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BEYOND REALITY: THE METAVERSE AS A STRATEGIC TOOL FOR BRANDING AND MARKETING INNOVATION

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Master Thesis

presented as partial requirement for obtaining a Master's Degree in Data-Driven Marketing

NOVA Information Management School
Instituto Superior de Estatística e Gestão de Informação
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by
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Master Thesis presented as partial requirement for obtaining the Master's degree in Data-Driven Marketing, with a specialization in Marketing Intelligence

Supervised by
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STATEMENT OF INTEGRITY

I hereby declare having conducted this academic work with integrity. I confirm that I have not used plagiarism, any form of undue use of information or falsification of results along the process leading to its elaboration. I further declare that I have fully acknowledged the Rules of Conduct and Code of Honor from the NOVA Information Management School.

[Lisbon, 2024]

DEDICATION

With profound gratitude, I dedicate this thesis to my lifetime source of strength, unwavering support, and endless love – my family. Their caring guidance and belief in myself have been the foundation that lifted my dreams and goals higher. My parents have always broken every possible wall to guarantee a groundwork of excellent education that soon became the path to unimaginable possibilities in life. Their devotion to build children of character and values have filled me with courage to pursue a journey that have certainly given me many challenges but that could only make me a better person. To my siblings, whose friendship and loyalty have been a source of energy, and joy, I offer my deepest gratitude as well. Together, we're creating a legacy based on loyalty, which brings us unforgettable memories, unimaginable achievements, and unbreakable bonds. May this humble appreciation be a solid reminder that the support from your family equips you not just to overcome the difficult path, but to achieve the extraordinary one.

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ABSTRACT

Metaverse has rapidly emerged in the last years as a transformative arena for companies seeking innovative alternatives to position their brands and engage customers in immersive experiences. As a groundbreaking frontier for marketing efforts to redefine brand positioning and user experience, the metaverse and related technologies that enable virtual and augmented reality transcends traditional digital marketing boundaries, as brands currently aim for creative interactive offerings to improve brand-customer relationship in more dynamic environments. The present study goes even further on the current body of knowledge regarding brand positioning in the metaverse employing a mixed method approach (qualitative and quantitative) combining insights from experts, collected through one-to-one interviews, with a quantitative study tested using structural equation modeling (SEM). By combining in our theoretical model, the influence of social media marketing activities' components, by Bilgin Y. (2018), and the unified theory of acceptance and use of technology (UTAUT), by Venkatesh et. al (2003; 2012), our study presents an innovative approach to the metaverse as a resourceful alternative for marketing teams and practitioners. Businesses are increasingly exploring the potential of the metaverse, discovering novel opportunities to craft memorable brand experiences, foster deeper connections with consumers, and pioneer innovative forms of virtual interaction and online communities.

KEYWORDS

Metaverse; Digital Marketing; UTAUT; Consumer Behavior; Brand Avatar; Branding

Sustainable Development Goals (SDG):



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1. INTRODUCTION

Metaverse and the most recent technology improvements are enabling digital marketing specialists to be more creative when planning and implementing business strategies, as it made space for new touchpoints to connect with their target audience throughout all the customer journey interaction with the company. Nowadays, it is very hard not to consider the digital world when building or improving a new business, developing new products or services, or reaching for the consumers attention, interest, and loyalty the brand needs to stay in the market. As a result of how the internet has become more accessible with time and how far innovation had come, digital marketing specialists and entrepreneurs have now another world to explore: the metaverse and its avatars. Considering the Covid-19 pandemic lockdown period as a recent example of how limited was for people to interact with their closed peers at that time, it was observed how that resulted in the rapid growth of online interactions and the general use of the virtual world as a solution to that, which resulted in a growing interest for the digital alternatives (Dwivedi et al., 2022). For many people throughout 2020 and 2021, online platforms and video games were a great source of social connection (Heather Kelly, 2021). Thus, the metaverse comes as a coherent next step for the present and future generations to go to, and avatars are how the consumers and businesses can be present there. According to Mennecke & Peters (2013), an avatar is a representation figure that can be used by general users and brands for marketing and advertisement purposes, and with that in mind the authors evolve to the concept of mavatars, referring specifically to avatars for marketing purposes. The concept of mavatars in that case serves as a tool for brands to be present in that specific space, interact with their target audience, and have a better understanding of them, understanding factors such as their wants and needs. With that information, brands can develop strategic marketing campaigns supported by information from their own consumer market.

Nowadays, brands rely on advertisement campaigns in platforms such as Google Ads or Facebook Ads. However, according to Mennecke & Peters (2013), customers frequently get tired of and don't engage with online advertisement when they consider it to be irrelevant. For instance, younger generations are used to install advertisement block programs to avoid such approach. Moreover, they believe this happens because are not only overwhelmed by the number of online advertisement but also because consumers are more informed and aware than before, becoming more selective where they place their attention. To capture their attention, brands need to provide personalized, very specific to their profile, contextually relevant message (Marketers Lack Confidence in Complex Digital Marketing Abilities, 2012).

From the business perspective, it is crucial to strategically think about using technology when building a roadmap for future innovations in the customer experience they offer, such as the benefits of the virtual world, that while may be better suited for specific products, can also be useful to any product as brands use the technology as a communication platform (Kohler et al., 2009). However, there is not enough literature approaching new technology acceptance alongside the possibilities for companies to leverage such research to improve brand-

customer relationship and the experiences they ought to offer (Goswami & Chukkali, 2022). With the lack of related literature and guidance, companies have yet to understand the benefits, challenges, risks, and opportunities surrounding new technology, such as the metaverse and related resources.

As groundbreaking research, this study provides insightful analysis and guidance to companies of all sizes and all industries worldwide that may have interest in studying, observing, or implementing the metaverse and related resources such as brand avatars, as a strategy to improve engagement and provide immersive brand experiences to showcase their products and services, as well as to position their brands as creative and innovative. As consumer behavior naturally changes with time and is influenced by new technologies, it is important that companies stay aware of how that influence their consumers' journey to better find, purchase, and recommend their products or services.

The main objective of this study is to provide more value to the current little literature regarding brand positioning in virtual environments, and a guidance to how new technologies are a resourceful alternative for brands to be more creative and innovative when offering experiences related to their products and services. As customers' daily life become more immersed in the digital realm, brands should be a part of that as well and stay up to date on related industry trends. Therefore, this enlightening study provides thoughtful research on which companies may base their marketing and product placement strategies to leverage their place in virtual environments and generate positive results.

Overall, the current literature available on the topic of the metaverse, brand avatars, and brand positioning online are focused on a limited introductory approach that focus on social media platforms. As a different perspective, this study adds value to businesses as it serves as a guidance for what the metaverse means for marketing teams, its challenges, risks, and opportunities when used in such projects, as well as a filter on which factors companies should prioritize when building marketing strategies to leverage new technology, align expectations between technology experts and the mainstream public, and understand the role of social media marketing activities when applying such efforts. Therefore, this strategical perspective represents an original approach to the metaverse that goes beyond video games, and social interaction, as it displays the components that influence consumer behavioral intention towards the metaverse that should be considered in marketing, branding, and product placement efforts by companies.

The paper is structured as follows. The theoretical background and literature review will be presented next, explaining in more detail metaverse and brand avatars concepts, as well as its influence in brand positioning and the theoretical models most used in literature to approach new technology acceptance. After that, the qualitative analysis is presented followed by the theoretical research model and hypotheses to be tested, and the methodology used. The data analysis, its results and implications will be discussed further, as they lead to the conclusion of the study.

2. LITERATURE REVIEW

2.1. THE METAVERSE

Metaverse is a term that was introduced for the first time in 1992 in a literary work written by Neal Stephenson called *Snow Crash*. This novel is about Hiroaki Protagonist, the main character (Stephenson, 1992). The main character chooses to spend most of his time in a three-dimensional world called the metaverse, which, in the novel, is an urban virtual environment where everyone may join as personalized avatars (Kaplan & Haenlein, 2009). The term was presented as a dark planet accessible to users with the use of virtual reality capabilities, and because of that the metaverse is a concept considered ahead of its time when the novel was released (Giang Barrera & Shah, 2023).

As of now, years after the release of *Snow Crash*, the idea is not to fundamentally use the metaverse to replace the internet or the framework of having social media platforms, but to transform it while building an online 3D world that offers a variety of new user experience (Hollensen et al., 2022). According to Tan (2022), a basic principle of the metaverse is to blend the borders between the virtual realm and the physical world, enabling users of the metaverse to perform real-world activities within the virtual environment. It builds upon human-computer interaction and subsequently evolves into an internet network of virtual domains. 5G and furthermore 6G connections enable users to dive deeper into the internet – and that is the structure the metaverse needs to reach its potential as physical and virtual worlds unites. With that in mind, we assume that it will not take place inside one or another locked virtual world but will take place in all the different aspects of the general everyday life, as it positions digital and physical realities as one moving from the traditional dichotomy between what is real or true and what is a false or synthetic experience. Therefore, the metaverse was created, both in *Snow Crash* and in reality, as an interconnected ecosystem, where environments from the virtual and the physical worlds are combined into one common environment that can be experienced at any point of the day synchronously (Golf-Papez et al., 2022).

According to Hollensen et al. (2022), the metaverse combines eight main topics or resources that are considered its “building blocks”, which enables its functionalities to work on its best potential. Those blocks are: (i) hardware, that refers to the physical technologies such as virtual reality (VR) headsets and mobile phones; (ii) networking, which relies on delivering data; (iii) compute, that refers to the computing power to support the functionalities involved in the metaverse; (iv) virtual platforms where users can be at and explore; (v) interchange standards and tools, focused on how the whole thing will operate in order to enable interoperability; (vi) payment methods, such as relying on blockchain and cryptocurrencies, for instance; (vii) content, services and assets, that refers to content creators that could be people or brands; and (viii) consumer and business behaviors within the metaverse and how that affect its next steps. Furthermore, there are several literature materials with the definition of the metaverse, and it is frequently mentioned as the blending of several physical

components, such as hardware, as the metaverse itself demands the use of both physical and virtual components. Thus, the metaverse is often described as an extended reality rather than a purely virtual world (Giang Barrera & Shah, 2023).

