031-1051.

<http://dx.doi.org/10.1093/jcr/ucz044>

Gubern, R. (2002). Máscaras de la ficción (Vol. 25). Anagrama.

ISBN: 978-84-339-6170-9

Hackl, C.; Lueth, D.; di Bartolo, T. (2022). Navigating de Metaverse. A Guide to Limitless Possibilities in a Web 3.0 World. Wiley.

ISBN: 978-1119898993

Harnish, R. J.; Roche, M. J.; Bridges, K. R. (2021). Predicting Compulsive buying from Pathological Personality Traits, Stressors, and Purchasing Behavior. *Personality and Individual Differences*, 177, 110821.

<https://doi.org/10.1016/j.paid.2021.110821>

Hoffman, D. L.; Novak, T. P. (1996). Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations. *Journal of Marketing*, 60, 50-68.

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.197.3580&rep=rep1&type=pdf>

Holbrook, M. B.; Hirschman, E. C. (1982). The Experiential Aspects of Consumption: Consumer Fantasies, Feelings, and Fun. *Journal of Consumer Research*, 9(2), 132-140.

<https://www.jstor.org/stable/2489122>

Hosany, S.; Witham, M. (2010). Dimensions of Cruisers' Experiences, Satisfaction, and Intention to Recommend. *Journal of Travel Research*, 49(3), 351-364.

<https://doi.org/10.1177/0047287509346859>

Hummel, M.; Kooten, K. V. (2019). Leveraging NVIDIA Omniverse for In Situ Visualization. In International Conference on High Performance Computing. 634-642. Springer.

http://dx.doi.org/10.1007/978-3-030-34356-9_48

Huotari, K.; Hamari, J. (2012). Defining Gamification: a Service Marketing Perspective. In Proceeding of the 16th International Academic Mind-Trek Conference. 17-22.

<http://dx.doi.org/10.1145/2393132.2393137>

iabSpain (2023). Top Tendencias Digitales 2023.

<https://iabspain.es/estudio/top-tendencias-digitales-2023/>

IEBS School. Examples of Companies and Brands that have Already Embraced the Metaverse.

<https://www.iebschool.com/blog/>

IPMARK (2022a). Metaverso y realidad virtual. El futuro del marketing digital.

<https://ipmark.com/metaverso-y-realidad-virtual-el-futuro-del-marketing-digital/>

IPMARK (2022b). Gucci avanza en el metaverso. Compra un terreno virtual en The Sandbox.

<https://ipmark.com/gucci-compra-terreno-virtual-en-the-sandbox/>

Jiménez-Zarco, A. I.; Pacheco-Bernal, C. (2022). 25 años (r)evolucionando el análisis del mercado y diseñando propuestas de valor. *Oikonomics*, 17.

<https://oikonomics.uoc.edu/divulgacio/oikonomics/es/numero17/dossier/aijimenez.html>

Kang, J.; Ye, D.; Nie, J.; Xiao, J.; Deng, X.; Wang, S.; Xiong, Z.; Yu, R.; Niyato, D. (2022). Blockchain-Based Federated Learning for Industrial Metaverses: Incentive Scheme with Optimal Aoi. In 2022 IEEE International Conference on Blockchain (Blockchain). 71-78. IEEE.

<https://arxiv.org/pdf/2206.07384.pdf>

Khansulivong, C.; Wicha, S.; Temdee, P. (2022). Adaptation of New Technology for Agricultural Online Learning by Metaverse: a Case Study at the College of Agriculture. 2022 Joint International Conference on Digital Arts, Media and Technology with ECTI Northern Section Conference on Electrical, Electronics, Computer and Telecommunications Engineering (ECTI DAMT & NCON), Chiang Rai, Thailand, 2022. 428-432.

<https://ieeexplore.ieee.org/document/9720366>

Kim, J. (2021). Advertising in the Metaverse: Research Agenda. *Journal of Interactive Advertising*, 21(3), 141-144.

<https://doi.org/10.1080/15252019.2021.2001273>

Kotler, P.; Kartajaya, H.; Setiawan, I. (2021). Marketing 5.0: Tecnología para la humanidad. LID Editorial.

