

Professionals' Acceptance of the Metaverse

Examining the Influence of Perceived Characteristics of Using the Metaverse on Intention to
Use it as a Tool for Marketing Communications

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ABSTRACT

The emergence of the Metaverse as an immersive digital universe, where users can interact with each other and the environment beyond the possibilities of the physical world, provoked sizeable interest. Many recognize the Metaverse as the innovation that will transform the way in which companies across industries conduct their strategic operations and communicate with stakeholders. As such, the features of the Metaverse offer companies the opportunity to reshape their marketing communications practices, engage with the public in novel ways, foster customer engagement, and increase brand loyalty. To successfully adopt the Metaverse in companies' marketing communications strategies and leverage its benefits, there is a need to understand the factors contributing to professionals' acceptance of this innovation. Previous research in the diffusion of innovations and technology acceptance literature recognizes the key role of perceptions in predicting individuals' attitudes and behaviors. Therefore, this thesis investigated the association between the perceived characteristics of using the Metaverse and professionals' Intention to Use it as a tool for marketing communications. The study aimed to answer the research question of whether the Perceived Characteristics of Innovating (PCI), such as Relative Advantage, Compatibility, Ease of Use, Image, Trialability, Visibility, Result Demonstrability, and Voluntariness, explain the behavioral intention to use the innovation. Additionally, factors from the Technology-Organization-Environment (TOE) framework and an individual characteristic were integrated into the research model to explore the implication of Competitive Pressure, company size, and Anxiety. A quantitative online survey was distributed to gather the data and recorded 167 valid responses. The study targeted professionals in marketing communications possessing at least two years of experience and having knowledge about the usage of the Metaverse in marketing communications strategies and practices. The results found that certain PCI constructs are associated with the Intention to Use the Metaverse. More particularly, the hierarchical regression analysis revealed that Relative Advantage and Compatibility are the most significant explanatory factors. Moreover, Ease of Use and Image are equally significant, but the magnitude of the effect sizes is weaker. Additionally, a linear

regression analysis identified Anxiety to be negatively associated with Ease of Use. Further, the study uncovered interesting insights regarding Voluntariness, this being a negative predictor of Intention to Use. No other results reached significance. In spite of the potential impact of the Metaverse on social and professional life, limited research investigated the subject. This thesis contributes to academic research by examining this innovative tool in marketing communications and professionals' acceptance of it. Apart from adding knowledge to the existing literature on the diffusion of innovations and technology acceptance, the findings highlight the necessity of providing professionals with training to help them develop the needed competencies. Specifically, managers should guide employees in understanding the advantages of using the Metaverse compared to other communication channels and the ways it can be integrated into the company's marketing communications strategies and completion of everyday tasks. Additionally, this study provides insights and suggestions for Metaverse technology providers regarding the communication strategy these should adopt.

KEYWORDS: *Metaverse, Marketing Communications, Diffusion of Innovations (DOI), Perceived Characteristics of Innovating (PCI), Innovation.*

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1. Introduction

In today's age of digital transformations, where "advances in digital technologies occur at the speed of light" (Lee & Trimi, 2021, p. 14), organizations are experiencing significant changes in the manner they operate. To maintain a competitive edge, high relevance and to succeed in this fast-moving landscape, companies across industries must innovate their business models and develop dynamic capabilities (Grewal et al., 2020; Rachinger et al., 2018). In light of technological advancements and companies' interest in innovating, the emergence of the Metaverse adds a new horizon of opportunities for marketing communications practices (Barrera & Shah, 2023). Considering the myriad of opportunities the Metaverse opens to companies, many perceive it as a crucial tool for developing a powerful edge over competitors (Buhalis et al., 2023; Gursoy et al., 2022). Nevertheless, to truly understand the advantages of the Metaverse, the mere availability of the innovation is insufficient. Successful adoption of an innovation in companies' practices requires the user to accept and use it (Agarwal & Prasad, 1997). The adoption and diffusion of innovations literature suggest that individuals' perceptions about innovations play a crucial role in adoption or rejection decisions (Davis, 1989; Moore & Benbasat, 1991; Rogers, 2003). Consequently, considering the growing interest in the Metaverse and brands' first steps in exploring the opportunities it can provide, further investigation of the perceived characteristics of using the Metaverse is required. These can provide essential insights in explaining and predicting professionals' acceptance of the Metaverse as a tool for marketing communications.

The term *Metaverse* was introduced by Neil Stephenson in his science fiction novel *Snow Crash* (2003) in the 90s. It is described as an immersive 3D virtual environment where users, embodied by avatars, interact with each other and with information (Stephenson, 2003). However, particular interest has been paid since 2021, when Mark Zuckerberg announced his company's interest in creating the Metaverse (Meta, 2021). The company describes it as a social virtual space that will enable users "share immersive experiences with other people" beyond the possibilities of the physical world and where they can perform various activities, including working, playing, socializing, learning, or working out (Meta, 2021, para. 2). Besides the popularity of the Facebook-centric Metaverse, other technology companies such as Microsoft or Nvidia Corporation equally showcase interest in developing digital worlds (Brown, 2021). Although the Metaverse is often associated with gaming and entertainment,

research emphasizes the transformative potential of the Metaverse in various fields, from politics and health to marketing and communications (Dwivedi et al., 2022).

“We believe the Metaverse will be the successor of the mobile internet” (Meta, 2021, 1:57), stated Mark Zuckerberg to highlight the major significance of the Metaverse. Financial companies are estimating that the value of the Metaverse sector will reach up to \$13 trillion by 2030 (Efstathiou & Knight, 2023). Both academic and mainstream media find the Metaverse to be an innovation capable of transforming the way companies operate and interact with their stakeholders (Abovitz et al., 2022; Buhalis et al., 2023; Lucatch, 2022). Barrera and Shah (2023) reunite the principal changes the Metaverse can generate in marketing communications. As an illustration, companies can extract essential insights about consumers, competitors, and products due to the rich and diverse data the Metaverse environments offer (Barrera & Shah, 2023; Dwivedi et al., 2022). Next, the Metaverse comes with new ways and channels for brand-related content thanks to its *hyperconnected* nature (Barrera & Shah, 2023). Moreover, companies in the Metaverse can create simulated, augmented, and multidimensional experiences, offering their customers new types of “hedonic, utilitarian and social values” (Barrera & Shah, 2023, p. 12).

The integration of information technology (IT) innovations in organizations depends on numerous factors, such as organizational climate, managerial support, or availability of financial resources (Klein & Knight, 2005). Additionally, research claims that individuals’ adoption of information technology (IT) innovations is crucial for successful implementation (Moore & Benbasat, 1991; Rogers, 2003). Thus, understanding individuals’ decisions to accept or reject an innovation is crucial “to better predict, explain, and increase user acceptance” (Davis et al., 1989, p. 982). The *Diffusion of Innovation* (DoI) theory, proposed by Rogers (1962), investigates how innovations are spread and claims that *perceived characteristics of innovation* impact the rate of adoption. The *Technology Acceptance Model* (TAM) (Davis et al., 1989), a widely applied theory in predicting users’ acceptance of information technology systems, also supports that perceived attributes determine adoption. Moore and Benbasat (1991) derived from Roger’s DoI to propose an extended and revised framework called *Perceived Characteristics of Innovating* (PCI). The authors indicate that the perceived characteristics of *using* an innovation, such as *Relative Advantage, Compatibility, Ease of Use, Image, Trialability, Visibility, Result Demonstrability, and Voluntariness*, help predict users’ acceptance of an innovation.

As stated, the Metaverse is acknowledged for its potential to proffer competitive prospects to industry practitioners in developing marketing communications strategies.

Nevertheless, up to the researcher's knowledge of this study, no previous research investigated professionals' acceptance of the Metaverse in companies' marketing communications practices and strategies. Either way, there is no clear understanding of the perceived characteristics of using the Metaverse influencing practitioners' usage intentions in the professional context. Therefore, considering the research gap, and the novelty of the Metaverse phenomenon, this research aims to examine the factors impacting professionals' Intention to Use the Metaverse as a tool for marketing communications. Subsequently, the current thesis will try to answer the following research question:

To what extent do the perceived characteristics of using the Metaverse affect professionals' Intention to Use it as a tool for marketing communications?

Examining professionals' Intention to Use the Metaverse as a tool for marketing communications holds important academic and managerial implications for various actors. First of all, the concept of the Metaverse is still very novel to the academic and professional community. The innovative character of the Metaverse can be noticed through the actively evolving definition, which is mainly based on literature from emerging technologies such as Extended Reality (XR), Artificial Intelligence (AI), Blockchain, Internet of Things (IoT), and other constituent blocks of the Metaverse (Barrera & Shah, 2023). Additionally, there is limited research exploring the implications of the Metaverse. For example, in marketing communications, academics are encouraged to investigate the implications of the Metaverse in advertising (Taylor, 2022), innovation, intelligence, or consumer behavior (Barrera & Shah, 2023). Thus, considering the gap in scientific literature, this study aims to contribute to establishing the groundwork for future research on the Metaverse.

Secondly, despite the crucial importance of innovations for companies' performance and growth (Ngo & O'Cass, 2013), as well as extensive attention dedicated to user acceptance of information and communication (ITC) technologies, the factors influencing professionals to adopt innovations are not fully clear (Yi et al., 2006). Therefore, this research aims to contribute to developing the academic field of innovation diffusion and technology adoption by exploring professionals' Intention to Use a new tool in marketing communications, the Metaverse. Moreover, this study extends traditional research models of innovation adoption and technology acceptance by incorporating into the PCI framework (Moore & Benbasat, 1991) elements from the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003), and Technology-Organization-Environment (TOE) framework (Tornatzky & Fleischer, 1990). As such, this research examines the impact of innovation, environment, organization, and individual characteristics to identify the best predictors.

Integrating multiple models and frameworks can offer a comprehensive understanding of factors impacting the Intention to Use the Metaverse in marketing communications. Consequently, this approach can encourage other research studies to examine user acceptance of ICT and other innovations in an integrative manner.

This study can offer critical insights for business leaders, managers, and technology providers. These actors can greatly benefit from apprehending the motivations and barriers that influence professionals' Intention to Use the Metaverse in marketing communications. Insights into the predictive role of Ease of Use, Compatibility, Trialability, and other perceived characteristics in determining behavioral intention can help business leaders, managers, and technology providers offer professionals adequate training, emphasize the advantages of using the Metaverse, and offer additional support. Therefore, these facilities can help professionals with the introduction of the Metaverse in companies marketing communications, boost positive attitudes toward using this innovation, and foster organizational change (Abovitz et al., 2022). Additionally, these insights can help decision-makers to better manage resource allocations, R&D investments, and innovation of business strategies. Finally, this knowledge can help providers to design an easy-to-use, advantageous, and attractive Metaverse by considering professionals' needs and preferences. The study can also offer indications on the elements providers should stress in their strategic and promotional communications to increase professionals' intentions to use the Metaverse and motivate companies to integrate the innovative tool in their marketing communications.

2. Theoretical Framework

The theoretical framework aims to provide a comprehensive summary of the main concepts and theories that compose the foundation of this study. First, this chapter will discuss the definition of the Metaverse by expanding on user experiences characterized by their levels of immersiveness, sociability, and environmental fidelity. Moreover, it will introduce the DoI theory to establish the Metaverse as an innovation in marketing communications. Second, an overview of the application of the Metaverse in companies' marketing communications will be addressed. It will expand on how companies can benefit from introducing the Metaverse in their practices and strategies. Third, the chapter will elaborate on the factors influencing professionals' Intention to Use the Metaverse, including the perceived constructs proposed in the DoI theory and the PCI framework. Fourth, it will develop the hypotheses of this research. Finally, the TOE framework and other constructs will be discussed to propose additional predictors of professionals' Intentions to Use the Metaverse.

2.1. Metaverse as an Innovation

2.1.1. Defining Metaverse

Although the Metaverse is regarded as an evolution of the Internet with transformative potential for various industries and people's lives, there is no consensus on a precise and universal definition. To tackle the gap in the conceptual understanding of the Metaverse, Barrera and Shah (2023) propose a definition that encompasses the main elements of the Metaverse collected through an extensive review of academic research and a thematic analysis of practitioners' perspectives. The authors define the Metaverse as "a technology-mediated network of scalable and potentially interoperable extended reality environments merging the physical and virtual realities to provide experiences characterized by their level of immersiveness, environmental fidelity, and sociability" (Barrera & Shah, 2023, p. 6). Nevertheless, it is necessary to acknowledge that the definition remains subject to change, given that its composing features are in active evolution.

Immersiveness

In further elaboration of the provided definition, researchers agree that *immersiveness* represents a fundamental feature of the Metaverse (Dwivedi et al., 2022; Gursoy et al., 2022; Kim, 2021; Yoo et al., 2023). It is defined as the level of immersion a technological system

allows (Barrera & Shah, 2023). Cummings and Bailenson (2016) suggest that immersiveness generates telepresence. It is defined as the sensation of being present (Steuer, 1992) and being able to perform actions in a mediated space using a communication channel (Wirth et al., 2007). In addition, the Metaverse environment can offer a greater *embodiment*, representing the user's experience of the virtual body as their own, enhancing users' sense of immersion (Flavián et al., 2019). Thereby, it can be deduced that the Metaverse can offer an array of user experiences by varying levels of immersiveness.

Environmental Fidelity

The definition emphasizes *environmental fidelity* as a crucial element for user experience in the Metaverse (Barrera & Shah, 2023). More precisely, fidelity can be defined as “the extent to which the virtual environment emulates the real world” and covers visual representation of the mediated environment and the avatar, as well as auditory or olfactory dimensions of the sense (Alexander et al., 2005, p. 4). In VR, the level of environmental fidelity is characterized by the similarity to which the “reaction of the VR system mimics the reaction of a real environment” influences users' experienced immersion (Han et al., 2022, p. 1448). Further, research argues that in virtual environments with higher fidelity to the real world, users engage in social activities compared to fantasy-like environments where their activity can be described as seeking achievement (Melancon, 2011). For these reasons, it can be noticed that environmental fidelity is a constituting element of the Metaverse experiences that can shape users' motivations and behaviors in a specific digital environment.