Having in mind that the metaverse is an extended reality, it will enable brands to develop a deeper relationship with its consumers, based on how they interact with each other in such environment. When brands use social media platforms today, they look for engagement rates, such as followers, likes, comments and shares metrics. Consequently, the consumer behind the engagement is seen as a number, a metric, rather than a person to connect with. In the metaverse, brands can have more meaningful relationships with its audience, when giving them an immersive experience, that converts into good metrics as a result, and later transform a potential lead into a loyal consumer that will recommend the brand (Hollensen et al., 2022).

How users interact in the metaverse is what defines the metaverse as the phenomenon that is becoming, as people engage and collaborate among each other. A brand with its social presence in extended environments is an important strategy to stimulate consumer interaction and deliver benefits beyond the product or service, positively contributing to brand engagement and advocacy (Giang Barrera & Shah, 2023). Therefore, it is important that brands not only exist or establish their online stores in the metaverse for sales purposes, but also interact with users as one of them, as part of the whole, enabling cocreations of all kinds to be developed, increasing brand-customer relationship based on deeper interactions.

According to Guo et al. (2022), the metaverse has shown great potential to change people's lives in the future, however there are many improvements to be made to reach its full potential, especially regarding the fundamental technologies that are needed to make the promising outcomes happen. Because of that, they propose a new framework to approach how artificial intelligence (AI) can contribute to the metaverse, in areas such as perception, computation, reconstruction, cooperation, and interaction. The perception means how artificial intelligence contribute to capture the realistic characteristics of the real world when building the metaverse, the computation required to manage the great amount of data managed in the metaverse, the reconstruction as in using artificial intelligence to create the virtual world and the content in it, the cooperation referring to how artificial intelligence can help manage the communication between users and connect them beyond their physical borders, and finally how artificial intelligence can assist on managing the unlimited possibilities of interactions.

Artificial intelligence plays an important role for the people and companies that are willing to join the metaverse, and interact with its users in a creative, but also more accurate way, or even as a first step towards this new generation of social interaction. That is because in the metaverse, artificial intelligence technology has the capability of achieving digital twins by automatically recreating the behavior from the real world into the virtual one (Giang Barrera & Shah, 2023), increasing accuracy.

As Rathore (2023) states, artificial intelligence and the metaverse are the most remarkable technologies present in the twenty-first century, and each have the capabilities to change people's lives, work, and relationships, as they can also improve user experience in each

other's specific endeavors. And Tan (2022) adds that there are established companies currently developing their way into the metaverse gaming communities and applications, considering that each metaverse world could have a different approach based on the user persona those corporations are targeting with such strategies.

The timeline presented in Figure 1., created by K. Giang Barrera and D. Shah (2023), displays the key events throughout time which contributed to the evolution of what is known today about the metaverse. In the early 2000s, a short time after the World Wide Web was created, many platforms based on what was known as the concept of the new dimension of the internet at that time, were developed, launched, and largely used, such as Second Life, World of Warcraft, and Roblox, for instance.

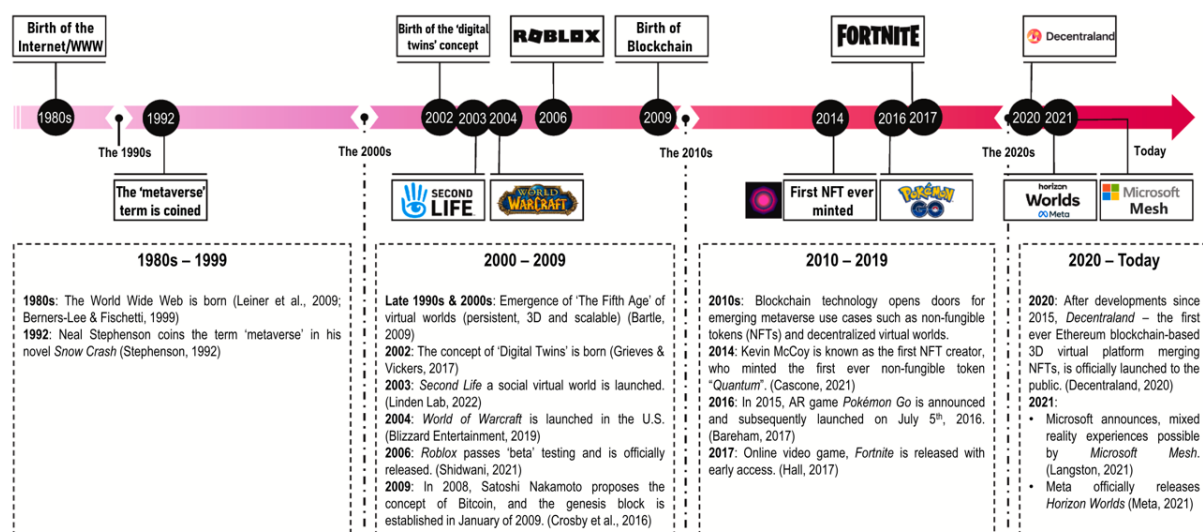


Figure 1 - Metaverse evolution, K. Giang Barrera and D. Shah (2023)

Second Life is a program people could download in their computers, and join the virtual environment as avatars, which they call "residents" inside the platform as it represented the presence of people, as users, in the virtual environment, and a useful tool to interact with other people there (Kaplan & Haenlein, 2009). One interesting trait of *Second Life* is how they would operate monetary transactions when their residents choose to sell their content (Kaplan & Haenlein, 2009). At that time, *Second Life* became interesting for companies, because of the possibility of monetary transactions. However, there are still questions around the monetary value that the metaverse can directly provide to companies, which is a debate to be discussed further on this research.

Considering the concept of the *Second Life* experience back in the early 2000s and comparing this user experience to what people is experiencing today within the metaverse, there are similar traits to look out for. According to Philip Rosedale, the Chief Architect of *Second Life* in the early 2000s, in an interview given to IEEE Organization in 2021, he believes that *Second Life* didn't have its breakthrough because most adults were not ready to communicate using their facial and body language in an adequate manner, which may be changed with the introduction of virtual reality (VR) headsets. Another factor to be acknowledged is the user-

generated content, as users were already capable of doing inside Second Life at that time. All the experience, the buildings, games, and avatars, among other resources available, must be easily created by their own users, not only the platform owners, as people today can be creative inside the internet when they build, for example, their own websites (Gent, 2008). Nowadays, people are used to being creative on the internet, as they would pursue to continue to do so within the metaverse.

From the business point of view, the metaverse has the potential to create entirely new business models, as Meta, one of the largest international corporations in the technology industry that launched online platforms such as Instagram and Facebook, announced in 2021 to rapidly engage in the upcoming digital revolution through their own metaverse, and subsequently going through a rebranding by changing its name from Facebook to Meta (Ritterbusch & Teichmann, 2023). At that moment, in 2021, the metaverse left the scientific field and stepped even closer to a real market, with its consumers and large potential for monetary exchanges. The search for the term “metaverse” escalated quickly after this event and is still an interest for a much broader audience until this day (Ritterbusch & Teichmann, 2023). Finally, according to Rathore (2023), the metaverse have great implications in society, economy and politics, as it can enable or improve collaboration among teams, business expansion, education, provide access to new markets and new sources of revenue, as well as provide a positive upgrade in online security, for communications, data management and financial transactions as cybersecurity is already a great threat to corporates and governments today.

2.2. BRAND AVATARS

The current literature on this topic suggests that the metaverse is a wide world to be discovered by both consumers and brands within the following years. The metaverse is considered a new generation of the internet, where people can create avatars, which are the personification of digital characters based on the person who is using such character as their representation in the virtual environment, to interact with other users and with other applications, creating a much deeper sense of inclusivity, which means the creation of one single large metaverse that represents a powerful space for interaction (Ritterbusch & Teichmann, 2023). As for companies that are willing to invest in this new space of communicating and selling their products and services, they may consider creating an avatar that represent the brand so they can leverage the opportunity to interact with their target audience. That is because the metaverse enables companies to interact with customers directly and more creatively. The tools available for users in the metaverse encourage them to create iteratively and interactively almost anything they put their mind into it, and it gives them the resources to share their creations with other users, which is why it's considered to be a user-generated environment (Kohler et al., 2009).

The definition of avatars in literature is well established as digital entities with anthropomorphic appearance, which refers to how closely it looks like a human being,

controlled by a human or a specific program, and with great interactivity, which refers to their skills of interaction (Miao et al., 2021). Therefore, such virtual figures have the following characteristics: anthropomorphic appearance, interactivity, and a controlling entity. The interactivity variable is what makes the online environment a social community, where people can communicate, collaborate, and interact with each other. An avatar represents an alternative identity for those who create them, which can be the representation of someone's identity, or a manifestation of a whole new character created by them. In marketing, it is called a persona, and that concept is also used in three-dimensional environments. Users in the metaverse can create or change their persona anytime and they are free to realize their deepest desires when feeling what is like to be someone else (Hemp, 2006).

An avatar is described as a visual representation of a person, as a user in an online community, but that representation could be visually anything – a person, an animal, or other elements (Hemp, 2006).