ISBN: 9788418709876

LaSexta (2021). ¿Sabes ya qué es el proyecto Meta de Mark Zuckerberg?

https://www.lasexta.com/tecnologia-tecnoplora/internet/sabes-que-proyecto-meta-mark-zuckerberg_202111026181ad7234d4be00019252e3.html#:~:text=Propuesta%20de%20Zuckerberg&text=La%20finalidad%20es%20que%20el,amigos%20caminando%20por%20la%20sala

Lastra, E. (2022). Coca-Cola le da un sorbo al metaverso con una nueva bebida con sabor a píxel. Marketing Directo.

<https://www.marketingdirecto.com/anunciantes-general/anunciantes/coca-cola-sorbo-metaverso-bebida-sabor-pixel>

Lorenzo Romero, C.; Alarcón de Amo, M. C.; Gómez Borja, M. A. (2011). “Adopción de redes sociales virtuales: ampliación del modelo de aceptación tecnológica integrando confianza y riesgo percibido. *Cuadernos de Economía y Dirección de la Empresa*, 14(3), 194-205.

<https://doi.org/10.1016/j.cede.2010.12.003>

Lorenzo, A. (2022). El 'Bernabéu virtual' podría vender millones de abonos. *elEconomista.es*.

<https://www.eleconomista.es/empresas-finanzas/noticias/-11578661/01/22/El-Bernabeu-virtual-podria-vender-millones-de-abonos.html>

Loroz, P. S. (2004). Golden-Age Gambling: Psychological Benefits and Self-Concept Dynamics in Aging Consumers' Consumption Experiences. *Psychology & Marketing*, 21(5), 323-349.

<https://doi.org/10.1002/mar.20008>

Lu, Y.; Smith, S. (2007). Augmented Reality E-Commerce Assistant System: Trying While Shopping. In *International Conference on Human-Computer Interaction*. Berlin, Springer. 643-652.

http://dx.doi.org/10.1007/978-3-540-73107-8_72

Marketing Directo (2022). Promociones y gamificación: eleva la experiencia en retail.

<https://www.marketingdirecto.com/marketing-general/marketing/promociones-gamificacion-eleva-experiencia-retail>

Martínez, J. (2022). Nike se abre camino hacia el metaverso y crea Nikeland. *Fashion United*.

<https://fashionunited.es/noticias/moda/nike-se-abre-camino-hacia-el-metaverso-y-crea-nikeland/2021111937158>

Desmet, P.; Fokkinga, S. (2020). Beyond Maslow's Pyramid: Introducing a Typology of Thirteen Fundamental Needs for Human-Centered Design. *Multimodal Technologies and Interaction*, 4(3), 38.

Meier, L. (2021). ¿Google Earth era un invento alemán y los americanos les robaron la idea?. *ABC Semanal*.

<https://www.abc.es/xlsemanal/a-fondo/google-earth-copia-terravision--axel-schmidt-codigo-millones-serie.html>

Méndez Aparicio, M. D. (2019). Determinantes y consecuencias de la experiencia de cliente y la satisfacción en el ámbito digital: un análisis del uso de áreas privadas. *Doctoral Thesis*. Universidad de Burgos.

Méndez-Aparicio, M. D.; Jiménez-Zarco, A.; Izquierdo-Yusta, A.; Blázquez-Resino, J. J. (2020). Customer Experience and Satisfaction in Private Insurance Web Areas. *Frontiers in Psychology*, 2591.

<https://doi.org/10.3389/fpsyg.2020.581659>

Méndez-Aparicio, M. D.; Martínez-Ruiz, M. P.; Izquierdo-Yusta, A.; Jiménez-Zarco, A. I. (2021). Studying Customer Experience and Retention Using Applied Data Science and Artificial Intelligence. In Chroniya, Valentina. *Handbook of Research on Applied Data Science and Artificial Intelligence in Business and Industry*. IGI Global. 192-222.

<https://dx.doi.org/10.4018/978-1-7998-6985-6>

Mora, A. (2022a). Tipos de metaversos y ejemplos: las marcas que ya aprovechan su potencial publicitario. *Marketing Directo*.

<https://www.marketingdirecto.com/digital-general/digital/metaversos-tipos-ejemplos-acceso>

Mora, A. (2022b). El metaverso, “propiedad” de cualquier persona gracias al QR de esta campaña de Bankinter. *Marketing Directo*.