Sociability

Another critical dimension employed to characterize experiences in the Metaverse is *sociability*, representing the extent to which the Metaverse is a social space where individuals can interact with each other (Barrera & Shah, 2023; Kim, 2021; Yoo et al., 2023). Metaverse is regarded as a digital space that creates a sense of presence and empowers users to create social connections (Gursoy et al., 2022). Barrera and Shah (2023) claim that sociability is an enabler of *social presence*. It indicates a medium's ability to provide real-like communication where users are perceived as real persons (Short et al., 1976). For instance, the capacity of VR to depict real-like physical, social, and personal cues contributes to a more substantial social presence, thus, stimulates a perception of interpersonal interaction (Ying et al., 2022). In sum, the Metaverse environment encourages users to engage in various social interactions such as

socializing, co-creation, collaboration, and sharing (Dwivedi et al., 2022; Barrera & Shah, 2023).

2.1.2. Diffusion of the Metaverse

To investigate the factors influencing professionals' acceptance of the Metaverse in marketing communications, DoI theory and the PCI framework, the revised successor of the DoI theory, serve as the theoretical basis for this study. DoI was introduced by Rogers (1962) in his book *Diffusion of Innovations* and is highly cited in academic research examining innovation diffusion and user acceptance of innovations. Given that DoI aims to explain how innovations spread and what factors determine the adoption or rejection of these, this theory becomes relevant in examining the Metaverse, a novel tool professionals can employ to connect with (potential) customers in a highly immersive and interactive manner (Cheah & Shimul, 2023). The four key components of the DoI theory are innovation, communication, time, and the social system (Lundblad, 2003). These components point to *diffusion*, “the process by which an innovation is communicated through certain channels over time among the members of a social system” (Rogers, 2003, p. 12).

Rogers (2003, p. 11) defines *innovation* as “an idea, practice, or object perceived as new by an individual or other unit of adoption”. According to Rogers (2003), the *newness* of an innovation is not determined by how recently it becomes available, but it depends on individuals' attitudes towards it. More specifically, the innovative character of an idea implies that an individual still needs to develop a decision to adopt or reject it. Therefore, in this research, the Metaverse is regarded as a technological innovation. For many companies, integrating the Metaverse in marketing communications practices and strategies is still very new, and few companies have started to explore it (Efstathiou & Knight, 2023). Low implementation of this tool can be due to the fact that the Metaverse is in the development phase to reach its full potential at a large scale (Dwivedi et al., 2022; Efstathiou & Knight, 2023).

Moreover, despite the benefits innovations provide, adopting these requires time (Rogers, 2003). Innovations involve a level of uncertainty resulting from the lack of information on the new idea and can engender significant changes in the structure of the existing social system (Rogers, 2003). Similarly, even if the Metaverse has crucial implications for marketing communications and companies, professionals must be involved in the *innovation-decision process* to comprehend the innovation. Rogers (2003) defines it as a period when individuals seek information about the advantages and disadvantages of the

innovation. As a consequence, this process decreases the uncertainty associated with innovating and facilitates the process of accepting or rejecting innovations such as the Metaverse (Rogers, 2003).

2.2. Metaverse in Marketing Communications

2.2.1. Understanding Marketing Communications

Before diving into the implications of the Metaverse for businesses and marketing communications practices, it is crucial to understand the concept of marketing communications. Keller (2009, p. 141) describes marketing communications as “the means by which firms attempt to inform, persuade and remind consumers – directly or indirectly – about the products and brands they sell”. Nowadays, scholars advert to the concept of integrated marketing communications (IMC) to illustrate the coordination of a range of strategic activities with the aim of building a cohesive brand portrayal and integrating external and internal resources in brand communications (Bruhn & Schnebelen, 2017).

IMC covers a broad palette of marketing activities such as advertising, public relations, direct and digital marketing, promotions, and other communication channels that create contact points between the brand and consumer (Key & Czapslewski, 2017; Kliatchko, 2005). Modern marketing communications is consumer-centric, with social media contributing to the empowerment of consumers and positioning them as essential actors in brand communications (Bruhn & Schnebelen, 2017). Businesses embody both senders of the message to inform and persuade the target audience and receivers, tailor their communication according to their target audience, adjust it to the market context, and identify new opportunities (Kitchen, 1993).

2.2.2. Metaverse as a Tool for Marketing Communications

Given the aim of marketing communications to build awareness, establish and maintain relationships with audiences, and create mutual value (Rowley, 2004), the Metaverse presents considerable implications for companies (Cheah & Shimul, 2023; Yoo et al., 2023). Hollensen et al. (2022) claim that the Metaverse represents the platform of future marketing that will bring brands to life in a 3D interactive environment. In the Metaverse, companies can create considerable value by allowing users “to generate content, or interact with a brand’s content, in a way that makes the output able to be owned, as an emotional investment” (Hollensen et al., 2022, p. 123). For example, branded virtual goods such as non-fungible

tokens (NFTs) are powerful tools for building a solid bond with customers (Barrera & Shah, 2023). Thus, considering the essential role of customer experience in marketing communications, the Metaverse environment offers companies the unique potential to engage with customers and establish a strong competitive edge (Lu & Mintz, 2023). By leveraging the dimensions of the Metaverse, such as sociability, immersiveness, and environmental fidelity, marketing communications professionals can create valuable customer experiences (Barrera & Shah, 2023).

2.2.2.1. Immersive Experiences

As the definition states, the Metaverse is a digital network that provides users with experiences “characterized by their level of immersiveness (Barrera & Shah, 2023, p. 6). Therefore, immersiveness is one of the main constituents of user experience in Metaverse. In the context of marketing communications, companies can use the immersive environment of the Metaverse to expose users to brand communications (Yoo et al., 2023). Considering that XR plays an essential role in shaping the Metaverse environments and experiences (Barrera & Shah, 2023), this paper tackles the XR-related literature, integrating AR and VR technology, to punctuate the benefits of building immersive experiences.

Scholz and Smith (2016) state that AR can be strategically employed to create interactive advertising and immersive brand experiences and allow customers to interact with products and environments. Particularly, professionals in marketing communications can leverage AR to maximize different types of consumer engagement, such as user-user, user-brand, and user-bystander engagement (Scholz & Smith, 2016). Researchers also show that AR increases perceived enjoyment of the shopping experience, positively impacting brand attitudes (Smink et al., 2019). Concerning VR technology as means for shopping experiences, realistic and vivid environments positively impact user engagement which in turn influences user satisfaction and purchase intention (Papagiannidis et al., 2013). This can be related to the fact that VR environments can foster users’ sensation of being in a real-life store (Chen & Yao, 2022) and potentially decrease the feelings of uncertainty associated with online shopping (Peukert et al., 2019). On this account, providing immersive experiences in the Metaverse environments can enhance the effectiveness of brands’ marketing communications strategies and other key performance indicators.

2.2.2.2. Interactive Experiences

Interactive marketing is one of the key communication types and indicates online activities aiming to engage customers, increase brand awareness and improve the brand image (Keller, 2009). Dwivedi et al. (2022) support that interactive marketing in the Metaverse can engender higher engagement levels than any other channel. Technologies enabling the Metaverse, such as XR or haptic gloves, allow users to experience a high level of interaction. In the Metaverse, users can engage with virtual products, perform active physical movements or participate in various adventures (Gursoy et al., 2022). To illustrate an example of how companies build interactive experiences on the Metaverse, the automotive brand Hyundai Motors launched *Hyundai Mobility Adventure*, a metaverse space on Roblox aiming to “nurture long-lasting relationships with fans” (Hyundai Motors, 2021, para. 4). It represents a shared virtual space where users can experience various vehicles and racing technologies, familiarize themselves with the brand and products, and play Hyundai-themed games (Hyundai Motors, 2021).

Schlosser (2003) argues that interactive experiences with virtual products are shown to stimulate positive attitudes and purchase intentions because of the vivid mental imagery these provoke. Further, research argues that providing interactive experiences is essential for users engaging in brand communities and enhances loyalty, satisfaction, connection, and trust (Brodie et al., 2013). Due to this, professionals in marketing communications can build and maintain reliable relationships with customers by creating highly interactive brand experiences using the affordances the Metaverse provides.

2.2.2.3. Marketing Intelligence

The Metaverse is a valuable tool for the field of marketing communications as it contributes to the development of marketing intelligence. It is the immersive and interactive environment of the Metaverse that fosters the availability of hyperdata and real-time collection due to utilizing XR headsets, haptic devices, and other trackers (Dwivedi et al., 2022; Barrera & Shah, 2023). Marketing intelligence involves data mining techniques to identify customers’ needs, preferences, habits, and market opportunities (Dam et al., 2019). As such, research argues that in the Metaverse, companies can ameliorate the understanding of their customers, create personalized communications and develop new products by gaining rich customer data (Lu & Mintz, 2023).

In marketing communications, high-quality customer information is essential to improving business insights and operations. Specifically, it allows low cost and rapid testing

of new markets and products, instant adaptation and personalization of content based on user behavior and preferences, resulting in better conversion (Buhalis et al., 2023; Dwivedi et al., 2022; Barrera & Shah, 2023). Dwivedi et al. (2022, p.19) predict that the quality and quantity of data that will be available "will lead to a shift from 'big data' to what can be called 'mega data'". Given that in the Metaverse users can work, communicate, play, or shop in a 3D environment, more sophisticated data can be gathered and analyzed (Golf-Papez et al., 2022). Nevertheless, professionals have to navigate targeting and personalization with care and consideration of privacy and consent (Cheah & Shimul, 2023).

2.3. Acceptance of the Metaverse

2.3.1. Perceived Attributes of Innovation (DoI)

As previously stated, professionals in marketing communications can leverage the dimensions of the Metaverse, namely the levels of sociability, immersiveness, and environmental fidelity in order to create exclusive experiences for their customers (Barrera & Shah, 2023). Considering the advantages of the Metaverse, this research is grounded in the DoI theory and PCI framework to explain and predict professionals' acceptance of the Metaverse. These models integrate the main perceived characteristics used in explaining different adoption rates and comprehending the acceptance behavior of IT innovations. However, it is important to note that these attributes are rather subjective, depending on individuals' perceptions.

The famous quote of sociological thought, "If men define situations as real, they are real in their consequences" (Thomas & Thomas, 1928, p. 572), accentuates the impact of subjective perceptions on the reality that individuals experience. Based on this idea, Rogers (2003) argues that if innovations are perceived to be high in relative advantage, compatibility, trialability, and observability and lower in complexity, these will be more rapidly adopted (Rogers, 2003). The following paragraphs will elaborate on the five perceived attributes of innovations that Rogers (2003) proposed, on which Moore and Benbasat (1991) drew to develop the PCI framework.

- *Relative advantage* is the extent to which an innovation is regarded as more beneficial than its alternatives (Rogers, 2003). This construct encompasses economic benefits, social prestige, satisfaction, and convenience as factors contributing to individuals' perception that the innovation is advantageous. Therefore, the more the innovation is

perceived as superior in advantage compared to its alternatives, the faster it will be adopted (Lundblad, 2003).

- *Compatibility* is the degree to which the innovation is seen to be consistent with the values, needs, and experiences of the individual (Rogers, 2003). For instance, if an innovation is perceived to be incompatible with the social system's cultural norms or values, the potential adopters are more inclined to reject it. Moreover, previous ideas can help or impede acceptance (Rogers, 2003). If the innovation is perceived to be consistent with the previous ones, the level of uncertainty can decrease as the innovation can appear familiar to potential adopters.
- *Complexity* is the extent to which potential adopters perceive the innovation to be challenging to use and understand (Rogers, 2003). Following Rogers' generalization, the adoption rate can significantly decrease if the innovation is perceived to be complex. He also suggests that improvements in the innovation's user-friendliness can positively influence the adoption decision.
- *Trialability* is the degree to which potential adopters are able to test the innovation before adopting it (Rogers, 2003). Notably, this suggests that trying out an innovation leads to a decrease in uncertainty and an increase in potential adopters' understanding of its functionality. Moreover, Rogers (2003) highlights the importance of an innovation's design to support trials for a more rapid adoption rate.
- *Observability* attribute alludes to how others can see the results of using an innovation (Rogers, 2003). As such, the more visible the innovation is to the members of a social system, the faster it is adopted (Lundblad, 2003).

2.3.2. Perceived Characteristics of Using the Metaverse

Despite the importance of perceived characteristics in diffusion research, Moore and Benbasat (1991) claim that there is a lack of reliable and valid instruments to assess these. Similarly, other research identified that poor theoretical underpinning, conceptualization, and measurement of constructs cause an incomplete understanding of the acceptance and implementation process of innovations (Davis, 1989; Lundblad, 2003; Tornatzky & Klein, 1982). Rogers' DoI was also criticized for inconsistencies in the terminology and conceptualization of the constructs (Moore & Benbasat, 1991; Tornatzky & Klein, 1982). To address this issue, Moore and Benbasat (1991) developed the PCI framework to measure individuals' perceptions of using an IT innovation in the organizational context. The authors

draw on the five constructs proposed by Rogers (2003). PCI is composed of three original constructs, including *Relative Advantage*, *Compatibility*, and *Trialability*, and five additional constructs, such as *Ease of Use*, *Visibility*, *Image*, *Result Demonstrability*, and *Voluntariness* (Moore & Benbasat, 1991). In contrast to TAM, the PCI framework was found to have a better performance as it has greater explanatory power and a rich list of constructs used to predict adoption (Plouffe et al., 2001). Gounaris and Koritos (2008) found similar results when comparing the TAM, DoI, and PCI.

In contrast to other research and models, the constructs proposed by Moore and Benbasat (1991, p. 194) address the “*perceived characteristics of using the innovation* [emphasis added] rather than *perceived characteristics of the innovation* [emphasis added] itself”. Downs and Mohr (1976) argue that the majority of studies fail to differentiate primary from *secondary* characteristics, leading to inconsistent results across studies and a restricted ability to generalize. While Rogers’ (2003) characteristics are based on perceptions of the innovation *itself*, PCI touches upon perceptions of *using* an innovation. Based on the Theory of Reasoned Action (TRA) proposed by Ajzen and Fishbein (1980), individuals’ attitudes toward an object can differ from attitudes toward performing a behavior involving that object. Following this rationale, a professional may have positive attitudes towards the Metaverse by recognizing its immersive and engaging potential. At the same time, the professional can have a negative attitude towards using it for marketing communications because of various and relative concerns, such as technical challenges or complexity of usage. That being so, organizational and individual particularities can influence the way individuals perceive innovations (Tornatzky & Klein, 1982).