When creating an avatar, users are often motivated to express themselves in the most authentic ways, therefore the data from these creations, activities and interactions means a lot when considering a brand's target audience as it represents their deeper desires and personal feelings, on which their purchase decisions are based. Hence, when advertising, brands always target the consumer's powerful alter ego, which represents the almost heroic part of a normal human being self and their socially acceptable version. And their version based on their deeper desires is the one represented on their avatars in the metaverse. Therefore, when advertising in the metaverse, brands are communicating and interacting directly with their ideal customer when they position the brand in the right place (Hemp, 2006).

From a virtual environment with such collaboration and interactions, companies see the opportunity to innovate on their products, in what is described by Kohler et al. (2009) as avatar-based innovation, or ABI. The author believes that with avatars, there could be the rise of an interactive new product development process, in which companies directly collaborate, or co-create, with people's avatars to generate value for their own activities, as they take the best out of such interactive environment. The goal of that strategy is to develop products and services within a real scenario of use, which increases the possibility of satisfying the needs of the companies' real customers (Kohler et al., 2009). Therefore, is considered to be a process of generating value in the virtual world for the real world. Avatars are being used by advertisement agencies or directly by brands to engage users in the virtual world on different products and services, as well as create online communities with enormous value.

A good example is Miquela Sousa, also known as Lil Miquela on social media platforms, a completely new persona created by Brud, an advertisement startup based in Los Angeles. She is the first hyper realistic virtual influencer to achieve great popularity with 2,7M of followers on Instagram, 3,6M of followers on TikTok and 279,000 subscribers on her YouTube channel at the moment that this study takes place, alongside very human-like achievements, such as participating in real fashion campaigns, and releasing music singles (Hiort, 2022). Lil Miquela is a Brazilian-American avatar influencer, with human physical and personality traits and a

consistent context used as a life story behind. She is not the representation of a company or a brand, but a virtual influencer such as a human influencer it is usually seen on social media nowadays – she publishes content about her fictional personal life, career and regularly interacts with her audience. Therefore, she is customized to be a representation of a human being – with similar experiences and emotions. Considering her current performance numbers on social media, she is considered an avatar with a successful digital influence towards human users, and a good example of how avatars build social influence.

Human digital influencers usually generate the perspective of proximity and accessibility from sharing content about their daily or work routines, lifestyle in general and by constantly interacting with their followers (de Brito Silva et al., 2022) With that in mind, when avatars behave and share similar content that are considered familiar to human beings, it resonates with their audience as much as human content does, and consequently build trust and loyalty in which their relationship is based. For companies, such relationships hold great potential for sales and brand endorsement, as brand avatars have the potential to be more relatable than the brand element alone.

Another example of avatar influencer found on literature is Lu of Magalu, created in 2003 by the Brazilian retailer company called Magazine Luiza, also known as Magalu. She is the avatar influencer with the highest number of followers on different social media platforms in comparison to other avatar influencers (Hiort, 2022), gathering 6,3M of followers on her Instagram account, and 7,2M on TikTok at the moment this study is being developed. In contrast to Lil Miquela, Lu of Magalu is a representation of the brand that created her, not an independent avatar influencer that could represent any other company. Besides her lifestyle content and the constant interaction with her audience, she shares the products from Magazine Luiza company through tips, recommendations, sales, and other formats completely focused on advertising Magazine Luiza. Through her Instagram account, she identifies herself as a 3D virtual influencer, content creator and digital specialist of Magazine Luiza, which is an attempt of humanizing her image instead of being only the personification of the company – which is a good strategy.

The biggest difference between Lil Miquela and Lu of Magalu is that the first is a brand endorser, which means that she can advertise for multiple companies as of how a human digital influencer usually does, and the latter is the representation of the brand itself and her online presence equals the company's online presence (de Brito Silva et al., 2022).

According to research conducted by de Brito Silva et al. (2022), most of the avatar's audience mentioned is female with an age between 18 and 34 years, with a great diversity of nationalities, and the categories endorsed by them are usually related to fashion, beauty, clothing, and accessories industries. Moreover, still according to the same research conducted, Lu of Magalu has higher reach on social media platforms in comparison to Lil Miquela, which represents a brand avatar having highest reach in comparison to an influencer avatar that is not a representation of a specific brand, and Lu of Magalu is also the one with the highest frequency of content creation, which results in a constant interaction with her

audience as well as building a loyal and engaged group of followers willing to see the products she has to display eventually.

To summarize, the literature shows that the concept of brand avatars is unique but allows companies to use them in many creative formats. From the study cases of Lil Miquela and Lu of Magalu, there are avatars related to companies worldwide that are building online communities, endorsing brands, selling products and services, and having a consistent and loyal relationship with potential consumers. It is a positive strategy for companies willing to invest in the idea that technology is as engaging as human beings.

2.3. BRAND STRATEGY

The rise and consolidation of social networks have brought new concepts into our daily lives, as people became users who consume content inside online platforms, and into the labor market as well, with people also becoming content creators and social influencers sharing informative, educational, entertainment and advertised content online. In order to understand the role of the metaverse and especially the role of avatars as part of brand strategies, is crucial to get familiar to such new concepts and how they generally operate nowadays.

Influencers on social media platforms have played a key role in brand strategies because the way they are perceived can have an impact on the audience's persuasion (Sokolova & Kefi, 2020), which represents their influence as they become public figures online. They build their online presence as they share not only authentic consistent content on topics such as lifestyle, career, beauty, fashion, and others, but also their opinions on products and services first through personal blogs and then through social media platforms, such as YouTube, Instagram and TikTok for instance (Shah et al., 2023). Social media influencers have become a strategic player in the decision-making process of consumers towards products and services they choose, and brands have become interested in finding the ways to leverage these digital public and influential figures that are not necessarily celebrities, actors, singers, or athletes (Sokolova & Kefi, 2020).

Most of the time, social media influencers are niched down into a specific topic of expertise that relates to a particular industry, such as fashion or health, and with that they build an image of authority and influence towards general users that see them as knowledgeable and a trustworthy source to consult when driving the consumer journey and finally making a decision on the purchase of a product or service (Ao et al., 2023). Social media influencers, or digital influencers, have become a part of the consumer journey and that is why they've gained credibility and importance for businesses to use their image to influence their audience. This interest has become a new marketing strategy called influencer marketing, which is predicted to surpass USD 370 million globally by 2027 (Statista, 2020), representing a very successful business collaboration so far for both the social media influencers and brands.

Lil Miquela is a good example of how avatars can be public and influential figures on social networks too, even if they are not a real person (Hiort, 2022). The collision between what is

real and what is not amazes her audience as she shares her artificial thoughts on human perspectives, feelings, and opinions and such content makes her relatable to her audience, building a loyal and engaged community that is drawn to the made-up social media influencer (Drenten & Brooks, 2020). Social media influencers are usually a part of brand endorsement strategies, which means that they mediate the communication between a brand and their potential consumers or clients, as to positively represent the brand and influence social media users to engage on the products and services offered by the influencer (de Brito Silva et al., 2022). Lil Miquela has worked with over 60 brands through her public profile on Instagram, where approximately 70% of the content published are advertisement (de Brito Silva et al., 2022), which represents that brands are already willing to have avatars as part of their influencer marketing strategies, even when their work is not necessarily in the metaverse at that moment.

In summary, the literature relating brand strategies to the metaverse focus on the influence avatars are currently building towards real people on social media platforms, that could be the beginning of similar endeavors in the metaverse.

2.4. THEORETICAL MODELS USED IN LITERATURE

Avatar marketing has shown great potential as a brand endorsement strategy tool for companies (de Brito Silva et al., 2022), however most literature sources focus on new technology acceptance, in which there are theoretical models serving as foundations to important studies related to the metaverse and how companies could move forward in the topic. Much research on technology acceptance provides the technology acceptance model (TAM) in order to study the variables influencing users to adopt to new technologies. Originally conceived by Fred Davis in the 1980s, the model was later improved by Venkatesh and Davis in the 1990s to investigate further the components influencing users to adopt new technologies (F. D. Davis, 1985; Venkatesh & Davis, 2000). The technology acceptance model has shown his effectiveness in a variety of technologies and contexts, as it has been examined in numerous different technological settings, such as websites, mobile apps, social media, and e-commerce platforms, consistently proving to be authentic and reliable (Albayati, 2024).

The technology acceptance model predicts that the acceptance of new technology is based on the main constructs of perceived usefulness, which represents how people perceive the new technology to improve performance and productivity in tasks and activities, and ease of use, which represents how people understand that such technology is easy to use (F. D., Davis et al., 1989). However, such main constructs are influenced by external factors, that could be social influence, demographic statistics, and culture and therefore perceived usefulness and ease to use will determine the people's attitude towards the use of the new technology and then express a degree of behavioral intention (Venkatesh & Davis, 2000).

It is possible to see the influence of the technology acceptance model on the unified theory of acceptance and use of technology (UTAUT) developed by Venkatesh et al. (2012), which is another theoretical model widely used to understand people's acceptance and use of new

technology, as the theoretical model was created to predict the behavioral intention of users (Venkatesh et al., 2012).

According to Venkatesh et al., (2012), the unified theory of acceptance and use of technology (UTAUT) offers a new perspective in which the behavioral intention of users to accept and use new technology is influenced by the variables of performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, and habit, alongside variables of demographic statistics, such as age, gender and experience, that can moderate specific connections between variables of the model. For example, the variable of age can affect the connection between facilitating conditions and behavioral intention. It's important to state that the variables of hedonic motivation, price value and habit were added to expand the original UTAUT model, whereas the variables age, gender and experience proves to play an important role when connecting these variables to behavioral intention (Yang et al., 2022).

Furthermore, the theoretical model by Bilgin Y. (2018) on the influence of social media marketing activities' components is an important research model to understand the bridge between social media platforms and new technology such as the metaverse. As companies are currently leveraging social media platforms through strategies such as influencer marketing as previously mentioned, it's important for this study to consider the current impact of social media constructs on the acceptance and use of a new technology like the metaverse.