<https://www.marketingdirecto.com/anunciantes-general/anunciantes/metaverso-propiedad-persona-qr-bankinter>

Mora, A. (2022c). Carrefour entra en Fortnite con un supermercado ecológico para recuperar vida. *Marketing Directo*.

<https://www.marketingdirecto.com/anunciantes-general/anunciantes/carrefour-fortnite-supermercado-ecologico>

Mora, A. (2022d). LEGO y Epic Games se asocian para desarrollar un metaverso para los niños. *Marketing Directo*.

<https://www.marketingdirecto.com/digital-general/digital/lego-epic-games-metaverso-ninos>

Navarro-Remesal, V. (2019). Ser todo, ser nada: La subjetividad en el videojuego más allá del avatar. *Tropelías: Revista de teoría de la literatura y literatura comparada*, 31, 156-173.

<https://dialnet.unirioja.es/servlet/articulo?codigo=6813451>

Nevelsteen, K. J. (2018). Mundo virtual, definido desde una perspectiva tecnológica y aplicado a los videojuegos, la realidad mixta y el Metaverso. *Animación por computadora y mundos virtuales*, 29(1), e1752.

<https://doi.org/10.1002/cav.1752>

Open Sistemas (2022). Gemelo digital: ejemplos reales de uso, conoce todo su potencial.

<https://opensistemas.com/gemelo-digital-ejemplos/>.

Orús, A. (2022a). Valor de mercado global del videojuego 2012-2027. Statista.

<https://es.statista.com/estadisticas/598622/valor-de-mercado-del-videojuego-en-el-mundo/>

Orús, A. (2022b). Audiencia anual de eSports a nivel mundial 2015-2023. Statista.

<https://es.statista.com/estadisticas/711557/audiencia-anual-de-esports-a-nivel-mundial/>

Park, S. M.; Kim, Y. G. (2022). A Metaverse: Taxonomy, Components, Applications, and Open Challenges. *Ieee Access*, 10, 4209-4251.

<https://doi.org/10.1109/ACCESS.2021.3140175>

Pascual, M. G. (2022). Metaverso: el mundo virtual donde Zuckerberg quiere que compres, te diviertas y trabajes. El País.

<https://elpais.com/tecnologia/2021-10-30/metaverso-el-mundo-virtual-donde-zuckerberg-quiere-que-compres-te-diviertas-y-trabajes.html>

Pelegrín-Borondo, J.; Juaneda Ayensa, E.; Olarte-Pascual, C.; Sierra-Murillo, Y. (2016). Diez tipos de expectativas. *Revista Perspectiva Empresarial, [S.L.]*, 3(1), 109-124.

<http://rpe.ceipa.edu.co/index.php/perspectiva-empresarial/article/view/90/40>

Peña de San Antonio, O. (2022). Metaversos, la gran revolución inmersiva. Espacio de Diseño. Anaya.

ISBN: 978-8441545335

Pérez Sarmenti, I. (2021). Adiós Facebook. Hola, Meta: así explicó Mark Zuckerberg el cambio de nombre de su compañía. CNN.

<https://cnnespanol.cnn.com/video/meta-reemplaza-facebook-papers-zuckerberg-perspectivas-buenos-aires/>

Pine, B. J. II; Gilmore, J. H. (1998). Welcome to the Experience Economy. *Harvard Business Review*, 76. 97-105.

<https://hbr.org/1998/07/welcome-to-the-experience-economy>

Pinedo (2022). Mark Zuckerberg quiere que la realidad virtual no se distinga del mundo real, y está dispuesto a todo para conseguirlo. Hipertextual.

<https://hipertextual.com/2022/06/mark-zuckerberg-realidad-virtual-no-se-distinga-del-mundo-real>

Playoffnations (2022). Deusens y Playoffnations se unen para crear un Metaverso 'made in Spain'. Extradigital.

<https://www.extradigital.es/deusens-y-playoffnations-se-unen-para-crear-un-metaverso-made-in-spain-aragon/>

Rauschnabel, P. A.; Babin, B. J.; Tom Dieck, M. C.; Krey, N.; Jung, T. (2022). What Is Augmented Reality Marketing? Its Definition, Complexity, and Future". *Journal of Business Research*, 142, 1140-1150.

<https://doi.org/10.1016/j.jbusres.2021.12.084>

Renbarger, M. (2022). El mundo de la tecnología está en plena efervescencia por el metaverso, y las empresas están buscando los mejores talentos para ayudar a construirlo. Business Insiders.