Ultimately, in the manner that the PCI framework intends to investigate the adoption of innovations within organizations, it represents a suitable and helpful instrument in examining professionals’ acceptance of the Metaverse in companies’ marketing communications. The following paragraphs will elaborate on the seven PCI constructs in the context of this study and will introduce the researched hypotheses.

2.3.3. Intention to Use the Metaverse

The PCI framework, the revised and extended version of the attributes proposed in DoI, was employed in researching individuals’ acceptance of a broad spectrum of technologies. Depending on the objective of research studies, in technology acceptance and innovation diffusion literature, the acceptance behavior has been operationalized using various outcome variables (Agarwal & Prasad, 1997). As an illustration of the outcome

variables, studies investigated individuals' adoption of Internet banking (Gounaris & Koritos, 2008), intention to adopt smartwatches (Wolverton et al., 2022), or the current usage and use intentions of the World Wide Web (Agarwal & Prasad, 1997). Additionally, researchers found PCI effective in measuring potential users' Intention to Use e-learning websites (Liao & Lu, 2008), the Internet (Zhu & He, 2002), and collaborative software (Van Slyke et al., 2002).

This research focuses on *Intention to Use* as the outcome variable representing acceptance behavior for several reasons. First, the Theory of Planned Behaviour (TPB) proposed by Ajzen (1991), the successor of TRA (Ajzen & Fishbein, 1980), supports that an individual's intentions are indicators of the motivation to perform a specific behavior. Notably, the performance of a behavior depends on the strength of an individual's intention to engage in the behavior (Ajzen, 1991). Based on this idea, professionals' Intention to Use indicates their future usage of the Metaverse. Second, since the research framework of this study investigates the perceived characteristics of *using* the Metaverse, choosing Intentions to Use as the outcome variable helps maintain linguistic and conceptual uniformity across the study. Third, with respect to this study, given that the Metaverse environments are still in their early phase and a limited number of companies have started to explore its capabilities, studying actual usage of the Metaverse as a tool for marketing communications might represent a precipitated approach. Accordingly, measuring the Intentions to Use allows for a comprehensive understanding of professionals' perceptions of using the Metaverse in the future.

2.4. Development of the Hypotheses

2.4.1. Relative Advantage

For Moore and Benbasat, *Relative Advantage* represents “the degree to which *using* [emphasis added] the innovation is perceived as being better than using its precursor” (1991, p.196). As previously specified, this version of the definition refers to the *secondary* characteristics of innovation. To measure Relative Advantage, Moore and Benbasat (1991) adapted the items from Davis et al.'s (1989) TAM construct *perceived usefulness* which is the extent to which an individual perceives an innovation to enhance his job performance. Relative Advantage relies in the idea of *attractiveness of alternatives* (Jones et al., 2000; Junglas et al., 2019). More specifically, when there is low exposure to advantageous alternatives, there is a higher chance that the individual will continue to use the older system

(Jones et al., 2000) and vice-versa for high exposure. Exposure to viable options can influence individuals to consider alternative technological tools (Junglas et al., 2019).

This construct is often found as the most significant in predicting the rate of adoption and other dependent variables in both personal and organizational contexts (Flight et al., 2011). For instance, research has shown that Relative Advantage can influence the usage of personal technologies in the workplace (Junglas et al., 2019), positively relates to consumers' behavioral intention to use the web for auto insurance transactions (Choudhury & Karahanna, 2008), as well as influences the adaptation of electronic data interchange (EDI) in organizations (Premkumar et al., 1994). Regarding the subject of this study, using the Metaverse can provide various opportunities for companies' marketing communications practices. Compared to traditional media used by professionals to connect with audiences, to create branded content and experiences, such as social media channels or mobile applications, Metaverse can be advantageous in upgrading these practices. Hence, a higher Relative Advantage of using the Metaverse can be associated with greater Intention to Use it in companies' marketing communications practices. Therefore, it is hypothesized that:

H1: Perceived Relative Advantage of using the Metaverse as a tool for marketing communications is a positive predictor for professionals' Intention to Use.

2.4.2. Compatibility

Compatibility is the degree to which the use of the innovation is “perceived as being consistent with the existing values, and past experiences” (Moore & Benbasat, 1996, p. 136). Compared to Rogers' conceptualization, this definition excludes the reference to *needs* from the Compatibility construct. Despite adopting the PCI framework, other research failed to adjust the conceptualization of the construct and referred to the definition provided by Rogers (2003). The inclusion of the needs in Compatibility is problematic because it creates confusion with Relative Advantage, “as there can be no advantage to an innovation that does not reflect an adopter's needs” (Moore & Benbasat, 1991, p. 199). As well, this misconception creates inconsistency across studies. Venkatesh et al. (2003) recognize the close similarity between Compatibility and *facilitating conditions* from the UTAUT model, which is defined as the degree to which the individual perceives that there are organizational and technical capabilities to support the use of the innovation. The innovation diffusion literature has consistently demonstrated significant relationships between Compatibility and innovation adoption (Tornatzky & Klein, 1982).

As far as the researcher of this study knows, no studies have addressed the Intentions to Use the Metaverse in the context of marketing communications. The usage of the Metaverse in marketing communications can require introducing additional technical support and significant changes in companies' previous practices and policies. On the one hand, at this stage, companies are not adequately equipped to deal with the intricacies of the Metaverse's infrastructure concerning privacy and to create a secure environment for both companies and users (Dwivedi et al., 2022). This can negatively impact the perceived Compatibility of using the Metaverse. On the other hand, Compatibility can be influenced by the employee's personality or problem-solving style. While individuals with adaptive working styles will reflect on problems within predetermined frameworks, the ones with innovative styles will be bold in looking beyond existing practices (Cummings & Oldham, 1997). In the way that the Metaverse can render digital marketing more creative and interactive (Dwivedi et al., 2022), individuals with creative and innovative problem-solving approaches can perceive the Metaverse compatible with their working style and values. Therefore, individuals' perceived Compatibility of using the Metaverse is particularly important in predicting the Intentions to Use it in companies' marketing communications. This leads to the following hypothesis:

H2: Perceived Compatibility of using the Metaverse as a tool for marketing communications is a positive predictor for professionals' Intention to Use.

2.4.3. Ease of Use

Moore and Benbasat (1996) define *Ease of Use* as the extent to which an innovation is perceived as easy to use. The construct suggests that the easier the system is, the greater the chance that potential users will accept it (Agarwal & Prasad, 1997). This construct is one of the most often cited in academic literature and was found to be associated with innovation adoption and usage (Davis et al., 1989; Tornatzky & Klein, 1982). Instead of Rogers' complexity, Moore and Benbasat (1991) adopted the term *Ease of Use* to be congruent with the terminology in the technology acceptance and innovation diffusion literature. The definition and measurement scale of the construct Ease of Use is highly similar to Venkatesh et al.'s (2003) *effort expectancy* or Davis et al.'s (1989) *perceived ease of use*. In the VR literature, effort expectancy was found to influence the behavioral intention to learn using VR (Shen et al., 2019). With respect to this study, easy-to-use interfaces of the Metaverse environments are crucial to overcome the perceived technological complexity, render these

more sustainable, and increase the adoption (Dwivedi et al., 2022; Barrera & Shah, 2023).

Thus, it is hypothesized:

H3: Perceived Ease of Use of the Metaverse as a tool for marketing communications is a positive predictor for professionals' Intention to Use.

2.4.4. Image

Image is defined as “the degree to which use of an innovation is perceived to enhance one’s image or status in one’s social system” (Moore & Benbasat, 1991, p. 195). Rogers’ (2003) relative advantage included the aspect of Image. However, Moore and Benbasat (1991) separated these into different constructs, given the criticisms of the conceptualization of this construct as being too broad and complex (Moore & Benbasat, 1991; Tornatzky & Klein, 1982). There is a similarity between Image proposed by Moore and Benbasat (1991), social influence by Venkatesh et al. (2003), and social factors by Thompson et al. (1991). Venkatesh et al. (2003) argue that although these constructs have distinct terminology, they convey that individuals’ behavior is influenced by their beliefs on how others will perceive them after using a particular technology.

Considering the benefits companies can extract from using the Metaverse as a tool for marketing communications, enhancing personal image becomes less relevant. Generally, once adopted, the usage of the Metaverse regards all the employees that manage the company’s marketing communications. Thereupon, increasing company’s image in a specific industry, country, or social system by using the Metaverse becomes supreme to individual’s interests. Nevertheless, based on the Social Identity Theory (SIT) (Tajfel & Turner, 1979), individuals tend to identify with the organization for which they work, and it refers to a psychological connection with “the fate of the group” (Ashforth & Mael, 1989, p. 21). Therefore, it supposes the incorporation of some characteristics of the organization into employee’s identity (Edwards, 2005). Consequently, research has shown that if employees perceive the organization as attractive, they are more likely to identify with it. Additionally, Chun (2006) supports that organizational innovativeness is one of the main criteria for assessing corporate reputation and leads to employee satisfaction. As a result, the more professionals perceive that the Metaverse enhances the company's Image, the higher the chance it will be used in its marketing communications. Subsequently, in this research, it is hypothesized:

H4: Perceived Image is a positive predictor for professionals' Intention to Use the Metaverse as a tool for marketing communications.

2.4.5. Trialability

Trialability is the degree to which an innovation can be assayed prior to its adoption (Moore & Benbasat, 1991). It suggests that innovations that can be tried before making the acceptance decision will be adopted quicker than innovations that do not have this capacity (Tornatzky & Klein, 1982). Karahanna et al. (1999) claim that the possibility of trying the innovation is essential in reducing the risk and uncertainty about the usage of the innovation. Additionally, it increases users' comfort level with the innovation and contributes to the adoption. Abovitz et al. (2022) state that to enhance the organizational rate of change and start building Metaverse strategies and capabilities, employees should be allowed to experience the Metaverse. Given the novel character of the Metaverse and its use in marketing communications practices, providing professionals with the opportunity to test and explore its capabilities becomes essential. Therefore, it is hypothesized:

H5: Perceived Trialability is a positive predictor for professionals' Intention to Use the Metaverse as a tool for marketing communications.

2.4.6. Visibility

Originally included as an aspect of Rogers' (2003) observability, *Visibility* represents the extent to which the usage of an innovation can be visible in an organization. The construct implies that the innovation is used by other important actors for the potential user (Alajmi, 2014). While some research refers to the visibility of the physical object of the innovation in one's social group when measuring the relationship between visibility and intention to adopt smartwatches (Wolverton et al., 2022), others examine the perceived visibility of digital and virtual "objects" such as multimedia message service (Hsu et al., 2007). Compared to the IT innovation (Personal Work Stations) researched by Moore and Benbasat (1991), where professionals can individually decide to adopt or reject the innovation and follow their colleagues' usage of the innovation, this process is not applicable to the context of this study. More specifically, adopting the Metaverse in companies' marketing communications regards all professionals as it implies a centralized decision. Hence, the conceptualization of this construct was slightly modified.

Consequently, with regard to this study, *Visibility* refers to professionals' perceptions that the usage of the Metaverse is visible in other companies' marketing communications in a specific industry or community. Companies such as Nike, Tommy Hilfiger, McDonald's, and Gucci are already exploring the opportunities that the Metaverse offers to engage with customers, sell digital items, and create innovative and engaging experiences (Barrera &

Shah, 2023; Hazan et al., 2022). As such, observing competitors' usage of the Metaverse for marketing communications purposes could function as a motivation for companies and professionals to create competitive advantages by using this strategic tool. Therefore, it is hypothesized:

H6: Perceived Visibility is a positive predictor for professionals' Intention to Use the Metaverse as a tool for marketing communications.

2.4.7. Result Demonstrability

The second construct that Moore and Benbasat (1991) derived from Rogers' (2003) observability is *Result Demonstrability*. It is defined as the degree to which the results of using an innovation can be observed and communicated to others (Moore & Benbasat, 1996). Rogers (2003) argues that the results of using less observable innovations usually have a slower adoption rate. The aspect of communicability in this construct conveys the idea that the more innovations demonstrate their results and advantages, the greater the chance it will be adopted (Zaltman et al., 1973). Venkatesh and Davis (2000) argue that despite the system's effectiveness, users may fail to accept it if professionals struggle to associate their job performance with the utilization of the system.

Agarwal and Prasad (1997) highlight that Result Demonstrability is a positive predictor of adoption only if the potential user perceives the innovation as high in Relative Advantage. Moreover, they argue that if an organization is interested in introducing an innovation, interventions, such as training, newsletters, or public forums, should be organized. Notably, managers should inform and emphasize the potential results employees can achieve by using the innovation. Thus, regarding the Metaverse in marketing communications, professionals should be informed about enhancing brand awareness and engagement, fostering purchase intentions, and extracting valuable insights from advanced data the Metaverse environment can provide (Barrera & Shah, 2023). Consequently, it is hypothesized:

H7: Result Demonstrability is a positive predictor for professionals' Intention to Use the Metaverse as a tool for marketing communications.

2.4.8. Voluntariness

In contrast to other research in diffusion of innovations and technology acceptance models, Moore and Benbasat (1991) added a new construct to the PCI framework,

Voluntariness. The authors define it as the degree to which use of the innovation is perceived as being voluntary, or of free will” (p. 195). It is crucial to retain that PCI’s Voluntariness is based on users’ subjective understanding of the Voluntariness of using an innovation. This construct is founded in the TRA, which states that individuals’ attitude toward performing a behavior is influenced by the beliefs the individual has about it (Ajzen & Fishbein, 1980). While previous research considered voluntariness to have a binary nature, the PCI framework posits that potential users can have varying levels of choice regarding using an innovation (Argawal & Prasad, 1997).