The theoretical model on social media marketing activities dives deeper into the impact of brand elements of brand awareness, brand loyalty and brand image as well as its connection to a brand's activities on social networks (Bilgin Y., 2018). Overall, literature around the consideration of technology in brand strategies is mostly focused on social networks and how brands perceive its possibilities to build an online community and increase sales. Therefore, it's important to understand the components that make such activities important for a brand and its marketing strategies.

3. QUALITATIVE ANALYSIS

Before designing the theoretical model that supported our study, qualitative research was conducted with one-to-one interviews with two industry experts in the matter and one academic with several metaverse publications related, trying to identify the most important factors that may influence the use of metaverse and brand avatars, as well as to align expectations around consumer behavior, opportunities, and risks for businesses. All the answers were taken in consideration when identifying the best model to support our study, as presented as follows.

Each expert had to respond to six open questions, as presented in Appendix A.

The first expert works in a Portuguese bank, as Executive Director, and it is responsible to provide an immersive experience for their clients, through virtual reality (VR) headsets. It provides a virtual environment where they offer banking services and is also used to directly contact their clients. Is a three-dimensional space for business and content, and their clients can join using headsets. Moreover, the virtual space offers social interaction, with their mini golf field. It is presented by the company as their first step inside the metaverse.

With that in mind, the expert #1 makes it clear that their strategy behind virtual reality (VR) is a test and is completely focused on customer experience and brand communication, as they use the technology around the metaverse to provide an immersive alternative to communicate directly with them, especially because, according to expert #1, there is not enough evidence of the impact of the metaverse from the way companies are using it today that could justify bigger investments.

The experience of companies and academics inside the metaverse goes as far as its literature review: it is limited, full of assumptions, but captivating. Therefore, it is extremely important to gather the experience of those that are willing to be a part of technological innovations.

There were two main objectives with the interviews: (i) understand how the industry players are considering the possibilities and initiatives towards the metaverse today, and (ii) discover the variables considered by them, as experts, when studying the opportunities and challenges of the metaverse and the factors within, which are important variables to be considered in a theoretical model.

Considering that the metaverse demands the use of hardware, such as headsets for instance, it is strategical to gather the opinion of the ones that are closer to experience it nowadays: companies, technology startups and universities.

All three volunteers to the interview showed great optimism towards the metaverse for the future. When the Second Life platform launched, the world was in a very different reality from today. When the concept was popularized in the 1990s, both people and companies were unaware of the variety of its possibilities. The experts interviewed agreed that nowadays, with the urge for virtual social interaction, which began with social media platforms, and the increasing popularity of artificial intelligence, the ground is more fertile for the metaverse to grow and thrive – which is where their optimism relies on.

3.1. EXPERT RESPONSES

As previously mentioned, one-to-one interviews were conducted, in which the three experts discussed the benefits, concerns, challenges, expectations, and the consumer market surrounding the metaverse today.

The first topic was about the benefits of companies using the metaverse as part of their branding and marketing strategies. Expert #1 shares how their company's virtual reality (VR) headsets establish their first initiative towards the metaverse, as a communication channel for the Portuguese company he works as Executive Director.

The metaverse as known today is a great resource of communication, and it's added to the consumer journey as a touchpoint between the brand and the people. Expert #1 argues that, for companies, working in the metaverse also carries the benefit of educational experience, in which they can learn about its possibilities and limitations, as well as innovate or renovate their current technological resources, especially for product development. Expert #1 believes that companies should be where their consumers are, and if the place doesn't offer enough results already, then is a place for companies to learn.

A variable that connects the perspective from expert #1 to expert #2, who is a specialist in the academic environment, is brand awareness. Brand awareness, according to expert #2, is one of the greatest benefits of the metaverse today. Being in an environment with a large number of users such as the digital one, increases brand visibility. This exposure increases the chances of more people recognizing, purchasing, and spreading the word. Moreover, when thinking about the metaverse specifically, it is crucial to think about customer experience, as the three-dimensional environment poses great benefit of delivering an immersive one, with augmented reality (AR) and virtual reality (VR) resources.

To give consumers the opportunity to visit a company's virtual store, for example, and have an interactive experience with their team and products, will only fascinate them and give them the feeling of belonging to a community. It is a brand strategy that positions the customer in the center of the whole operation, which adds value to both sides, as well stated by expert #2. Additionally, immersive experiences avoid parallel distractions, which consequently helps the customer retain information better.

Expert #2 brings up the importance of personalization, because personalized experiences promote customer loyalty. In the metaverse, customer loyalty can be even greater as companies are innovating when creatively showcasing their products, interacting with their own employees, and promoting virtual events.

Expert #3 is a Cloud Sales Practice Lead in a technology company who believes that, as a relatively early adopter, companies willing to join the metaverse have better chance in getting the brand awareness they are looking for in the virtual environment, and even position their branding towards innovation, dynamism, modernity, and youth which is a great advantage a company has over their competitors. A presence in the metaverse as an extension of its presence in the physical world, he argues, can provide a company with great opportunities for interaction, experience, and transactional operations.

The second topic discussed with the experts was risk.

Expert #1 says that a great challenge for companies joining the metaverse is that the platform is not for everyone. Although it can be an inclusive space for people, it doesn't include older generations, that are not interested, or not educated enough to work with hardware and virtual mechanisms. That is why all marketing strategies must have a target-persona well established, so that they understand its outcomes. Additionally, challenges that must be considered by companies, especially the ones operating in the economic industry, include security and privacy matters.

On the other hand, expert #2 considers brand reputation to be a challenge. In the case of pre-existing companies, brand communication should be as similar as possible to the essence of the brand used for marketing strategies outside the metaverse, otherwise the consumer will find it strange to not have the coherence and consistency it needs on both virtual and physical environments. When lacking this consistency, brands may suffer misinterpretation, resulting in a negative reputation. In the case of a brand that was created specifically for the Metaverse, its management should be appropriate and aligned with what currently happens for brands in the physical world, so the consumer easily identifies, understands, and embrace it with ease.

A great risk pointed out by expert #2 is intellectual property, which means the unauthorized use of a brand's identity. Companies nowadays already suffer cyberattacks, and in the metaverse, companies rely on technology to safeguard their identity and products. There should be a concern about copyright infringement if the intellectual property of the brand is not properly protected. Furthermore, because of this problem in question, there could be a loss of control over brand management, which can lead to its demise.

Considering that the metaverse is improving with time, expert #3 believes that companies still don't have enough knowledge to create, plan, develop, implement, and manage technical resources. Therefore, there must be a great focus in hiring the appropriate people for the job of taking care of the brand's positioning and communication in the metaverse, and who are able to put the management team's ideas into practice.

The next topic of conversation was the acceptance by the consumer market. The hardware required to join and enjoy the metaverse and its functionalities is already a part of the gaming industry for years (Hemp, 2006). However, when thinking about its use in business models, expert #1 states that it was always concentrated in the startup environment, and the great transition today is that it's being considered by bigger companies, which are the ones willing to make bigger investments that reach a broader audience. Moreover, expert #1 believes that the industry with the highest chance of being successful in the metaverse is the fashion industry, whereas the food industry will be the one to take more time to adapt its marketing strategies to the metaverse, considering the usage of its products and the fact that avatars doesn't have the need to consume food and beverage like human beings.

From the perspective of the mainstream user and not companies, expert #2 advocates that consumers in general will adapt fast, especially the younger generations that are already familiar with virtual environments. Today, internet is more integrated into people's daily routines, thus it has become easier to accept new technologies in comparison to a few years

ago, when the computer came out. Regarding the older generation, expert #2 says that is the current age of Second Life users. People between 30 and 50 years old today may have seen something similar to the metaverse before, with Second Life, and joined. The only consumer market that may not be willing to join the metaverse is the those with +65 years of age, especially the ones that has retired.

Overall, the three experts interviewed alert that the consumer market in general is curious towards emerging technologies and social platforms, especially regarding the virtual structure, which will enable how far the experience goes for both consumers and companies. According to expert #2, the metaverse mostly turns the spotlight to the users, through their own content being a part of it as much as brand's creations. The interesting shift the metaverse brings is how consumers and companies will interact in a productive way for both parts involved, and it is up to marketing departments to strategize how that relationship will be built and nurtured.

Regarding the variables that companies must consider towards the use of the metaverse and related technologies, expert #1 argues that the limitations of emerging technologies and its possibilities are a great part of that list, alongside brand strategy. If a company doesn't have a strategy to which their presence in the metaverse is based on, they may be disappointed by it, because the metaverse should not be the destination, but a path to accomplish a bigger goal or answer an important question about how customers pursue their brand. For example, there is not enough transactional operations within the metaverse that justifies its use to increase sales directly, but it's a great strategy for product placement that will impact sales.

For expert #2, the variables companies must consider when joining the metaverse, are the following:

- Robust technical infrastructure: companies must have the necessary hardware and software to provide a complete user experience, and ensure the user's data privacy and protection, as well as their own.
- Effective and engaging communication: brands should create content that resonates with their target audience, in a consistent and coherent matter.
- Creativity: the more innovative and creative the experience they provide in the metaverse, more likely to be memorable and shareable. Creativity must be a priority for content, communication, virtual events, and immersive user experience.
- Partnerships: similar to the physical world, partnerships and collaborations can be advantageous for success. Strategic partnerships can trigger opportunities and growth for both parts involved.
- User feedback: as mentioned before, consumers have the spotlight in the metaverse, therefore brands must keep their interest in user's opinions, collect

their feedback, and allow them to express themselves. Such variable is crucial to improve brand-consumer relationship and build brand loyalty.

Finally, the last topic discussed with the experts was the expectations towards the metaverse and its possibilities. Expert #2 states that consumers may expect more personalized experiences, which are immersive and focused on individual needs.