<https://www.businessinsider.es/metaverso-construccion-eso-significa-oportunidades-empleo-1004381>

Rodríguez Ardura, I. (2008). Marketing. com. Pirámide.

ISBN: 978-84-368-2197

Rogers, Everett M. (2003). Diffusion of Innovations. 5ª edición. The Free Press.

ISBN-10: 0743222091

Schifter, D. E.; Ajzen, I. (1985). Intention, Perceived Control, and Weight Loss: an Application of the Theory of Planned Behavior. *Journal of Personality and Social Psychology*, 49(3), 843-851.

https://www.researchgate.net/publication/19115651_Intention_Perceived_Control_and_Weight_Loss_An_Application_of_the_Theory_of_Planned_Behavior

Schwartz, S.H. (2012). An Overview of the Schwartz Theory of Basic Values. *Online Readings in Psychology and Culture*, 2(1).

<https://doi.org/10.9707/2307-0919.1116>

Song, Z.; Duan, Y.; Jin, W.; Huang, S.; Wang, S.; Peng, X. (2022). Omniverse-OpenDS: Enabling Agile Developments for Complex Driving Scenarios via Reconfigurable Abstractions. In International Conference on Human-Computer Interaction.

<http://dx.doi.org/10.13140/RG.2.2.10394.93124>

Sugiyama, A.o (2021). The Acceptance of Incompleteness: How Wabi-sabi aestheticism allows Japanese society to avoid the Uncanny Valley and integrate robotics into daily life. Università Ca' Foscari Venezia. Tesis.

<http://hdl.handle.net/10579/19654>

Swaid, S. I.; Wigand, R. T. (2012). The Effect of Perceived Site-To-Store Service Quality on Perceived Value and Loyalty Intentions in Multichannel Retailing. *International Journal of Management*, 29(3), 301-313.

https://www.researchgate.net/publication/273143645_The_Effect_of_Perceived_Site-to-Store_Service_Quality_on_Perceived_Value_and_Loyalty_Intentions_in_Multichannel_Retailing

Swilley, E. (2016). Moving Virtual Retail into Reality: Examining Metaverse and Augmented Reality in the Online Shopping Experience. In Looking Forward, Looking Back: Drawing on the Past to Shape the Future of Marketing. Springer. 675-677.

https://doi.org/10.1007/978-3-319-24184-5_163

Tanford, S.; Jung, S. (2017). Festival Attributes and Perceptions: A Meta-analysis of Relationships with Satisfaction and Loyalty. *Tourism Management*, 61, 209-220.

<https://doi.org/10.1016/j.tourman.2017.02.005>

The Money Post (2022). Pedir McDonald's a través del metaverso y que llegue a tu casa será posible.

<https://themoneypost.io/pedir-mcdonalds-a-traves-del-metaverso-y-que-llegue-a-tu-casa-sera-posible/>

Turletti, P. (2018). El ROI de marketing y ventas: Cálculo y utilidad. Nuevo estándar de rendimiento. ESIC Editorial.

ISBN-13: 978-8417129804

Urdea, A. M.; Constantin, C. P.; Purcaru, I. M. (2021). Implementing Experiential Marketing in the Digital Age for a More Sustainable Customer Relationship, *Sustainability*, 13(4), 1865.

<https://doi.org/10.3390/su13041865>

Venkatesh, V.; Davis, F. D. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science*, 46(2), 186-204.

<http://dx.doi.org/10.1287/mnsc.46.2.186.11926>

Wang, Q.; Li, R.; Wang, Q.; Chen, S. (2021). Non-fungible Token (NFT): Overview, Evaluation, Opportunities and Challenges. arXiv preprint arXiv:2105.07447.

<https://www.scribd.com/document/527093366/2105-07447>

Warc (2022). The Marketer's Toolkit 2022. Global Trends Report. WARC.

<https://www.warc.com/content/article/warc-exclusive/the-marketers-toolkit-2022-global-trends-report/140330>

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. 263-266.

<https://doi.org/10.1145/1501750.1501812>

Wunderman Thompson (2021). New Trend Report: Into the Metaverse.

<https://www.wundermanthompson.com/insight/new-trend-report-into-the-metaverse>