In the organizational context, employees are often required to use specific tools. However, researchers support that users with voluntary choices form Intentions to Use a system because they find it valuable and worthwhile (Hartwick & Barki, 1994). Thus, this research assumes that allowing professionals to discover the advantages of using the Metaverse in marketing communications, rather than imposing the usage, can be more effective in increasing positive attitudes towards it and the Intention to Use it. Furthermore, following Moore and Benbasat’s (1991) conceptualization, if professionals perceive to have the autonomy to decide on adopting or rejecting the Metaverse, they will be more motivated to use it. Moreover, the relationship between Voluntariness and acceptance behavior has been limitedly researched (Argawal & Prasad, 1997). Therefore, this study intends to contribute to expanding the theory in the field by investigating the impact of voluntariness on the grounds of technological innovation, the Metaverse. Hence, in this research, it is hypothesized:

H8: Perceived Voluntariness is a positive predictor for professionals’ Intention to Use the Metaverse as a tool for marketing communications.

2.5. Additional Predictors

There is a rich body of research examining IT innovation diffusion and acceptance. Compeau and Higgins (1995) recognize the importance of researching additional explanatory variables to further develop the academic field of IT innovation diffusion. In their extensive review, Jeyaraj et al. (2006) structured the factors used in innovation diffusion research into four main categories. The authors reunite the factors that describe the environment, organization, individual, and innovation, aiming to identify the best predictors of IT adoption. For instance, the PCI constructs such as Relative Advantage, Ease of Use, Compatibility, or Visibility can be described as characteristics of the innovation.

Therefore, in the context of this research, additional constructs are introduced to improve the understanding of the factors driving innovation. Hence, elements from the TOE

framework (Tornatzky & Fleischer, 1990), such as Company Size and Competitive Pressure, are introduced in the research model to investigate how the organizational and environmental context influence the acceptance of the Metaverse as a tool for marketing communications. Moreover, to identify the impact of individual characteristics of this new tool in marketing communications, the Anxiety construct is integrated into this research.

2.5.1. Technology-Organization-Environment Framework

TOE framework (Tornatzky & Fleischer, 1990) is often employed to provide an integrated perspective of contextual factors that may impact decision-making on adopting IT innovations at the organizational level. As the name suggests, the framework is composed of three elements. First, the technological context refers to the technologies relevant to the firm (Oliveira & Martins, 2011). Second, the organizational context encompasses characteristics such as size, performance, or structure (Lin & Lin, 2008). Finally, the environmental context reunites organization's industry and its relationships with partners, competitors, and governing actors (Tornatzky & Fleischer, 1990).

Previous research integrated the TAM, TPB, and TOE framework to study the adoption of e-commerce by small and medium-sized companies (Awa et al., 2015). Others integrated the TOE framework and the DoI theory to investigate businesses' adoption of radio frequency identification (Wang et al., 2010). Hsu et al. (2006) argue that combining the TOE framework with DoI theory increases the explanatory power of intra-firm diffusion of innovations by including environmental characteristics. Subsequently, including supplementary factors in this research from the TOE framework aims to increase the research model's predictive validity and better comprehend the factors influencing professionals' Intentions to Use the Metaverse.

2.5.2. Organisational Context - Size

The association between organisation size and innovation has been the subject of numerous previous research. Jeyaraj et al. (2006) identified that organization size is one of the main predictors of IT adoption, Intention to Use, and other outcome variables. Larger organizations tend to have greater resources in terms of R&D capacities, financial slack, and marketing skills (Tansik & Chakrabarti, 1989). These arguments are often derived from an economic perspective (Stock et al., 2002). Larger firms possess the capabilities to manage potential risks associated with innovating (Damanpour, 1992; Zhu et al., 2003). For example,

research identified a positive association between firm size and adopting innovations such as Blockchain technology thanks to firms' ability to mitigate risks (Chittipaka et al., 2022).

With regard to introducing the Metaverse as a tool for marketing communications, this innovation can engender various challenges for organizations. For instance, Dwivedi et al. (2022) highlight the necessity of understanding the regulatory mechanisms of the Metaverse, training employees to fully explore the capabilities of immersive environments and finding reliable digital partnerships with service providers. For this reason, the adoption of the Metaverse can require significant investments. Moreover, it can be noticed that at this moment, the main actors that entered the Metaverse environments and introduced it in their marketing communications strategies are larger firms, such as Gucci, Nike, Balenciaga, or Burberry (Balis, 2022; Marr, 2022). Therefore, it is hypothesized:

H9: Professionals working in large companies score higher in Intention to Use the Metaverse as a tool for marketing communications than those who work in a) medium, b) small, and c) micro companies.

2.5.3. Environmental Context - Competitive Pressure

Innovations are regarded to be major sources of competitive advantage, resulting from the experience and knowledge acquired by developing new products (Pla-Barber & Alegre, 2007). Jeyaraj et al. (2006) identified that competition, referring to the environment in which the actor faces the innovation, is one of the most used predictors for IT adoption in organizations. Lee and Trimi (2021) claim that to survive and advance in today's digital age, organizations must become responsive and adaptive to the quickly changing environment. The integration of ICT in business activities has a vital role for companies to stay competitive and maintain economic growth (Tarutè & Gatautis, 2014). Thus, in this highly competitive environment, companies must integrate the potential of digital technologies into their strategies, review business models and innovate (Legner et al., 2017).

Iacovou et al. (1995) found that the Competitive Pressure that a firm experience motivates it to adopt innovations. Similarly, greater levels of competition foster the adoption of innovations (Gatignon & Robertson, 1989). In connection with this study, integrating the Metaverse into marketing communications practices can offer companies a multitude of advantages. Research support that the Metaverse represents a powerful tool for companies to build a strong competitive advantage (Buhalis et al., 2023). Accordingly, considering previous findings on the positive association between Competitive Pressure and innovation adoption, it

is hypothesized:

H10: Competitive Pressure is a positive predictor for professionals' Intention to Use the Metaverse as a tool for marketing communications.

2.5.4. Individual Characteristics – Metaverse Anxiety

Computer Anxiety has been analyzed as an important emotional aspect of IT usage (Venkatesh, 2000). According to Compeau and Higgins (1995), this construct embodies feelings of anxiety regarding computers and is negatively associated with computer use. It is based on Bandura's (1986) Social Cognitive Theory (SCT) that supports that one's beliefs about personal abilities, also called self-efficacy, influence the behavior the individual will adopt. Next, self-efficacy significantly impacts individuals' emotional reactions to computers, whether positive or negative. Notably, the less the individual feels competent to perform a behavior, the greater feelings of anxiety he experiences (Compeau & Higgins, 1995).

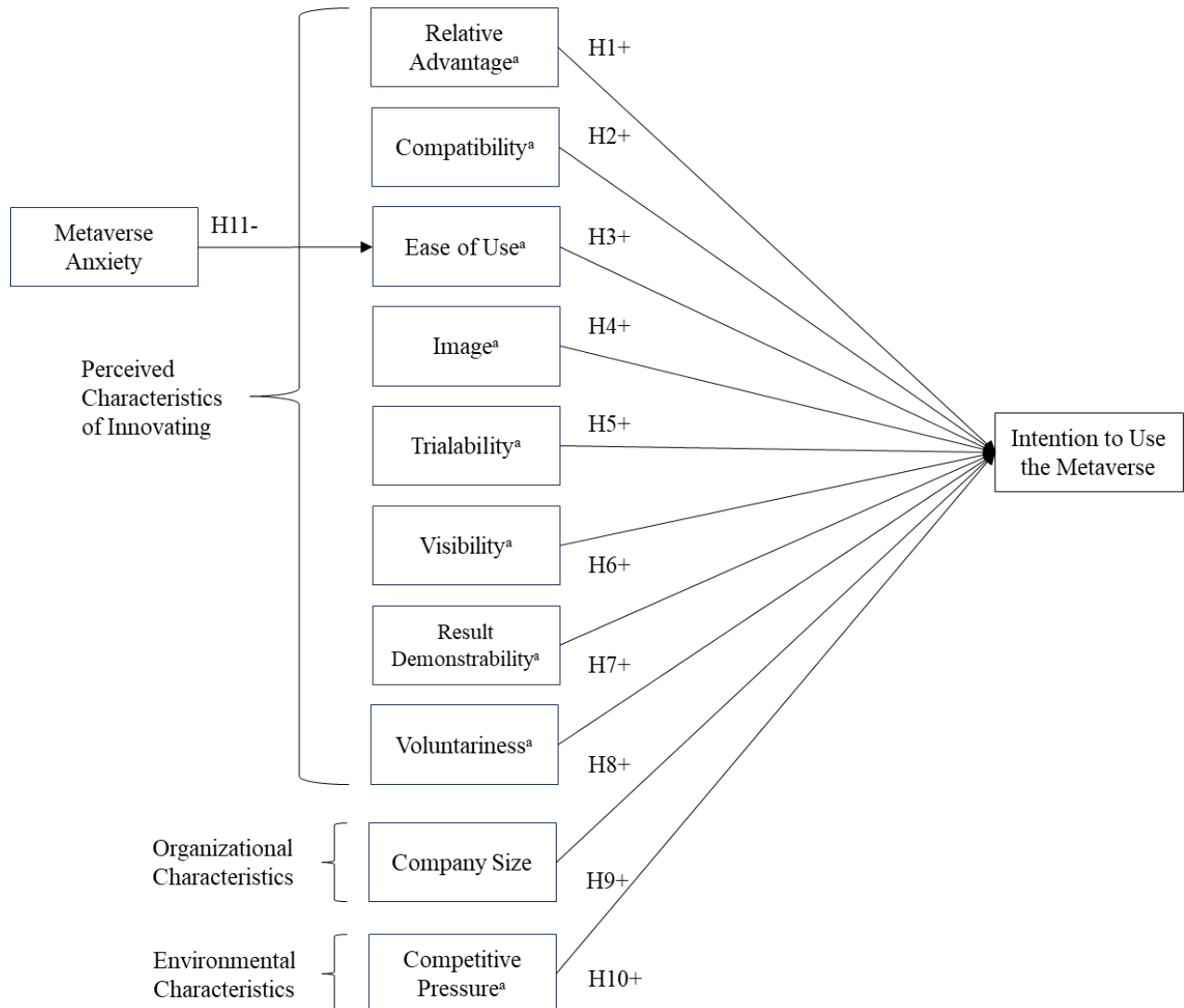
Venkatesh (2000) identified that Computer Anxiety represents a reference point for users' perceptions of innovations' Ease of Use. This is particularly relevant in the initial stages when the user has a limited experience with it. Venkatesh (2000) explains that the negative impact of Computer Anxiety on Ease of Use is fostered by anxiety influencing users' attentional resource allocation strategies. Subsequently, in a stressful situation, the individual focuses on reducing negative feelings. Hence, the effort needed to realize the task increases (Kanfer et al., 1994). Numerous studies have found a negative association between Computer Anxiety and perceived ease of use (Abdullah & Ward, 2016). Considering the context of this research, the Metaverse can become a source of anxiety for professionals as they may think they lack sufficient competencies to manage marketing communications practices in the Metaverse. As noted earlier, novel implications of the Metaverse (Barrera & Shah, 2023), limited knowledge and experience in using it, as well as the early stage of the Metaverse development (Dwivedi et al., 2022) can engender a certain sense of uncertainty and anxiety. As a result, professionals may perceive the Metaverse to be complex and challenging to use in companies' marketing communications. Therefore, it is expected that:

H11: Anxiety is a negative predictor for the perceived Ease of Use of the Metaverse in companies' marketing communications.

2.6. Conceptual Framework

Figure 1

Conceptual Framework Illustrating the Relationship Between Variables



Note. This figure illustrates the anticipated relationship between the independent variables and dependent variable, Intention to Use the Metaverse.

The superscript (^a) sign indicates that the control variable, Participation in Decision-Making, was introduced in the hierarchical regression analysis to test the relationship between the independent and dependent variables.

3. Methodology

3.1. Research Design

This study aims to investigate the extent to which perceived characteristics of using the Metaverse impact professionals' Intention to Use it as a tool for marketing communications. Furthermore, the relationship between Company Size, Competitive Pressure, and Intention to Use the Metaverse is examined. These additional constructs were incorporated to expand the traditional research models in diffusion research and better understand the factors influencing professionals' acceptance of the Metaverse.

Given the research's interest in examining the impact of various constructs on professionals' Intention to Use the Metaverse, a quantitative approach with a survey design was adopted. This research method allows the researcher to generalize an aspect of human behavior based on systematic observations, which should be intentional, replicable, and valid (Allen et al., 2008). Notably, this research attempts to “draw generalized inferences” (Allen et al., 2008, p. 7) about the Intention to Use the Metaverse in larger groups of professionals who work in the field of marketing communications. Finally, the quantitative nature of this study allows greater control over the research design, which helps ensure that the collected data has a higher degree of reliability.

The research design chosen for this study is a quantitative survey. This design was selected for several reasons. First, compared to face-to-face interviews, self-administrated questionnaires are an important alternative that can be efficiently administered to a large number of individuals (Bryman, 2016). This feature is particularly advantageous considering the target group of the study. The needed population consists of individuals whose profession is related to marketing communications which are usually busy and difficult to reach for face-to-face interviews. Secondly, self-administrated questionnaires offer the respondents the flexibility to take part in the study without any limitations in time or space. Therefore, this research format enhances the comfort and ease of participation and can increase the response rate. Consequently, this can lead to a more significant number of participants and contribute to obtaining “more robust conclusions” about the study's results (Allen et al., 2008, p. 11). Lastly, this type of survey eliminates the interviewer effect that is shown to affect participants' answers (Bryman, 2016). Similarly, it removes interviewer variability by providing each participant with a stable survey structure (Bryman, 2016).

Before publishing the survey, a pretest was conducted with a sample of five individuals who possess professional experience in marketing communications. The purpose

of the pretest was to ensure that the questions and response options were easy to understand and to rate. As well, it aimed to identify any potential biases in the survey instrument. Pretesting was highly valuable as the received feedback helped make necessary revisions to increase the clarity and accuracy of the survey.

3.2. Sampling

This study adopted a purposive sampling method. This sampling process involves choosing the participants based on the researcher's judgment and specific criteria (Sarstedt et al., 2018). This sampling strategy was selected because the study aims to investigate the Intention to Use the Metaverse among professionals possessing a job related to marketing communications. Thus, participants needed to fulfil several specific criteria to participate in this study. More particularly, participants must have a profession in marketing communications, such as marketing managers and coordinators, public relations specialists, social media managers and marketers, digital marketing specialists, advertising strategists and managers, communications coordinators, and other relevant roles.