Expert #3 predicts that there will be a significant adherence by consumers, considering the mature phase the metaverse technology will gain. Consumers may expect a closer and deeper relationship with their favorite brands, as companies will be interacting, showing off more of their brand personality and positioning with great creativity, and being a part of consumer's own identity in the metaverse through immersive interactions. Products and services will rise from such interactions. Consequently, financial transactions are expected to be more simple, faster, and effective with time. User experience will be improved by the opportunities for users to experience new or even unique products, and new concepts that may transit to the physical world. Because of such investments, companies expect to have access to more data from users, that will be used to develop personalized products and services. Moreover, products that already exists may face new opportunities of exposure or reinvention.

The interview with the experts shows that companies are all working their strategies into a digital environment that expands daily, through social media platforms, applications, social media platforms, artificial intelligence and the metaverse. Hence, the metaverse is a part of a phenomenon that is already happening: the presence of companies in social virtual spaces.

4. THEORETICAL FRAMEWORK

4.1. RESEARCH MODEL AND HYPOTHESIS

The theoretical model proposed on this research is an innovative combination of two models that are connected by the behavioral intention of consumers towards a brand. Both models are often approached in literature separately. However, it is important for this study to gather variables that represent the current context of social media platforms and the connection to brand elements such as brand awareness, brand image and brand loyalty, which is represented in the proposed model for studying social media marketing activities by Bilgin Y. (2018), as well as the variables compatible to how the consumer market should accept and use new technologies that may be used by brands, from the unified theory of acceptance and use of technology (UTAUT) by Venkatesh et al. (2003).

Approaching marketing strategies and social media more closely, Bilgin Y. (2018) is placed on the present study due to its evaluation regarding the impact of social media marketing activities on brand awareness, brand loyalty, and brand image. However, the variable of brand image was not included in this study's model due to the overlap with other variables. Brand image can be captured through the outcome from the brand awareness variable, therefore including it separately should lead to redundancy in this specific analysis.

Venkatesh et al. (2012) introduced the unified theory of acceptance and use of technology (UTAUT) regarding user acceptance of new technology. Because of that, it represents a significant model for analyzing how the consumer's market receives new technology such as the metaverse. The UTAUT model propose variables of performance expectancy, effort expectancy, social influence, and facilitating conditions, representing their impact on behavioral intention. The components from the UTAUT2 model, hedonic motivation, price value, and habit were not included due to the complex timeline in which the metaverse is currently perceived, considering that as a relevantly new technology, its price tend to be at its highest at the same time as it has yet to become a habit with time.

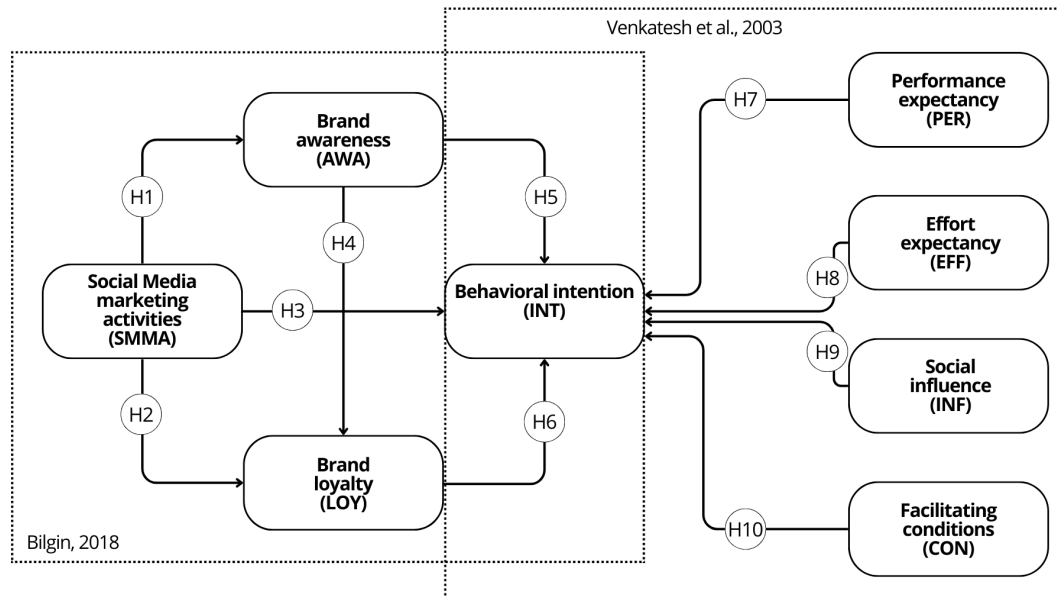


Figure 2 - Theoretical model combining the models from Bilgin Y. (2018) and Venkatesh et al. (2003)

According to Bilgin Y. (2018), for social media to have a significant role in the marketing efforts of a brand, the brand should apply marketing activities in the entertainment, interaction, trendiness, advertisement, and customization categories specifically. Social media serves an important purpose in shaping consumer trust and purchase intentions, as well as it enables the exchange of knowledge and experiences among users (Lu & Hsiao, 2010). As brands use social media platforms to expand their audience reach through regularly sharing its content, its activities online have a positive impact on brand awareness, as well as in brand loyalty when being consistent, therefore we hypothesize:

H1. Social media marketing activities affect brand awareness.

H2. Social media marketing activities affect brand loyalty.

H3. Social media marketing activities affect behavioral intention of consumer market towards products and services.

Consumers are more keen to purchase from a brand that they are already familiar with (Bushell, 2022), and considering that brand awareness in this model is perceived as the reflection of a brand's elements such as name, sign, symbol, and slogan, which differentiates a brand from the others, and customer loyalty is the commitment to repurchase its products and services on a regular basis (Bilgin Y., 2018), brand awareness is the step that leads to Brand Loyalty, as a customer is not expected to commit to a brand they don't acknowledge. Therefore, we hypothesize:

H4. Brand awareness affect brand loyalty.

It is expected that consumers choose the brand they have information on (Bilgin Y., 2018), instead of brands they have no to little information. Marketing efforts towards brand awareness positions the brand where its customers are. Therefore, it is crucial for brands to provide strategic information about its products and services when providing innovative ways to build or strengthen brand-consumer relationships (Giang Barrera & Shah, 2023). Therefore, we hypothesize:

H5. Brand awareness affect behavioral intention.

There are many concepts on brand loyalty, from being a positive emotion as a response to brand initiatives to repurchase (Alanazi, 2023). Besides the commitment to repurchase a brand's products and services, Brand Loyalty also consists of sharing about the brand, recommending to potential customers, and encouraging purchase (Bilgin Y., 2018). Therefore, it has significant impact on behavioral intention. Therefore, we hypothesize:

H6. Brand loyalty affect behavioral intention.

Performance expectancy refers to the extent to which consumers will receive benefits from using a technology to carry out specific activities (Brown & Venkatesh, 2005). Thus, the benefits provided when using a specific technology, represented by the variable Performance Expectancy, has been proven to be the most robust predictor of behavioral intention consistently (Venkatesh et al., 2003), applying significantly in the case of the metaverse for its users. Therefore, we hypothesize:

H7. Performance expectancy will positively affect the behavioral intention to use the metaverse.

Effort expectancy is the level of perceived ease when consumers engage with the use of technologies (Venkatesh et al., 2012). In the context of the metaverse usage, consumers' behavioral intention to engage with such technology will be affected by how easy or difficult it is to use it, and currently the intention to use can be even more important than the use itself (Goswami & Chukkali, 2022). Therefore, we hypothesize:

H8. Effort expectancy related to the brand's experience in the metaverse affect behavioral intention of potential consumers.

Social influence refers to the degree to which consumers recognize that influential people in their life, such as family and friends for instance, endorse their use of a specific technology (Venkatesh et al., 2012). Therefore, the opinion of the important people in a potential customer's life affects their choice on using the metaverse, especially considering the

emotional attachment between such relations which is an important factor of social influence (Zhang & Choi, 2022). Therefore, we hypothesize:

H9. Social influence related to the metaverse's use affect behavioral intention of consumers to adapt and join a brand's experience with the new technology.

Facilitating conditions indicates the consumer's understanding on the supplies and assistance available to conduct themselves when using the new technology (Venkatesh et al., 2012). In the present case, such understanding will affect how the consumers adapt and join the experience a brand is offering within the metaverse, considering that marketing teams are recommended to use advanced technologies to leverage the potential of opportunities emerging from the metaverse and artificial intelligence (Rathore, 2023). Therefore, we hypothesize:

H10. Facilitating conditions related to the metaverse's use affect behavioral intention of consumers to adapt and join a brand's experience with the new technology.

5. DATA COLLECTION AND METHODOLOGY

The present research, centered on the impact of the metaverse on future marketing strategies and brand positioning, is a comprehensive exploration of this emerging digital landscape. This study, with a particular focus on essential elements such as brand avatars, relies on a mixed approach that encompasses both qualitative and quantitative research methodologies.

The first step was the qualitative research, through in-depth interviews conducted with three specialists holding strong expertise and interest in the metaverse and related resources. Their valuable insights included how they perceive the relevance of the metaverse for future work, what expectations they hold, both from a corporate and general user perspective, and their recommendations for future investments in the metaverse as an opportunity for businesses.