Next, the participants included in the final sample must have had a minimum of two years of working experience to ensure their familiarity with various tools, operations, and strategies included in companies' marketing communications. Finally, the participants must have been aware of the application of the Metaverse in different strategic activities that fall under the umbrella of marketing communications, such as advertising in virtual worlds, engaging with customers, creating virtual objects and NFTs (non-fungible tokens), or organizing virtual product launches, events, and immersive brand experiences in virtual worlds.

In order to identify potential participants, a rigorous research process was conducted in several manners. It started with identifying various companies with the aim of reaching the employees of these companies. Mainly, companies situated in the European Union were considered in this study. The study's focus on these countries aimed to ensure that participants have a robust understanding of marketing communications strategies and innovative practices in this field. In the selection process were included media agencies, NGOs, and other companies representing a wide range of industries.

Concerning the channels employed to reach the target group, the professional networking platform LinkedIn was highly beneficial in connecting with professionals who have a job related to marketing communications. The job titles under the umbrella of marketing communications were introduced in the main search box to perform an explorative

search. The main keywords that were introduced in the search process included “marketing”, “communication/s”, “advertising”, “digital”, “media”, “brand”, “content”, “coordinator”, “specialist”, “manager”, “assistant”, “strategist”, “public relations”.

Another method utilized to search for participants was through the LinkedIn pages of companies. More precisely, it consisted of choosing specific filters in the search box of the "people" section where the company's employees can be found. Similar keywords were formulated in different combinations to provide a comprehensive search for professionals holding relevant job positions. Moreover, this social media channel was particularly advantageous due to the fact that, after identifying individuals with relevant job titles, LinkedIn allowed the researcher to observe their professional experience on personal LinkedIn profiles. Subsequently, professionals who indicated to possess more than two years of experience in marketing communications were sent personalized invitations to participate in the survey.

Additionally, the Google search engine was employed to locate the email addresses of professionals working in the field of marketing communications, as well as the marketing and communications departments of various companies. This research was realized in several steps. Firstly, the names of companies and job positions under interest in this study were entered in the search bar. Secondly, the websites of companies were analyzed to find relevant information about employees and their contact email addresses. Thirdly, an email was sent to those email addresses, composed of a concise message inviting recipients to participate in the survey.

In addition to the aforementioned methods, invitations were published on LinkedIn groups such as *Marketing Communication*, *Digital Marketing*, *Advertising & Marketing Industry Professionals*, *Metaverse & AI*, *Content Marketing Institute*, and *Marketing & Communication Network*. Similarly, these were addressed on Reddit forums, including *r/SampleSize*, *r/content_marketing*, *r/Communications*, *r/SurveyCircle*, *r/MarketingResearch*, and *r/MarketingHelp*. These groups and forums were selected for the distribution of the survey as they offer the chance to reach individuals with relevant professional expertise and who are interested in academic research about innovative tools used in marketing communications.

The survey was distributed between April 15th and May 29th. A total of 260 responses were recorded. After cleaning the data from incomplete or nonvalid responses, such as those who did not meet the criteria for this study, $N = 167$ were included in the final sample. The percentage of women is 64.1 %, and of males is 35.3%. One participant identified as non-

binary/third gender (0.6%). Participants' age ranged from 21 to 63 ($M = 30.23$, $SD = 7.41$). However, one response was excluded from the age description due to a missing value. Because of the international nature of the sample, participants' country of origin revealed 43 different countries, the most prominent being the Netherlands (27.5%), France (10.8%), Germany (9.0%), Belgium (4.8%), Greece (4.8%), and the United Kingdom of Great Britain and Northern Ireland (4.2%) and Romania (4.2%). 34.7% of participants responded to have between two and five years of experience as professionals in marketing communications. Concerning participants' previous usage of the Metaverse in marketing communications, 72.5% indicated that they never employed the Metaverse, against 27.5% that indicated to have previous experience.

Regarding the information about the company where participants work, 30.5% of respondents marked that their company had already explored the Metaverse in marketing communications. Other 59.9% indicated that the company they are working for has no experience with the Metaverse or are unsure about it (9.6%). Moreover, when being asked about the country where participants' company is located, 21 countries were recorded with the Netherlands (56.3%), France (8.4%), Germany (7.8%), Belgium (4.8%), and the United Kingdom of Great Britain and Northern Ireland (4.2%) leading. Regarding company size measured in employee number, the data included 7.8% of companies with fewer than 10, 23.4% with 10-49, 28.7% with 50-249, and 40.1% with more than 250 or more employees. Additionally, apropos of companies' business models, 27.5% were B2B, 30.5% were B2C, 37.7% were Mixed B2B/B2C, and 2.4% were B2B2C. Also, one participant described the company's business model as Mixed B2B/B2G (0.6%), and two indicated working in NGOs (1.2%). Finally, concerning the industry participants' company fits in, 69.5% were services, 19.8% were retail/wholesale and 10.8% were included in the category of manufacturing.

3.3. Procedure

A self-administrated questionnaire was introduced to participants via the online survey platform Qualtrics. Before diving into the survey questions, participants were presented with a consent form providing information about the study's objectives, the confidentiality of data, voluntariness of participation, and contact details for further inquiries. The survey was structured in three main sections. First of all, to comply with the criteria of the targeted population, a series of questions were addressed to identify suitable participants who could proceed with the study. These included the question of whether they work in marketing communications. In order to facilitate participants' identification with the domain, the

question provided several examples of jobs commonly associated with marketing communications. These included marketing managers and coordinators, public relations specialists, social media managers and marketers, digital marketing specialists, advertising strategists and managers, and communications coordinators.

Next, the participants who confirmed to work in this domain were asked about their years of professional experience. Lastly, participants indicating to possess more than two years of experience were presented with the question aiming to identify if they are aware of the usage of the Metaverse in companies marketing communications strategies. Additionally, the question indicated some practices in marketing communications using the Metaverse, including advertising in virtual worlds, engaging with customers, creating virtual objects and NFTs, and offering virtual product launches, events, and brand experiences in virtual worlds. Subsequently, participants demonstrating their knowledge of the Metaverse could continue with the survey. Otherwise, if at least one condition from the criteria was not fulfilled, they were redirected to the end of the survey, informing them that they did not meet the necessary criteria to participate in this study.

The second major part of the survey comprised questions designed to collect data on the investigated variables. To ensure the inclusion of professionals who have already employed or have not employed the Metaverse as a tool for marketing communications, they were asked about their prior experiences with it. Therefore, this approach helped to adapt the questions and response options according to each professional's situation. Two versions of the same questions were created by alternating the tense of the statements. The questions included in the survey required the participants to rate their Intention to Use the Metaverse in the next three years. Next, they had to indicate their perceptions of Compatibility, Relative Advantage, Ease of Use, Image, Trialability, Result Demonstrability, Visibility and Voluntariness. Moreover, additional questions were introduced in the survey, investigating Computer Anxiety, Competitive Pressure, and Self-Reported Decision-Making. The last section of the survey aimed to collect information about the company where professionals are employed, such as size, business model, industry, and country where it is situated. Further, the demographic questions required the participants to introduce their gender, age, and country of origin. Finally, a comment box was provided in case participants had any inquiries and were directed to the end of the survey, where they were thanked for participating. The survey took approximately 10 minutes to complete.

3.4. Operationalisation

All the variables investigated in this study were adopted from previous innovation diffusion and technology acceptance research and were shown to have high validity and reliability. Most items were adjusted to the context of the Metaverse in marketing communications and to participants' previous experience with the Metaverse in a professional setting. The survey consisted of 12 independent variables and one dependent variable.

Intention to Use. Based on Venkatesh et al.'s (2003) Behavioural Intention to Use the System scale, the dependent variable of this research was measured via 3 items on a 7-point Likert scale (1 = *Strongly disagree*, 7 = *Strongly agree*). The Intention to Use construct was widely used in other individual acceptance of technology research (Venkatesh et al., 2003). An example of the item is: *I intend to use the Metaverse as a tool for marcom in the next 3 years*. The items of this variable were entered into a confirmative factor analysis using Principal Components extraction with Direct Oblimin rotation based on Eigenvalues (>1.00) $KMO = .75$, $\chi^2 (N = 167, 3) = 385.25$, $p < .001$. The resultant model explained 86.8% of the variance in Intention to Use. The scale resulted in one factor solution labelled Use intention. After running a reliability analysis, the scale showed good reliability ($\alpha = .92$). Consequently, the items were computed into a new variable UseIntention ($M = 4.85$, $SD = 1.37$).

Perceived Characteristics of Innovating. Based on Moore and Benbasat's (1991) PCI scale was employed in this research to measure eight constructs. This included Relative Advantage, Ease of Use, Compatibility, Image, Trialability, Result Demonstrability, Visibility, and Voluntariness. The 30 items which were measured on a 7-point Likert scale (1 = *Strongly disagree*, 7 = *Strongly agree*) were introduced into an explorative factor analysis using Principal Components extraction with Direct Oblimin rotation based on Eigenvalues (>1.00) $KMO = .87$, $\chi^2 (N = 167, 435) = 3722.31$, $p = .000$. The model explained 36.9% variance. The scale resulted in seven main factors:

Advantage. The nine items from the original Relative Advantage and Compatibility construct were included in the first factor. It reunited items about the advantages of using the Metaverse in marketing communications in terms of increasing the quality, ease, and quickness, but also about the compatibility of using the Metaverse with professionals' jobs. The items were checked for internal reliability ($\alpha = .94$) and were computed into a new variable, Advantage ($M = 4.26$, $SD = 1.20$).

Trialability. The four items were combined into the second factor about professionals' opportunity to try the Metaverse in marketing communications. These were computed into a

new variable, Trialability ($\alpha = .90$) ($M = 4.84$, $SD = 1.25$). An item of the factor is *Before deciding to use the Metaverse as a tool for marcom, I was/would be able to properly try it out.*

Ease of Use. The third factor covered the topic of the ease of learning and operating the Metaverse in marketing communications. An example includes *Overall, I believe the Metaverse is easy to use for marcom purposes.* The four items were checked for internal reliability ($\alpha = .86$) and were computed into a new variable, EaseUse ($M = 4.40$, $SD = 1.15$).

Visibility. Three items constituting the fourth factor were referring to the visibility of the Metaverse in companies' marketing communications. An item integrated into this component is *I have seen what other companies do in the Metaverse for marcom practices.* The subscale showed good internal reliability ($\alpha = .88$) and was computed into a new variable, Visibility ($M = 4.29$, $SD = 1.48$).

Voluntariness. The fifth factor included items linked to professionals' perception of the Metaverse being voluntary to use, without being imposed by superiors. Therefore, the three items, including a reversed one, were checked for internal reliability ($\alpha = .84$, e.g., *Although it might be helpful, using the Metaverse in marcom is certainly not compulsory for my job*) and were computed into a new variable, Voluntariness ($M = 5.54$, $SD = 1.37$).

Result Demonstrability. This factor includes four items and relates to the results of using the Metaverse that can be observed and communicated. Despite sufficient reliability ($\alpha = .72$), after deleting an item, the reliability was significantly increased ($\alpha = .88$). Consequently, the three remaining items were integrated into a new variable, Results ($M = 5.10$, $SD = 1.16$).

Image. The last factor encompassed three items referring to professionals' perceptions about using the Metaverse to enhance the prestige of a company. The items were checked for internal reliability ($\alpha = .87$, e.g., *Organizations that use the Metaverse as a tool for marcom have a high profile*), and a new variable was created, Image ($M = 4.49$, $SD = 1.54$).

Anxiety. To measure the level of Anxiety professionals may experience towards the Metaverse, this study adopted 3 items from the Computer Anxiety scale (Venkatesh et al., 2003). These were measured on a 7-point Likert scale ($1 = Strongly disagree$, $7 = Strongly agree$). A factor analysis for the items was realized using Principal Components extraction with Direct Oblimin rotation based on Eigenvalues (>1.00) $KMO = .59$, $\chi^2 (N = 167, 3) = 136,52$, $p < .001$. The resultant model explained 64.7% of the variance in Anxiety. Despite factor's low KMO value, it was decided to employ the factor in the further analysis following Kaiser's (1974) indications. This decision considered the high factor loadings observed in the relationship between the items. Therefore, the items were checked for internal reliability ($\alpha =$

.73). However, it was decided to delete an item to increase the internal reliability from an acceptable to a preferable value ($\alpha = .83$). The remaining items were computed into a new variable, Anxiety ($M = 3.60$, $SD = 1.55$).

Competitive Pressure. Competitive Pressure (e.g., *An industry move to utilize the Metaverse as a tool for marcom would put pressure on my firm to do the same*) was measured following the scale adopted by Arnold et al. (2018) on a 7-point Likert scale (1 = *Strongly disagree*, 7 = *Strongly agree*). The construct's objective is to examine to what extent the company's competitive environment motivates professionals to use the Metaverse as a tool for marketing communications. The four items were entered into a factor analysis using Principal Components extraction with Direct Oblimin rotation based on Eigenvalues (>1.00) $KMO = .64$, $\chi^2 (N = 167, 6) = 149.33$, $p < .001$. The resultant model explained 52.9% of the variance in Competitive Pressure. The scale is moderately reliable after deleting an item ($\alpha = .72$). Thus, a new variable composed of three items was created and was labelled Competition ($M = 4.71$, $SD = 1.24$).

Participation in Decision-Making. Four items from the Decentralised Strategic Decision-Making scale (Andersen, 2001) were used to measure the degree to which professionals are involved in the decision-making concerning introducing new practices in companies' marketing communications. These were measured on an 8-point Likert scale (0 = *Never*, 7 = *Always*). The items required to be adapted to the context of the study. As an example of the produced modifications, one of the items is: *To what extent do you participate in decisions to adopt new policies and practices in marcom?* The items of this variable were entered into a factor analysis using Principal Components extraction with Direct Oblimin rotation based on Eigenvalues (>1.00) $KMO = .74$, $\chi^2 (N = 167, 6) = 527.79$, $p < .001$. The resultant model explained 78.1% of the variance in the variable. The scale showed good internal reliability ($\alpha = .91$). Thus, the variable DecisionPower was created ($M = 3.95$, $SD = 1.69$).

Company size. The predicting factor related to the organizational context measured in this study is Company Size. It is measured by employing the classification of Enterprise Size provided by Eurostat (2016), which recognizes micro, small, medium-sized, and large enterprises. The number of persons employed is one of the most common criteria used to measure the size of a company (Eurostat, 2016). Hence, the scale included four items (e.g., *fewer than 10 employees; 10 to 49 employees; 50 to 249 employees; and 250 or more employees*).

3.5. Validity and Reliability

3.5.1. Validity Assessment

In order to ensure the robustness of the study, it is essential to consider both reliability and validity at every step of the research. Validity indicates the meaningfulness of the study's components (Drost, 2011). More precisely, it refers to the extent to which the research measures what it intends to measure (Bryman, 2016). Although it is impossible to have absolute validity, Swanson and Holton (2005) claim that in quantitative studies, validity can be improved when carefully designing the research, choosing suitable measurement instruments, and analyzing and reporting the data. Therefore, to ensure construct validity, the measurements were rooted in established theory and were shown to have relatively high levels of reliability and validity. For instance, the main framework used to investigate the perceptions about using the Metaverse, PCI (Moore & Benbasat, 1991), has rigorous initial testing and is considered to be a reliable and valid tool in the diffusion of innovation literature. Additionally, it was found to outperform the TAM in predicting individuals' intentions to adopt an innovation (Plouffe et al., 2001).

Secondly, the generalizability aspect of the results is supported by a clear definition of the population. This was achieved through purposive sampling that targets a specific population (Swanson & Holton, 2005). It consisted of targeting individuals with professions related to marketing communications, possessing more than two years of experience in the field, and being familiar with using of the Metaverse as a tool for marketing communications. Moreover, to evaluate the validity of each construct, these were entered into factor analysis using Principal Components extraction with Direct Oblimin rotation based on Eigenvalues (>1.00).

3.5.2. Reliability Assessment

Reliability represents the extent to which the measurements and results are stable when repeated in different conditions (Drost, 2011). In behavioral research, internal consistency is often measured to estimate reliability (Drost, 2011). Internal consistency concerns the reliability of the instrument and tests how well it measures a specific behavior (Drost, 2011). Cronbach's alpha, also referred as the alpha coefficient of reliability, is widely recognized as a useful indicator of internal consistency (Swanson & Holton, 2005). Therefore, to assess these, the factor loadings and Cronbach's alpha coefficients were identified for the PCI scale (see Table 3.1), Intention to Use scale (see Table 3.2), Participation in Decision-

Making scale (see Table 3.3), Computer Anxiety scale (see Table 3.4), and Competitive Pressure scale (see Table 3.5).

Table 3.1*Factor Loadings and Cronbach's α of the Reliability Analyses for the PCI Scale (N = 167)*

Item	<i>Advantage</i>	<i>Trialability</i>	<i>Ease of use</i>	<i>Visibility</i>	<i>Voluntariness</i>	<i>Results</i>	<i>Image</i>
Using the Metaverse for marcom makes it easier to do my job.	.84						
Using the Metaverse as a tool for marcom helps me to accomplish tasks more quickly.	.82						
Overall, I find the Metaverse as a tool for marcom to be advantageous for my job.	.80						
I think that using the Metaverse as a tool for marcom fits well with the way I like to work.	.79						
Using the Metaverse enhances my effectiveness on my work in marcom.	.76						
Using the metaverse improves the quality of the work I do in marcom.	.73						
Using the Metaverse fits into my working style.	.71						
Using the Metaverse gives me greater control over my work in marcom.	.62						
Using the Metaverse is compatible with all aspects of my work in marcom.	.56						
Before deciding to use the Metaverse, I was able to properly try it out.		.89					
I was able to experiment with the Metaverse as necessary.		.85					
Metaverse was available to me to adequately test run applications in marcom.		.83					
I was permitted to use the Metaverse on a trial basis long enough to see what it could do in marcom.		.82					
Overall, I believe the Metaverse is easy to use for marcom purposes.			.87				
I believe that it is easy to get the Metaverse to do what I want it to do in marcom.			.79				
Learning to operate marcom in the Metaverse is easy for me.			.77				
My interaction with the Metaverse is clear and understandable.			.63				
I have seen what other companies do in the Metaverse for marcom practices.				.91			
I have had plenty of opportunity seeing the Metaverse being used in marcom.				.89			
It is easy for me to observe other companies using the Metaverse in marcom.				.82			
Although it might be helpful, using the Metaverse in marcom is certainly not compulsory for my job.						.94	
My boss does not require me to use the metaverse for marcom practices.						.91	

My superiors expect me to use the Metaverse in marcom. (R)	.67	
I believe I could communicate to others the consequences of using the Metaverse in marcom.		-0.74
I would have no difficulty telling others about the results of using the Metaverse in marcom.		-0.67
I would have difficulty explaining why using the Metaverse may or may not be beneficial in marcom. * (R)		(-0.61)
The results of using the Metaverse as a tool for marcom are apparent to me.		-0.53
Using the Metaverse as a tool for marcom is a status symbol.		-0.89
Organizations that use the Metaverse as a tool for marcom have a high profile.		-0.82
Organizations that use the Metaverse as a tool for marcom have more prestige than those that do not.		-0.70

<i>Eigenvalue</i>	11.08	3.00	2.20	1.93	1.75	1.29	1.11
Cronbach's α	.94	.90	.86	.88	.84	.88	.87

Notes. *The item was deleted to increase the internal reliability of the scale by .16 ($\alpha = .88$).

(R) signifies that the item was reverse scored.

Table 3.2

Factor Loadings and Cronbach's α of the Reliability Analyses for the Intention to Use Scale
($N = 167$)

Item	<i>Intention to Use</i>
I intend to use the Metaverse as a tool for marcom in the next 3 years	.95
I predict I would use the Metaverse for marcom practices in the next 3 years	.93
I plan to use the Metaverse in my job in the next 3 years	.92
<i>Eigenvalue</i>	2.61
Cronbach's α	.92

Table 3.3

Factor Loadings and Cronbach's α of the Reliability Analyses for the Participation in Decision-Making Scale ($N = 167$)

Item	<i>Competitive Pressure</i>
To what extent do you participate in decisions about the development of new important capabilities in marcom?	.91
To what extent do you participate in decisions about major changes in the company's/division's market position?	.90
To what extent do you participate in decisions to adopt new policies and practices in marcom?	.87
To what extent do you participate in decisions about the firm's/division's moves into new major customer segments and market areas?	.86
<i>Eigenvalue</i>	3.13
Cronbach's α	.91

Table 3.4

Factor Loadings and Cronbach's α of the Reliability Analyses for the Computer Anxiety Scale
($N = 167$)

Item	<i>Computer Anxiety</i>
The Metaverse is somehow intimidating me.	.89
I hesitate to include the Metaverse in our marcom for fear of making mistakes I cannot correct.	.87
I feel apprehensive about using the Metaverse in marcom.*	(.62)
<i>Eigenvalue</i>	1.94
Cronbach's α	.83

Note. *The item was deleted to increase the internal reliability of the scale with more than .05, from an acceptable to a preferable reliability ($\alpha = .83$).

Table 3.5

Factor Loadings and Cronbach's α of the Reliability Analyses for the Competitive Pressure Scale ($N = 167$)

Item	Participation in Decision-Making
Our customers tend to look for new services all the time.	.86
In our kind of business, customers' preferences for services and products change quite a bit over time.	.77
Competition in our sector is "cut throat".	.70
An industry move to utilize the Metaverse as a tool for marcom would put pressure on my company to do the same.*	(.55)
<i>Eigenvalue</i>	2.12
<i>Cronbach's α</i>	.72

Note. *The item was deleted to increase the internal reliability from $<.70$ to $>.70$ ($\alpha = .72$).

3.6. Data Analysis

In this research, the analysis of data consists of several crucial steps. All the manipulations and analyses of data are performed using the IBM SPSS Statistics 28 software. Before beginning the analyses, the items from the scales adapted for participants with or without prior experience with the Metaverse were recoded into different variables in order to combine the two versions of one item into a single variable. After recoding the items of the scales, the dataset was ready for statistical analyses. First, to provide a summary of data and describe the characteristics of the sample, frequency and descriptive statistics are performed. On the one hand, descriptive statistics are realized to describe the mean and standard deviation of continuous variables, such as age. On the other hand, frequency statistics are run for each categorical variable, such as Professional Experience, Previous Experience with the Metaverse, Company Country, Size, Industry, and Business Model, as well as respondent Gender and Country of Origin. Second, factor analyses for each scale are performed to examine the resultant factors and their loadings, the KMO, and the significance value of the model and to reduce the dimension of the variables by condensing the items. Consequently, to ensure adequate internal consistency of scales, reliability analyses of the resulting factor structures are made.

Third, hierarchical regression analysis is conducted to assess the relationship between the independent variables, including the perceived characteristics of using the Metaverse, Competitive Pressure, and the dependent variable, Intention to Use the Metaverse. The control variable, Participation in Decision-Making, was integrated into the research model to examine its influence on the relationships between the independent and dependent variables. This type of inferential statistics is useful in understanding what factors are most likely to influence professionals' Intention to Use the Metaverse and if adding a control variable improves the predictive power of the model. Moreover, the model was tested for multicollinearity. Further,

to understand the relationship between Anxiety and Ease of Use, a linear regression analysis is performed. Finally, ANOVA is realized to assess whether professionals working in large companies score higher in Intention to Use the Metaverse as a marketing communications tool than those working in smaller companies. ANOVA is helpful in comparing the mean scores of the Intention to Use the Metaverse between these groups.

4. Results

This chapter presents the results of the analyses performed to test the hypotheses of this study. A hierarchical regression analysis was realized to examine the contribution of nine independent variables in explaining the variation in the Intention to Use while controlling the Participation in Decision-Making variable. Integrating the control variable in the researched model aims to extend existing literature and investigate to what extent it can influence the relationship between the independent and dependent variables. Furthermore, to assess the impact of Company Size on Intention to Use, an ANOVA was conducted. Finally, a linear regression analysis was performed to measure the influence of Anxiety of Ease of Use, one of the central constructs of the PCI framework. The results of the performed analyses are explained below.

4.1. Hierarchical regression analysis

In the present study, a hierarchical regression analysis was performed to investigate the predictive power of eight independent variables on the intention to use as the dependent variable. The control variable, Participation in Decision-Making, was included to enrich existing research models and enhance the understanding of the factors influencing professionals' Intention to Use the Metaverse. Based on the definition provided by Andersen (2001), in this research, Participation in Decision-Making represents the degree to which employees are implicated in making important strategic decisions. Lowin (1968) claims that as contrasted with the "conventional hierarchical (HIER) mode of operations", participative decision-making (PDM) is a "mode of organizational operations" where activities are executed by individuals who priorly took those decisions (p. 69). Considering that PCI is a tool designed to investigate the "initial adoption of IT by individuals in organizations" (Moore & Benbasat, 1991, p. 193), which includes rather individual-level factors, introducing Participation in Decision-Making as a control variable helps understand the impact professionals' involvement in decision-making on their Intention to Use the Metaverse.

While in the first block, DecisionPower, representing Participation in Decision-Making was added as the control variable, in the second block were introduced the variables Advantage, EaseUse, Trialability, Image, Results, Visibility, Voluntariness, and Competition. When DecisionPower ($\beta = .11, p = .150$) was employed as a unique predictor, the model did not reach significance, $R^2 = .01, F(1, 165) = 2.09, p = .150$. However, adding the eight independent variables significantly enhanced the predictive value of the model $\Delta R^2 = .55, F$

(8, 157) = 24.57, $p < .001$. Nevertheless, DecisionPower remains insignificant ($\beta = -.02$, $p = .720$). Therefore, the control variable does not significantly explain the relationship between UseIntention and the independent variables. For this reason, the eight independent variables are sufficient to explain the impact of the dependent variable.

Accordingly, after examining the contribution of each independent variable, several significant results were identified (see Table 4.1). First, the variable Advantage ($\beta = .42$, $p < .001$), encompassing both Relative Advantage and Compatibility constructs, had significant positive effects on the intention to use the Metaverse. Therefore, H1 and H2 are accepted. Second, EaseUse, representing Ease of Use, was also found to be significant and to positively influence UseIntention ($\beta = .15$, $p = .027$). Hence, H3 is accepted. Third, there was a significant positive effect of the independent variable Image on UseIntention ($\beta = .14$, $p = .042$), which confirms H4. Still, Trialability had insignificant results ($\beta = -.06$, $p = .348$), and H5 is rejected. Similarly, H6 is rejected as Visibility was insignificant ($\beta = .05$, $p = .399$). Additionally, the Results variable, representing Result Demonstrability, was insignificant ($\beta = .12$, $p = .081$), which means that H7 is rejected. Further, even though Voluntariness showed significant results, contrary to the expectations, there was a negative impact on UseIntention ($\beta = -.14$, $p = .026$). Subsequently, the H8 is rejected. Finally, the last independent variable included in the analysis, Competition, was insignificant ($\beta = .04$, $p = .502$), which rejects H10.

Additionally, the predictor variables introduced in the regression analysis were checked for multicollinearity in order to identify if the variables are correlated with one another. Nevertheless, the degree of correlation is low, which shows that the relationships between a predictor and the dependent variable are isolated from other predictors.

Table 4.1

Hierarchical Regression Model for Predicting Professionals' Intention to Use the Metaverse (N = 167)

	Model 1	Model 2
DecisionPower	.11	-.02
Advantage		.42**
EaseUse		.15*
Image		.14*
Trialability		-.06
Results		.12
Visibility		.05
Voluntariness		-.14*
Competition		.04

$R^2 = .01$	$\Delta R^2 = .55$
$p = .150$	$p < .001$

Note. Significance levels: * $p < .050$, ** $p < .001$

4.2. ANOVA

In this study, a one-way analysis of variance (ANOVA) was conducted to measure the difference between four different groups, representing the company size as the independent variable, on UseIntention as a dependent variable. However, the model was insignificant, $F(3, 163) = .23, p = .878$, partial $\eta^2 = .004$, and no comparison reached significance between the groups “fewer than 10 employees” ($M = 4.77, SD = 1.70$), “10-49 employees” ($M = 4.74, SD = 1.22$), “50-249 employees” ($M = 4.83, SD = 1.41$) and “250 or more employees” ($M = 4.96, SD = 1.37$). Thus, $\neq H9$.