The data collection for the quantitative research was the second step. A questionnaire in English, based on the research model, was conducted targeting the population that: (i) is a user of digital platforms such as social media, (ii) consume any type of technology in their personal and/or work routine, and (iii) have any level of awareness regarding the metaverse. The continuous use of the metaverse was not a mandatory factor. The survey was hosted by Qualtrics online platform and the questions were separated in accordance with the following variables: entertainment (ENT), interaction (ITE), trendiness (TRE), advertisement (ADV), brand awareness (AWA), brand loyalty (LOY), performance (PER), effort (EFF), influence (INF), conditions (CON), intention (INT), general information on the theme (CQ1) and the institution (CQ2), and demographic characteristics of gender, age and occupation. The items and scales from the social media marketing activities variables were adapted from Bilgin Y. (2018), and the UTAUT from Venkatesh et al. (2012). Each item was measured with a seven-point Likert scale from “strongly disagree” (1) to “strongly agree” (7) (Appendix B).

The responses were initially gathered from August 2023 via direct messages on LinkedIn, alongside with publication in general feed of 58 metaverse technology-related LinkedIn private groups. Additionally, a total of 955 email invitations were sent in October 2023. In the end, a received a total of 91 valid responses; a number that is considered sufficient to study our subject, according to a statistic power of 80%, a significant level of 5%, and a minimum expected coefficient of determination of 25% (Cohen, 1992).

Detailed descriptive statistics on the demographic characteristic of the online survey’s respondents are shown in Table 1.

Table 1 - Descriptive statistics of respondents' characteristics

Measure	Value	Frequency	%
Gender	Male	47	51.65
	Female	43	47.25
	I prefer not to say	1	1.10

Measure	Value	Frequency	%
Age	18-24	14	15.38
	25-34	42	46.15
	35-44	14	15.38
	45-54	13	14.29
	55+	7	7.69
	I prefer not to say	1	1.10
Occupation	Unemployed	4	4.40
	Student	6	6.59
	Student worker	13	14.29
	Self employed	20	21.98
	Employee	42	46.15
	Retired	2	2.20
	I prefer not to say	4	4.40

6. DATA ANALYSIS AND RESULTS

The statistical analysis of the data collected from the theoretical model was conducted using structural equation modelling (SEM), which is a broad concept largely used to describe a great number of statistical models utilized in assessing the validity of theories with empirical data, more specifically using the partial least square (PLS) with Smart PLS 4 software (Ringle, 2022). The analysis was conducted in two steps: the measurement model and the structural model (Anderson, 1988).

6.1. MEASUREMENT MODEL

The measurement model analysis was conducted with the objective of evaluating the dependability and accuracy of the measures. Next step forward was the structural model which was assessed with the objective of evaluating the structural connections within the model.

Table 2 shows the outer loadings greater than 0.7, suggesting the items' reliability, and Table 3 shows the composite reliability (CR) and Cronbach's alpha values also above 0.7 which indicated internal consistency (Hair, 2017). The convergence validity was tested with the average variance extracted (AVE), having all constructs a value greater than 0.5 (Fornell, 1981).

Table 2 - Outer loadings

	Outer loadings
ADV2 <- SMMA	0,806
ADV3 <- SMMA	0,795
AWA1 <- AWA	0,935
AWA2 <- AWA	0,95
AWA3 <- AWA	0,932
CON1 <- CON	0,841
CON2 <- CON	0,855
CON3 <- CON	0,857
CON4 <- CON	0,75
EFF1 <- EFF	0,863
EFF2 <- EFF	0,926
EFF3 <- EFF	0,945
EFF4 <- EFF	0,879
ENT1 <- SMMA	0,836

	Outer loadings
ENT2 <- SMMA	0,82
ENT3 <- SMMA	0,848
INF2 <- INF	0,972
INF3 <- INF	0,97
INT3 <- INT	1
ITE1 <- SMMA	0,791
LOY1 <- LOY	0,809
LOY2 <- LOY	0,836
LOY3 <- LOY	0,923
PER1 <- PER	0,909
PER3 <- PER	0,934
PER4 <- PER	0,896

Note: ADV: Advertisement; SMMA: Social Media Marketing Activities; AWA: Brand Awareness; CON: Facilitating Conditions; EFF: Effort Expectancy; ENT: Entertaining; INF: Social Influence; INT: Behavioral Intention; LOY: Brand Loyalty; PER: Performance Expectancy.

Table 3 - Internal consistency

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
AWA	0,933	0,934	0,957	0,882
CON	0,846	0,867	0,896	0,684
EFF	0,925	0,94	0,947	0,817
INF	0,939	0,941	0,971	0,943
LOY	0,819	0,834	0,893	0,736
PER	0,9	0,903	0,938	0,834
SMMA	0,9	0,9	0,923	0,666

As the next step, the discriminant validity was measured via (i) cross-loadings, (ii) Fornell-Larcker criterion, and (iii) heterotrait-monotrait ratio of correlations (HTMT). In cross-loadings, the loading of each component should be higher than all cross-loadings, as shared in Table 4 (Götz, 2009). The Fornell-Larcker criterion is displayed in Table 5, in which the square root of the average variance extracted (AVE) should be greater than the correlations between the components (Fornell, 1981). Finally, the heterotrait-monotrait ratio of correlations (HTMT) is below 0.9 as shown in Table 6 (Henseler, 2015).

The results from the measurement model show that the model exhibits strong reliability of components, are consistent internally, and has good convergent validity and discriminant

validity, resulting in components that are statistically distinct and suitable for testing the structural model afterwards.

Table 4 - Components' loadings higher as all cross-loadings

	AWA	CON	EFF	INF	INT	LOY	PER	SMMA
AWA	0,939							
CON	0,538	0,827						
EFF	0,531	0,706	0,904					
INF	0,642	0,513	0,522	0,965				
INT	0,549	0,619	0,592	0,748	1.000			
LOY	0,623	0,427	0,483	0,700	0,654	0,858		
PER	0,601	0,530	0,462	0,721	0,816	0,697	0,916	
SMMA	0,522	0,469	0,419	0,569	0,619	0,641	0,700	0,816

Table 5 - Fornell-Larcker criterion

	AWA	CON	EFF	INF	INT	LOY	PER	SMMA
AWA	0,939							
CON	0,538	0,827						
EFF	0,531	0,706	0,904					
INF	0,646	0,508	0,507	0,971				
INT	0,549	0,619	0,592	0,734	1			
LOY	0,623	0,427	0,483	0,708	0,654	0,858		
PER	0,588	0,511	0,437	0,693	0,793	0,683	0,913	
SMMA	0,522	0,469	0,419	0,563	0,619	0,641	0,689	0,816

Table 6 - HTMT ratio of correlations

	Heterotrait-monotrait ratio (HTMT)
CON <-> AWA	0,602
EFF <-> AWA	0,565
EFF <-> CON	0,804
INF <-> AWA	0,689
INF <-> CON	0,559
INF <-> EFF	0,534
INT <-> AWA	0,567

	Heterotrait-monotrait ratio (HTMT)
INT <-> CON	0,659
INT <-> EFF	0,608
INT <-> INF	0,757
LOY <-> AWA	0,71
LOY <-> CON	0,504
LOY <-> EFF	0,544
LOY <-> INF	0,808
LOY <-> INT	0,721
PER <-> AWA	0,636
PER <-> CON	0,564
PER <-> EFF	0,466
PER <-> INF	0,755
PER <-> INT	0,834
PER <-> LOY	0,792
SMMA <-> AWA	0,566
SMMA <-> CON	0,522
SMMA <-> EFF	0,451
SMMA <-> INF	0,608
SMMA <-> INT	0,647
SMMA <-> LOY	0,741
SMMA <-> PER	0,763

6.2. STRUCTURAL MODEL

The analysis of hypothesis and the connections between the components were based on paths that would follow a pattern. The significance levels of these paths were determined through consistent bootstrapping resampling method.

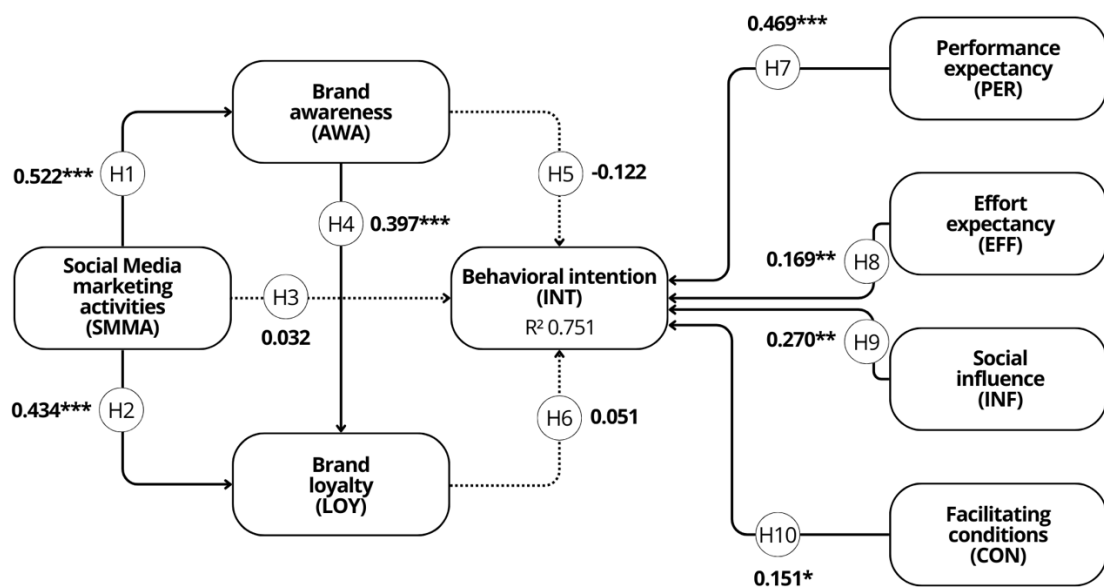
Table 7 shows the components of collinearity statistics (VIF) of quality criteria, which should be below 5 to avoid collinearity (Hair, 2017). Due to this fact, the items INF1 and PER2 were removed.