4.3. Linear Regression Analysis

A linear regression analysis was executed with EaseUse as the dependent variable and Anxiety as the predictor. The model was found to be significant, $F(1, 165) = 14.51, p < .001, R^2 = .08$. Anxiety had a significant negative influence on EaseUse. ($\beta = -.28, p < .001$). Therefore, H11 is accepted.

5. Discussion

5.1. Theoretical Implications

Despite the implications the Metaverse presents for various fields, such as marketing, education, tourism, manufacturing, politics, and social life (Dwivedi et al., 2022), there is limited research examining it. This research takes a step into researching this new technology and is focused on the usage of Metaverse as a tool for marketing communications. It investigated the impact of the perceived characteristics of using the Metaverse on professionals' Intention to Use it in companies' marketing communications strategies and practices. Even if the PCI (Moore & Benbasat, 1991) framework proposes a rich set of predictors, relatively few research applied this model (Plouffe et al., 2001). Therefore, this research comes with an innovative approach of applying the PCI framework to the topic of the Metaverse in order to provide more insights regarding the significance of each construct and explain professionals' Intention to Use it. Hence, the research model included constructs regarding the usage of the innovation, such as Relative Advantage, Compatibility, Ease of Use, Image, Trialability, Visibility, Result Demonstrability, and Voluntariness.

Additional factors from the TOE framework were added to the research model to provide a greater understanding of the factors influencing Intention to Use and to provide an integrative perspective. As such, following the TOE framework, Company Size was incorporated as an element of the organizational context and Competitive Pressure as an environmental characteristic. Finally, the Anxiety construct was included in the research model as a characteristic of the individual to investigate the barriers professionals may experience when facing this innovation in marketing communications. Consequently, this study integrates innovation, environmental, organizational, and individual characteristics as predictors of professionals' Intention to Use the Metaverse. The research findings present essential insights for multiple actors and contribute to innovation and technology acceptance literature diffusion. Subsequently, the following paragraphs will elaborate on the findings, on their theoretical and societal implications.

This research tested whether Relative Advantage and Compatibility positively influence professionals' Intention to Use the Metaverse in marketing communications. After conducting the factor analysis of the PCI scale, both constructs resulted in the same component. Even though the research adopted the constructs from the PCI scale, which intended to create conceptually distinct constructs, Moore and Benbasat (1991) were also confronted with a similar situation. The authors of the scale suggested that study participants

tend to confound these constructs with one another. On this account, Relative Advantage and Compatibility were grouped under the same variable and were identified as positive predictors of Intention to Use. In line with previous research claiming that Compatibility is one of the best performing innovation constructs (Tornatzky & Klein, 1982) and that Relative Advantage is often demonstrated to be the most significant in predicting acceptance behavior (Flight et al., 2011), this study reports consistent findings. To elaborate on these, Relative Advantage and Compatibility demonstrated the largest effect size on the Intention to Use the Metaverse. Thus, it can be derived that professionals' perceptions about using the Metaverse to be more advantageous compared to other marketing communications channels and to be compatible with professionals' working style and past experiences (Moore & Benbasat, 1991) are among the most important predictors of Intention to Use the Metaverse.

The second positive and significant predictor for professionals' Intention to Use the Metaverse is Ease of Use. It conveys that the more the Metaverse is perceived to be easy to use in marketing communications practices and strategies, the more professionals will be motivated to use it. Ease of Use is often associated with acceptance behavior (Tornatzky & Klein, 1982), and similar constructs are included in another diffusion of innovation and technology acceptance models, such as perceived ease of use in the TAM (Davis et al., 1989), or effort expectancy in the UTAUT (Venkatesh et al., 2003). Compared to Relative Advantage and Compatibility, Ease of Use has a weaker effect size on Intention to Use. This can suggest that in the professional context, a system's advantages are more significant than the ease of using it. Hence, professionals are willing to use the Metaverse and overcome difficulties to enhance their job performance and benefit from the innovation.

Third, Image was found to positively impact professionals' Intention to Use the Metaverse. As previously specified, this construct experienced several modifications to fit the context of this research and the subject of the Metaverse in marketing communications. While initially, Image reflects one's perceptions about the degree to which using an innovation improves one's image in a social system (Moore & Benbasat, 1991), in this research, it refers to one's perceptions about an organization's status after using the Metaverse. Following the theoretical underpinning of this construct, the results show that the more professionals perceive using Metaverse to enhance company's prestige, the more they will be motivated to use it in marketing communications. These findings might be explained by SIT (Tajfel & Turner, 1979), suggesting that professionals are inclined to identify with their organization and may desire it to be more attractive and successful. Nevertheless, it is essential to mention that this construct has a relatively weak magnitude of effect on the Intention to Use the

Metaverse. On this account, the findings indicate that Relative Advantage and Compatibility remain the key drivers of behavioral intention, even if professionals perceive that using the Metaverse can increase company's reputation and status.

Fourth, in comparison with prior research, this study did not find significant association between Trialability and Intention to Use the Metaverse. Rogers (2003) argues that when individuals try an innovation, the uncertainty towards it is reduced. However, considering insignificant findings, in the professional context, individuals are already experienced with trying innovative tools or implementing trending practices. As sustained by the sampling strategy, which targeted professionals with a minimum of two years of experience in marketing communications and with prior knowledge about the strategies that can be built in the Metaverse, trial options might be regarded as not essential for professionals compared to other constructs. Additionally, the possible difference in responses between professionals with prior experience and without can influence the significance of the results as the importance of Trialability might decrease when the individual have already tried the innovation.

In contrast to previous research (Agarwal & Prasad, 1997), Result Demonstrability construct was found to have an insignificant association with professionals' Intention to Use the Metaverse. It is important to consider the possible impact of deleting an item from the Result Demonstrability subscale. Eliminating an item could have resulted in a loss of information and could affected the statistical significance of the results. Additionally, participants who have already employed the Metaverse in marketing communications and those who did not may differently perceive the results of using it. Subsequently, the possible difference between professionals' responses, with or without previous experience with this innovation can represent a factor influencing the significance of the findings. Therefore, further investigation is needed to explore the impact of prior experience with the Metaverse on the relationship between Result Demonstrability and acceptance behavior.

Concerning the insignificance of Visibility as a predictor for Intention to Use the Metaverse, it is critical to remember that this construct was slightly modified according to the subject of this study. As such, while the original construct refers to the perceived visibility of the using an innovation in one's organization (Moore & Benbasat, 1991), this research conceptualized it as the degree to which professionals can observe the usage of the Metaverse in other organizations. Accordingly, despite subscale's good internal reliability, the modifications in the conceptualization as well as in the measurement items could have had impacted the results and affected construct's validity.

As contrasted with previous research as well as with the expectations of this study, Voluntariness was found to be a negative predictor for professionals' Intention to Use. As such, when Voluntariness increases, professionals' Intention to Use the Metaverse decreases. Hartwick and Barki (1994) claim that mandatory users create behavioral intentions because they perceive other important actors, such as their superiors, to require them to use the system. Additionally, the authors highlight that when a system is still relatively current, and individuals do not yet have knowledge about it, normative influence from superiors produces a more significant influence on intentions. Therefore, considering the novel essence of the Metaverse, the requirement to use the Metaverse might actually represent a stimulus for professionals to step into this new technology and overcome the hesitations that might exist in the initial phases of adoption. This finding contributes to the literature in organizational studies by highlighting the role of external pressure in generating use intentions. Further research is needed to investigate this finding and to explore the significance of Voluntariness at each adoption stage.

To enrich the research model of this study, Competitive Pressure was introduced as an element of the environmental context from the TOE framework. Nevertheless, contrary to study's assumptions and previous research (Arnold et al., 2018; Iacovou et al., 1995), Competitive Pressure did not have a significant association with Intention to Use the Metaverse. There are several potential explanations for this finding. Firstly, the chosen operationalization of Competitive Pressure might not have fully captured the dimensions of competitiveness in the context of the Metaverse. Further, deleting one item from the scale to increase the internal reliability could have impacted the significance of the results. Second, even if there is no direct connection between Competitive Pressure and Intention to Use, there might be other factors to mediate or moderate this relationship. For instance, it might be helpful to consider company's industry sector, business model, or other organizational and individual characteristics as factors that can influence this relationship. Finally, given that the sample is not fully representative in terms of industry, gender, business model, and prior experience with the Metaverse, the sample characteristics might also influence the significance of the results.

To investigate the impact of organizational characteristics, this study measured whether professionals working in large companies score higher in Intention to Use the Metaverse. However, no significant comparisons between groups were found. Multiple reasons can be the cause of these findings. First, measuring the number of employees as an organizational characteristic may not have succeeded in encapsulating the nuances of

company size. Moreover, the imbalance among the groups representing professionals working in micro, small, medium-sized, and large companies could have contributed to obtaining insignificant comparisons.

Given the importance of Ease of Use in the diffusion of innovations and technology acceptance literature (Tornatzky & Klein, 1982), this research incorporated Anxiety as an additional construct representing a characteristic of the individual. This factor was added to extend existing research models and theories and explore the barriers that professionals might face when interacting with the Metaverse. In accordance with previous research (Venkatesh, 2000), this study found Anxiety to be a negative predictor for professionals' Intention to Use the Metaverse. The findings suggest that the novel nature of the Metaverse and limited understanding of its implications in marketing communications might cause a sense of anxiety which negatively influences Ease of Use. Consequently, professionals might perceive the Metaverse as a complex and stressful tool.

Finally, this research found no significant influence of the control variable, Participation in Decision-Making, on the relationship between the PCI constructs and professionals' Intention to Use the Metaverse. This finding may suggest that professionals do not perceive their participation in strategic decisions about a company's marketing communications as crucial in using the Metaverse. Adding other predictor variables into the regression model showed that professionals consider Relative Advantage, Compatibility, Ease of Use, and Image as more valuable and influential in motivating them to use the Metaverse. Moreover, the lack of significance of the control variable can be caused by the changes made in the items to adapt them to this study. Further research adopting a qualitative approach can provide valuable insights into the importance of Participation in Decision-Making and other factors by conducting in-depth interviews or focus groups.

5.2. Societal Implications

This study presents important insights for companies who intend to use the Metaverse as a tool for marketing communications and for the Metaverse technology providers. The findings should be considered by business leaders and decision-makers for several reasons, as the insights can help decision-makers to manage better resource allocations and R&D investments. To begin with, considering the significance of Relative Advantage in predicting professionals' Intention to Use the Metaverse, managers that want to integrate the Metaverse into company's strategies and practices should provide employees with training and informative sessions about the Metaverse. By offering proper education, employees can gain a

better understanding of the benefits and the implications the Metaverse presents for the field of marketing communications. For instance, informing professionals about immersive and interactive experiences and their benefits for brand awareness or loyalty can contribute to their confidence and expertise in utilizing the Metaverse in company strategies. Consequently, professionals can enhance their knowledge about this innovative tool and develop a greater Intention to Use the Metaverse.

Next, training professionals can play an essential role in augmenting the perceptions of Compatibility of using the Metaverse with professionals' work experiences and practices. More specifically, workshops are useful in familiarizing the employees with this technology and with the ways it can be incorporated into daily job responsibilities. Furthermore, using the Metaverse can be perceived as challenging from a technological and practical perspective. The findings of the study highlight the negative impact of Anxiety that professionals may experience towards the Metaverse. As well, it indicates the importance of supporting professionals, particularly in the initial stages of adoption when they have limited interaction with this innovation. Hence, guiding employees is critical in overcoming the barriers and the sense of anxiety these may experience. As such, training sessions can be highly effective in facilitating the integration of the Metaverse into professionals' routines, increasing the perceptions of Ease of Use and Intention to Use.

Further, the findings suggest that apart from emphasizing the practical benefits of the Metaverse, managers should also discuss how companies can enhance their status and image using the Metaverse. Showcasing success stories of other companies and expanding on the advantages for company's prestige of being an early adopter of the Metaverse can contribute to increasing professionals' Intention to Use the Metaverse. Finally, regarding Voluntariness, this research indicates that the influence superiors emanate can motivate professionals to discover the Metaverse and overcome the uncertainty they might have towards the innovative tool.

An overview of professionals' perceptions about using the Metaverse and their behavioral intentions represents a valuable resource for technology providers and developers of the Metaverse. This knowledge can help providers customize their offerings according to professionals' needs regarding Relative Advantage, Compatibility, and other factors. For instance, the Metaverse should be designed to allow professionals extract value and increase the relevant KPIs. This would include allowing companies to build immersive and interactive customer experiences, creating branded NFTs, and other strategic practices.

Moreover, companies providing Metaverse environments should develop an effective communication strategy that would promote and increase awareness about the advantages companies can obtain by integrating the Metaverse into their marketing communications. Offering an attractive unique proposition and a clear explanation of how the Metaverse outperforms other channels and tools used in marketing communications is necessary to enhance professionals' perception of Relative Advantage and Intention to Use.

In addition, the findings highlight the importance of guiding companies in their process of learning and adopting the Metaverse. Providing services to help companies integrate the Metaverse is essential for employees to understand how the Metaverse can be employed in companies' strategy and daily practices. Finally, the findings of this study highlight the need to create easy-to-use and user-friendly environments with the aim of decreasing professionals' sense of anxiety and difficulty when using the Metaverse in marketing communications.

5.3. Limitations and Directions for Future Research

This research presents multiple limitations that are important to consider when interpreting the findings. First, it is critical to note that this research has a non-experimental design and does not reveal a cause-effect relationship between the independent and dependent variables. Subsequently, future research should adopt an experimental design to establish causality relationships (Miller, 2005). Second, despite reaching the target audience for this study, professionals working in marketing communications and being aware of the usage of the Metaverse in their work, the purposive sampling method can engender several issues. It is essential to acknowledge that it is a form of non-probability sampling and does not always offer a representative sample (Robinson, 2014). For instance, in the way that the researcher of this study selected the participants based on his judgment (Sarstedt et al., 2018), there might be biases influencing the sample composition and the findings. Next, this sampling method can cause the gender imbalance. Given that previous studies identified that women and men differ in their perceptions about a technology (Gefen & Straub, 1997; Venkatesh & Morris, 2000), this disproportion can have an impact on the findings of the study. As such, further research should strive to obtain a more representative and balanced sample by adopting a probability sampling strategy.