Table 7 - The component of collinearity statistics (VIF)

	VIF			VIF
ADV2	2,131		ENT1	2,625
ADV3	1,996		ENT2	2,553

	VIF			VIF
AWA1	3,904		ENT3	2,682
AWA2	4,621		INF2	4,643
AWA3	3,532		INF3	4,643
CON1	2,222		INT3	1
CON2	2,403		ITE1	1,958
CON3	1,871		LOY1	1,64
CON4	1,588		LOY2	2,076
EFF1	2,833		LOY3	2,687
EFF2	3,67		PER1	2,675
EFF3	4,977		PER3	3,573
EFF4	2,927		PER4	2,671

The statistical significance of each component from the theoretical model shows that although the connections between social media marketing activities, brand awareness and brand loyalty are valid, it doesn't support a significant connection between those components and behavioral intention to use new technology. Whereas what indicates the behavioral intention of consumers to have interest, use and adapt to new technology are the components of performance of the technology, the effort put into the usage, the social influence from friends and family, and the facilitating conditions regarding the metaverse and its technological resources to provide immersive experiences from brands, as observed in Figure 3.



Note: (***) $p < 0,01$; (**) $p < 0,05$; (*) $p < 0,1$

Figure 3 - Structural model results.

The model validated seven connections out of ten, related to the hypothesis. It verified four connections of behavioral intention (INT), respectively with performance expectancy (PER), effort expectancy (EFF), social influence (INF), and facilitating conditions (CON). On the other hand, it disproved three connections of behavioral intention with social media marketing activities (SMMA), brand awareness (AWA), and brand loyalty (LOY).

Table 8 displays the connections between the variable, supporting the hypothesis. The p-value represents the statistical significance of each component, considering the ones marked in blue as the not being statistically significant.

Table 8 - Statistical significance of hypothesis

	Hypothesis	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Statistically significant?
AWA -> INT	H5	-0.122	-0.125	0.086	1.421	0.155	No
AWA -> LOY	H4	0.397	0.396	0.097	4.088	0.000	Yes
CON -> INT	H10	0.151	0.160	0.077	1.962	0.050	Yes
EFF -> INT	H8	0.169	0.169	0.081	2.100	0.036	Yes
INF -> INT	H9	0.270	0.267	0.110	2.451	0.014	Yes
LOY -> INT	H6	0.051	0.058	0.103	0.494	0.621	No
PER -> INT	H7	0.469	0.462	0.103	4.574	0.000	Yes
SMMA -> AWA	H1	0.522	0.527	0.070	7.443	0.000	Yes
SMMA -> INT	H3	0.032	0.033	0.084	0.385	0.700	No
SMMA -> LOY	H2	0.434	0.437	0.103	4.219	0.000	Yes

7. DISCUSSION

The study was motivated by the need to understand the expectations surrounding metaverse and the factors that may influence the intention to use it, that may contribute to a new level of interaction between companies and consumers, based on the marketing efforts to better position brands to improve customer experience.

The theoretical model represents an innovative approach towards using the metaverse for marketing purposes. It is a resourceful support to communicate two sides of the potential consumers of new complex technology such as the metaverse, which are the corporative side of businesses that are willing to integrate it into its work and offerings, and the general consumer side of people that are either enthusiasts on the matter, interested on what it has to offer, or potential clients of brands that offer an immersive experience with their products and services.

Overall, there is a lack of literature regarding the concept of the metaverse (Goswami & Chukkali, 2022), providing limited insights for companies to understand the opportunities for their brand and offerings.

In order to have a clear comprehension of the role of the metaverse in business efforts, the entire process throughout this study was extremely insightful, considering its timing and shortage of deep knowledge. The models of Bilgin Y. (2018) and Venkatesh et al. (2012) used to build the theoretical model were highly suited to explain the impact of the technology presented in this study on brand-customer relationship.

Social media marketing activities can be a productive tool for brands nowadays, as previously seen on examples with brand avatars, such as Lil Miquela, that became digital influencers and has great impact on purchase intentions. When they share a brand, it increases the brand's awareness among their target-audience, because social media efforts such as this one can increase knowledge and customer experience among users towards that brand, and such activity being consistent would also influence repurchasing (Lu & Hsiao, 2010). With that in mind, the component of social media marketing activities affects brand awareness and brand loyalty as it is statistically significant to those components, respectively, as stated on hypothesis 1 of the theoretical model.

Furthermore, considering that the more knowledge a person has of a brand the more inclined they are to purchase again as they recognize it (Bushell, 2022). Hence, brand awareness affects brand loyalty as it is statistically significant to the latter, as shown in hypothesis 4.

However, despite the fact that the more information about a brand the better and the many concepts brand loyalty may represent (Alanazi, 2023), the theoretical model of this study shows that such efforts are currently not enough to influence consumer behavior, as the connection between social media marketing activities, brand awareness, and brand loyalty is not statistically significant. Many literature materials pointed out the concerning fact of lack of knowledge, which was also observed throughout this study's survey experience, that may be the reason why behavioral intention, in this model, is only affected by the components related to user experience – not brand knowledge and purchase history, necessarily – which

are performance expectancy, effort expectancy, social influence of friends and family, and facilitating conditions introduced in the UTAUT model (Venkatesh et al., 2012). Thus, hypotheses 3, 5 and 6 did not present statistical relevance to behavioral intention.

The UTAUT model is crucial for this study because the primary precursor indicator of individual's adoption of technological innovation is their intention (Goswami & Chukkali, 2022).

Performance expectancy is highly correlated to the benefits provided by the new technology when used for a user's tasks (Brown & Venkatesh, 2005). From benefits related to social interaction (Oh et al., 2023) as previously discussed in this study regarding the use of immersive platforms to increase interaction during Covid-19 pandemic lockdown, to changing how companies can improve their marketing endeavors (Hollensen et al., 2022). The theoretical model validates the influence of performance expectancy as its connection to behavioral intention is also statistically significant, as mentioned in literature, verifying hypothesis 7.

Effort expectancy represents the fact that consumers' inclination to interact with such technology will be influenced by the level of usability it offers (Goswami & Chukkali, 2022). And as the theoretical model displays statistical relevance between effort expectancy and behavioral intention, it shares the same critical thinking towards the usage of the metaverse, confirming hypothesis 8.

Social influence is a part of the UTAUT model as a component able to influence behavioral intention as well, considering the role of family and friends when a potential customer is considering adopting new technology (Venkatesh et al., 2012). Emotional attachment is an important characteristic present in such relationships that is considered to play a key role in that decision (Zhang & Choi, 2022), supporting the outcome from the connection between social influence and behavioral intention in the theoretical model, validating hypothesis 9.

Additionally, the component of facilitating conditions refers to the understanding of the supplies and assistance people may access when using the metaverse considering that such resources influence how they will adapt to it (Rathore, 2023). The theoretical model shows that facilitating conditions has a significant role statistically, to influence behavioral intention, as presented in hypothesis 10.

The UTAUT model by Venkatesh et al. (2012) proves to be a significant model to provide resourceful insights on how businesses and marketing teams should expect the consumers to react towards new approaches to product placement and customer experience.

8. IMPLICATIONS FUTURE RESEARCH

8.1. IMPLICATIONS FOR RESEARCH AND PRACTICE

Exploring the implications for future researchers and practitioners on companies positioning their brand within the metaverse, it is imperative to delve into the dynamic interplay between virtual experiences and consumer perceptions. The findings presented in this study hold significant guideline for both researchers and practitioners alike. For researchers, this study provides a new and innovative theoretical model that can support future studies in the subject.

Additional information on the factors that may influence the use of metaverse are also presented, filling a clear gap in current literature, due to the little amount of literacy on the metaverse and brand avatars for marketing efforts that exists today, even considering that it is a relatively new topic in branding strategies and product placement more specifically.

This study provides valuable insights as it combines social media platforms data, which are of great value for brands nowadays, with the use of new technology related to augmented and virtual realities. For practitioners, this study focuses on companies and marketing teams understanding the key factors that will influence how brands should approach this new technology towards its consumer market, which is of great value as a guidance for future ventures, campaigns, and general efforts to improve customer experience digitally. As the research model proposes, companies should focus on improving the experience before using social media platforms to back up its actions within the metaverse because the factors directly related to the user experience, such as performance expectancy, effort expectancy, and facilitating conditions, are the components to determine whether the consumer market will use the metaverse technology, especially when engaging with brands.

As the metaverse is still a new technology to be introduced to the daily routine of the mainstream, considering that is mostly used by companies, technology enthusiasts and immersive platform users within the gaming community today, companies should introduce this technology to its consumers with ease and provide support to answer all of their questions, rather than expecting them to understand new technologies on their own, without assistance and accessible resources. Social influence is an important variable to consider, but it's not the only variable to rely the whole marketing and branding efforts on when expecting consumers to adapt and use new technology.

Thus, further improvements on performance, effort and facilitating conditions should provide great value in user experience to make implementation easy and therefore be worth of recommendation and loyalty from consumers who will influence its social circle as part of this new technology adaptation within a bigger and broader audience.

8.2. LIMITATIONS FOR FUTURE RESEARCH

The UTAUT research model is properly suited for further analysis on the acceptance of upcoming new technologies and how it will be used by targeted consumers (Venkatesh et al., 2012). However, there are many limitations especially concerning the role of social media marketing activities in influencing acceptance, adaptation, and adoption from the consumer market. Considering that social media platforms currently hold considerable influence over how consumers will perceive products and services, it is of great value for further research to focus on strategies that would serve as a foundation and increase its role in coexisting with the metaverse in the day-to-day life of a broader audience that goes beyond technology experts, enthusiasts, and key players of the industry. The difference between the results gathered from the qualitative research through one-on-one interviews with technology experts and the results from the survey made with the mainstream society shows a gap of awareness between the two groups that result in lack of knowledge from the latter that currently influences how they are not as open nor persuaded to using the metaverse as the first group is.

To fill in this gap, there ought to be a greater volume of literature on the subject to address the existing knowledge gap, and companies positioning its brand in the metaverse to offer immersive customer experience, should be aware of how social media platforms carry substantial weight in influencing consumer behavior and use it as it is to share informative, educational, and entertaining content to increase awareness towards the metaverse and its benefits. Many people answered the invitation to respond to the survey expressing not enough confidence or expertise to provide their opinion on the metaverse, hence the number of responses being lower than expected, which was a great limitation for the present research. Suggestions for future studies include (i) how marketing teams should implement social media content strategies to provide appealing materials to increase awareness and interest among the mainstream online users, (ii) how the resources around augmented and virtual reality could play a significant role in day-to-day tasks to justify the purchase of hardware that are currently not as accessible as having a mobile phone, and (iii) how brand avatars' presence on social media platforms could facilitate the implementation of the metaverse in order to offer immersive brand experiences that will serve as great value for the relationship with consumers.

Furthermore, the components of Hedonic Motivation, Price Value, and Habit presented in the original UTAUT model should be considered in future analysis in a more distant timeline of the metaverse development as a new technology to be used by a broader consumer market, when it's more established and accessible.

9. CONCLUSION

The metaverse and related technologies presents considerable potential and a vast of opportunities for both businesses and consumers. But to capitalize on all the outcomes available, companies should leverage brand positioning and how important it is to align branding, marketing, and product activities.

When considering brand avatars and providing immersive customer experience, its performance, effort expectancy, and facilitating conditions proved to be the most statistically significant factors that influence the intention to use. However, the component of social influence proved to be of meaningful worth as well, which refers to the social surrounding of the potential customers as social media platforms hold a crucial position in the social surroundings of consumers especially when targeting younger generations. With that in mind, social media activities are as important, but not statistically significant to predict consumers' behavioral intention towards this new technology. Additionally, small, and medium-sized companies could see this outcome as an opportunity, having in mind that consumers would not be as loyal to bigger companies and their image as they could be when choosing immersive experiences, representing a digital space for smaller brands to showcase their worth.

The metaverse, related technologies of virtual and augmented reality, and brand avatars are currently being effectively used by startups and corporations, especially among the gaming community and among technology enthusiasts, which are gradually advancing to increased levels of acceptance as well as taking advantage of artificial intelligence to reach new successful levels of adaptation and adoption from the consumer market, which is a facilitating condition for upcoming ventures in the immersive digital world. As the results of this study shows, companies contributing for the growth of such technologies should focus on how accessible they are, considering how such technology could perform, and be easy to use by an audience of users who are not necessarily experts.

The objectives of this study were achieved, because through the theoretical model and the results, it was possible to understand the current role of social media activities for the use of the metaverse in brand experiences, and which components should be considered in marketing and product placement strategies by businesses. Ultimately, companies shouldn't fear the fact that is not a mainstream topic spread out by social media content now, because it's not statistically significant, but companies should position their brands in the metaverse considering how accessible it should be to achieve a broader audience, focusing on efforts to make it easier to understand, adapt to, and use, considering the statistically significant factors of performance, effort, facilitating conditions, and social influence.

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APPENDIX A. ONE-TO-ONE INTERVIEW QUESTIONS

	Question
Question 1	When developing an initiative to actively position the brand in the metaverse and virtual reality, what are the possible risks and benefits that a company should consider?
Question 2	Many companies may feel uncertain about consumer uptake regarding an initiative in the metaverse. How do you believe consumer adaptation to the metaverse and virtual reality will be? Is there a consumer market less and more prone to engaging and committing potential customers?
Question 3	What are the critical factors for successfully implementing a company's presence in the metaverse?
Question 4	What can consumers expect in the coming years from companies that are considering or already implementing the metaverse as an alternative for the user experience of their products and services, considering the changes that this technology can bring to the experience?
Question 5	When the metaverse is considered for implementation by a company, what are the expected variables to be directly impacted and to show good performance due to this implementation, considering the current maturity of the technology in the market (e.g.: sales, prospecting potential consumers, engagement on social media, brand positioning in the digital market, etc.)? Will it remain equivalent in the future, or is some evolution expected in this component?
Question 6	In your opinion, what will users value the most when considering using the metaverse?

APPENDIX B. SURVEY

Component	Items	#	Source
Social Media Marketing Activities (SMMA) - Entertainment (ENT)	Social Media accounts of brands that are present or building their presence in the Metaverse are enjoyable	ENT1	Bilgin Y. (2018)
	The content shared on social media by brands present or building their presence in the Metaverse is enjoyable.	ENT2	Bilgin Y. (2018)
	The sharing of brands present or building their presence in the Metaverse on social media are interesting.	ENT3	Bilgin Y. (2018)
Social Media Marketing Activities (SMMA) - Interaction (ITE)	Sharing information is possible on the social media of brands present or building their presence in the Metaverse.	ITE1	Bilgin Y. (2018)
	The discussion and exchange of opinions is possible on the social media of brands present or building their presence in the Metaverse.	ITE2	Bilgin Y. (2018)
	The expression of opinions is easy on the social media of brands present or building their presence in the Metaverse.	ITE3	Bilgin Y. (2018)
Social Media Marketing Activities (SMMA) - Trendiness (TRE)	The information shared on the social media of brands present or building their presence in the Metaverse is up to date.	TRE1	Bilgin Y. (2018)
	The use of social media by brands present or building their presence in the Metaverse is trendy.	TRE2	Bilgin Y. (2018)
Social Media Marketing Activities (SMMA) - Advertisement (ADV)	I like the ads that brands present or building their presence in the Metaverse have published on social media.	ADV1	Bilgin Y. (2018)
	The ads that brands present or building their presence in the Metaverse released on social media are interesting.	ADV2	Bilgin Y. (2018)
	Social media ads of brands present or building their presence in the Metaverse positively affect my attention for the brands.	ADV3	Bilgin Y. (2018)
Brand Awareness (AWA)	I'm aware of brands that are present or building their presence in the Metaverse.	AWA1	Bilgin Y. (2018)
	I'm aware of the characteristics of the brands present or building their presence in the Metaverse.	AWA2	Bilgin Y. (2018)

Component	Items	#	Source
	I can remember the logo of the brands present or building their presence in the Metaverse.	AWA3	Bilgin Y. (2018)
Brand Loyalty (LOY)	I am satisfied with brands that are present or building their presence in the Metaverse.	LOY1	Bilgin Y. (2018)
	I usually use brands present or building their presence in the Metaverse as my first choice in comparison other brands.	LOY2	Bilgin Y. (2018)
	I would recommend brands that are present or building their presence in the Metaverse.	LOY3	Bilgin Y. (2018)
Performance Expectancy (PER)	I find Metaverse useful for my daily life.	PER1	Venkatesh et. al (2003; 2012)
	Using the Metaverse can increase my chances of achieving things that are important to me.	PER2	Venkatesh et. al (2003; 2012)
	Using the Metaverse can help me accomplish things more quickly.	PER3	Venkatesh et. al (2003; 2012)
	Using the Metaverse can increase my productivity.	PER4	Venkatesh et. al (2003; 2012)
Effort Expectancy (EFF)	Learning how to use the Metaverse is easy for me.	EFF1	Venkatesh et. al (2003; 2012)
	My interaction with Metaverse is clear and understandable.	EFF2	Venkatesh et. al (2003; 2012)
	I find Metaverse easy to use.	EFF3	Venkatesh et. al (2003; 2012)
	It is easy for me to become skillful at using the Metaverse.	EFF4	Venkatesh et. al (2003; 2012)
Social Influence (INF)	People who are important to me think that I should use the Metaverse.	INF1	Venkatesh et. al (2003; 2012)
	People who influence my behavior think that I should use the Metaverse.	INF2	Venkatesh et. al (2003; 2012)
	People whose opinion I value prefer that I use the Metaverse.	INF3	Venkatesh et. al (2003; 2012)
Facilitating Conditions (CON)	I have the resources necessary to use the Metaverse.	CON1	Venkatesh et. al (2003; 2012)
	I have the knowledge necessary to use the Metaverse.	CON2	Venkatesh et. al (2003; 2012)
	The Metaverse is compatible with other technologies I use.	CON3	Venkatesh et. al (2003; 2012)
	I can get help from others when I have difficulties using the Metaverse.	CON4	Venkatesh et. al (2003; 2012)
Behavioral Intention (INT)	I intend to continue using the Metaverse in the future.	INT1	Venkatesh et. al (2003; 2012)

Component	Items	#	Source
	I will try to use the Metaverse in my daily life.	INT2	Venkatesh et. al (2003; 2012)
	I plan to continue to use the Metaverse frequently.	INT3	Venkatesh et. al (2003; 2012)

APPENDIX C. ETHICS COMMITTEE



This is to certify that

Project No.: **DDMKT2023-8-214725**

Project Title: ☐ **How to develop a brand positioning strategy for the Metaverse.**

Principal Researcher: **Gonçalo Baptista**

according to the regulations of the Ethics Committee of NOVA IMS and MagIC Research Center this project was considered to meet the requirements of the NOVA IMS Internal Review Board, being considered **APPROVED** on 8/21/2023.

It is the Principal Researcher's responsibility to ensure that all researchers and stakeholders associated with this project are aware of the conditions of approval and which documents have been approved.

The Principal Researcher is required to notify the Ethics Committee, via amendment or progress report, of

- Any significant change to the project and the reason for that change;
- Any unforeseen events or unexpected developments that merit notification;
- The inability of the Principal Researcher to continue in that role or any other change in research personnel involved in the project.

Lisbon, 8/21/2023

NOVA IMS Ethics Committee
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