Third, this sampling method can be the reason for the unequal distribution of participants' country of origin and company's country. Participants born and working in the Netherlands were the most substantial group among other countries. Similarly, the sample has

an international nature which limits the generalizability of the findings across countries. The cultural context and differences can impact individuals' perceptions, values, and beliefs about using innovative technologies at work, such as the Metaverse. For example, when testing TAM across cultures, researchers found that the model helps examine IT adoption and use in the US and Switzerland but not Japan (Straub et al., 1997). These findings could also apply to the PCI framework and other models of diffusion of innovation and technology acceptance. Therefore, the findings of this study should be carefully interpreted considering the differences between countries and cultures. Consequently, future research could consider companies' localization and participants' country of origin as contextual variables that could impact the findings and examine whether the researched constructs have similar significance across cultures.

Another limitation of this study regards the KMO of the Anxiety variable. As previously discussed, following Kaiser (1974), it was decided to employ this variable despite its mediocre value. Hence, even if the study identified that Anxiety negatively influences the Intention to Use, this finding should be interpreted with caution. The following limitation points to the construct Image, originally described as the degree to which using an innovation is perceived to increase one's image. More precisely, to adapt it to the context of this study, the conceptualization Image was modified to reflect the impacts of using the Metaverse on company's status rather than directly on individuals. Therefore, the findings, as well as the theoretical conceptualization, should be prudently estimated in the way that there is no confusion with other studies and results. Nevertheless, future research could further investigate the association between employee identification with the company and the perceived importance of using an innovation to augment company's image and prestige. This approach would better explain the impact of Image, as conceptualized in this research, on professionals' Intention to Use the Metaverse or other IT innovations.

Further, descriptive statistics revealed an imbalance among the groups representing the company size, which could lead to insignificant results of the ANOVA test. Moreover, in this research, the company size was measured by the numbers of company's employees. Nevertheless, this can be recorded by company's financial resources or input and output volume (Damanpour, 1992). For instance, financial capabilities are equally crucial for a company to support the implementation of innovations (Zhu et al., 2003). Accordingly, future research could measure alternative metrics of company size and consider other organizational characteristics as important factors that can influence professionals' Intention to Use.

This study adopted Intention to Use as the variable of the acceptance behavior, primarily representing the motivation to use the Metaverse in the future. However, descriptive statistics of the sample revealed that almost one-third of participants had previous professional experience with the Metaverse. Therefore, with the development in the Metaverse technologies and increasing rate of adoption of this innovation, future research should introduce other outcome variables, such as current usage, to better integrate users and non-users of the Metaverse. It would allow researchers to explore how adopters and non-adopters perceive the usage of the Metaverse.

Additionally, Rogers (2003) claims that there are different stages in the diffusion-adoption process. Previous studies found that the acceptance behavior and the significance of different PCI constructs change over time. Consequently, it would be valuable for future research to examine the influence of the PCI factors on the acceptance behaviour across the adoption stages of an innovation in a company. This approach could provide managers with additional insights into how they can support their employees at each adoption stage. Finally, by extending the traditional research models, future studies can embrace other factors that might improve the models' predictive power. For example, examining the factors of the TOE framework can contribute to better comprehending the influence of environmental and organizational context on the diffusion of the innovations process.

5.4. Conclusion

The current study aimed to investigate the extent to which the perceived characteristics of using the Metaverse affect professionals' Intention to Use it as a tool for marketing communications. As such, it argues that professionals' Intention to Use the Metaverse is associated with the way they perceive the usage of the innovation. Among the researched constructs from Moore and Benbasat's (1991) PCI framework and the TOE framework, this research acknowledges the magnitude of Relative Advantage and Compatibility in estimating professionals' behavioral intentions. Congruent with the findings of the aforementioned research, the degree to which professionals perceive the usage of the Metaverse to be beneficial and possess more advantages than other tools in marketing communications is one of the key predictors. Similarly, the extent to which the usage of the Metaverse is perceived to be compatible with professionals' work in marketing communications has a significant relationship with the Intention to Use.

In addition, the findings suggest that Ease of Use and Image are also significantly associated with behavioral intention. More particularly, this indicates the importance of

providing an easy-to-use innovation and of the benefits related to the status that the usage of the innovation can offer. This research looks into the challenges professionals might face in their journey of familiarizing themselves with the Metaverse and adopting it by identifying a negative association between Anxiety and Ease of Use. Moreover, an interesting insight has been noticed in respect to the negative association between Voluntariness and Intention to Use. The finding accentuates the role of normative pressure in driving behavioral intentions. Further, despite insignificant findings regarding Competitive Pressure and Company Size, this study intended to adopt an integrative perspective and provide a wider perspective on the potential predictive factors, including innovation, organizational, environmental and individual characteristics. To conclude, considering the effect sizes of the resultant model, to successfully integrate the Metaverse into company's marketing communications, managers should pay particular attention and emphasize Relative Advantage and Compatibility as the key predictors of Intention to Use. Further research of the Metaverse and professionals' acceptance is required to explore the implications of this innovation in marketing communications and to provide a greater explanation of the predictive factors across adoption stages.

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Appendix A: Survey Design

Survey Flow

Block: Welcome (2 Questions)
Branch: New Branch If If If you understand the information above and freely consent to participate in this study, click on... I do not agree Is Selected
EndSurvey: Advanced
Standard: Criteria1 (1 Question)
Branch: New Branch If If Do you currently work in a job related to marketing communications? (Marketing communications typi... No, I do not Is Selected
EndSurvey: Advanced
Standard: Criteria2 (1 Question)
Branch: New Branch If If What is your total years of experience in the field of marketing communications? Less than 2 years Is Selected
EndSurvey: Advanced
Standard: Criteria3 (1 Question)
Branch: New Branch If If Are you aware of the application of the Metaverse in marketing communications strategies? This can... No, I am not Is Selected
EndSurvey: Advanced
Standard: Definition (1 Question) Standard: MetaUse1 (1 Question) Standard: MetaUse2 (1 Question) Standard: UseIntention (1 Question)
Branch: New Branch If If Have you used Metaverse for marketing communications purposes? This can include advertising in vir... Yes Is Selected
Standard: PCIyes (7 Questions)
Branch: New Branch If If Have you used Metaverse for marketing communications purposes? This can include advertising in vir... No Is Selected

Standard: PCIIno (7 Questions)

Standard: Voluntariness (1 Question)

Standard: Anxiety (1 Question)

Standard: Competition (1 Question)

Standard: SDM (1 Question)

Standard: CompanyInfo (4 Questions)

Standard: Demographics (4 Questions)

Page Break

Start of Block: Welcome

Dear respondent,

My name is Xenia Budeanu and I thank you for your interest in my Master Thesis research. You are invited to participate in research about the use of the Metaverse in marketing communications practices. The purpose of this study is *to understand how professionals' opinions about the Metaverse might affect their potential use of it for marketing communications operations*.

The Metaverse is a term used to describe a three-dimensional (3D) virtual world where users engage with other users and virtual objects and explore virtual spaces through avatars. It is a digital universe where people can connect, collaborate, create, and experience a wide range of activities, including gaming, entertainment, education, shopping, and more. **The Metaverse** offers many opportunities for companies to engage with their customers in a meaningful manner, such as creating immersive brand experiences, virtual stores and showrooms, or hosting virtual product launches and events.

The questionnaire will take approximately 7 minutes to complete. Please answer each question carefully and honestly. There are no right or wrong answers.

CONFIDENTIALITY OF DATA

All research data remain completely confidential and are collected in anonymous form. The collected data will be used exclusively for the purpose of this study and will not be shared with third parties. There are no foreseeable risks or discomforts associated with participating in this research.

VOLUNTARY

If you have decided to accept to participate in this project, please understand your participation is voluntary and you have the right to discontinue participation at any time without penalty.

PAYMENTS

There will be no monetary compensation for your participation.

You must be 18 years or older to participate in this survey.

FURTHER INFORMATION

If you have questions about this research, in advance or afterwards, you can contact the responsible researcher, Xenia Budeanu, email: 661536xb@eur.nl.

This study has been approved by the Ethics Committee of Erasmus University Rotterdam. If you want to invoke your rights or if you have a question concerning privacy about this study, you can contact Erasmus University's DPO (Data Protection Officer) at fg@eur.nl.

If you understand the information above and freely consent to participate in this study, click on the “I agree” button below to start the questionnaire.

- I agree
- I do not agree

End of Block: Welcome

Start of Block: Criteria1

Do you currently work in a job related to marketing communications?

(Marketing communications typically include roles such as: marketing managers, marketing coordinators, public relations specialists, social media managers, social media marketers, digital marketing specialists, advertising managers, community managers, influencer marketing specialists, communications coordinators, etc.)

- Yes, I do
- No, I do not

End of Block: Criteria1

Start of Block: Criteria2

What is your total years of experience in the field of marketing communications?

- Less than 2 years
- 2-5 years
- More than 5 years

End of Block: Criteria2

Start of Block: Criteria3

Are you aware of the application of the Metaverse in marketing communications strategies?
This can include advertising in virtual worlds, engaging with customers/audiences, creating and selling virtual objects and NFTs (non-fungible tokens), creating virtual product launches, events, and brand experiences in virtual worlds, and other practices.

- Yes, I am
- No, I am not
- I am not sure

End of Block: Criteria3

Start of Block: Definition

The Metaverse is a term used to describe a three-dimensional (3D) virtual world where users engage with other users and virtual objects and explore virtual spaces through avatars. It is a digital universe where people can connect, collaborate, create, and experience a wide range of activities, including gaming, entertainment, education, shopping, and more. **The Metaverse** offers many opportunities for companies to engage with their customers in a meaningful manner, such as creating immersive brand experiences, virtual stores and showrooms, or hosting virtual product launches and events.

End of Block: Definition

Start of Block: MetaUse1

Does the company/organization you work for have any experience with the Metaverse as a tool for marketing communications?

- Yes
- No
- I am not sure

End of Block: MetaUse1

Start of Block: MetaUse2

Have you used Metaverse for marketing communications purposes?

This can include advertising in virtual worlds, engaging with customers/audiences, creating and selling virtual objects and NFTs (non-fungible tokens), creating virtual product launches, events, and brand experiences in virtual worlds, and other practices.

Yes

No

End of Block: MetaUse2

Start of Block: UseIntention

Rate the following statements on the provided scale

The abbreviation "*marcom*" stands for Marketing Communications

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I intend to use the Metaverse as tool for <i>marcom</i> in the next 3 years	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I predict I would use the Metaverse for <i>marcom</i> practices in the next 3 years	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I plan to use the Metaverse in my job in the next 3 years	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: UseIntention

Start of Block: PCIyes

Rate the following statements on the provided scale^a
 The abbreviation "*marcom*" stands for Marketing Communications

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Using the Metaverse is compatible with all aspects of my work in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that using the Metaverse as a tool for <i>marcom</i> fits well with the way I like to work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using the Metaverse fits into my work style	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

Rate the following statements on the provided scale^a
 The abbreviation "*marcom*" stands for Marketing Communications

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Using the Metaverse as a tool for <i>marcom</i> makes it easier to do my job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using the Metaverse as a tool for <i>marcom</i> helps me to accomplish tasks more quickly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using the Metaverse improves the quality of the work I do in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using the Metaverse gives me greater control over my work in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using the Metaverse enhances my effectiveness on my work in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I find using the Metaverse as a tool for <i>marcom</i> to be advantageous in my job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Rate the following statements on the provided scale^a
 The abbreviation "*marcom*" stands for Marketing Communications

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
My interaction with the Metaverse is clear and understandable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe that it is easy to get the Metaverse to do what I want it to do in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I believe the Metaverse is easy to use for <i>marcom</i> purposes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning to operate <i>marcom</i> in the Metaverse is easy for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Rate the following statements on the provided scale^a
 The abbreviation "*marcom*" stands for Marketing Communications

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Organizations that use the Metaverse in their <i>marcom</i> have more prestige than those that do not	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organizations that use the Metaverse as an instrument for <i>marcom</i> have a high profile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using the Metaverse as a tool for <i>marcom</i> is a status symbol	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

Rate the following statements on the provided scale^a
 The abbreviation "*marcom*" stands for Marketing Communications

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I was permitted to use the Metaverse on a trial basis long enough to see what it could do in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Before deciding to use the Metaverse as a tool for <i>marcom</i> , I was able to properly try it out	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Metaverse was available to me to adequately test run various applications in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to experiment with the Metaverse as necessary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

 Page Break

Rate the following statements on the provided scale^a
 The abbreviation "*marcom*" stands for Marketing Communications

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I would have no difficulty telling others about the results of using the Metaverse as an instrument for <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe I could communicate to others the consequences of using the Metaverse as a tool for <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The results of using the Metaverse in <i>marcom</i> are apparent to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would have difficulty explaining why using the Metaverse may or may not be beneficial in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

Rate the following statements on the provided scale^a
 The abbreviation "*marcom*" stands for Marketing Communications

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I have seen what other companies do in the Metaverse for <i>marcom</i> practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have had plenty of opportunity seeing the Metaverse being used in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy for me to observe others using the Metaverse in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: PCIyes

Start of Block: PCIno

Rate the following statements on the provided scale^b
 The abbreviation "*marcom*" stands for Marketing Communications

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Using the Metaverse would be compatible with all aspects of my work in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that using the Metaverse as a tool for <i>marcom</i> would fit well with the way I like to work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using the Metaverse would fit into my work style	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

Rate the following statements on the provided scale^b
 The abbreviation "*marcom*" stands for Marketing Communications

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Using the Metaverse as a tool for <i>marcom</i> would make it easier to do my job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using the Metaverse as a tool for <i>marcom</i> would help me to accomplish tasks more quickly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using the Metaverse would improve the quality of the work I do in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using the Metaverse would give me greater control over my work in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using the Metaverse would enhance my effectiveness in my work in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I find using the Metaverse as a tool for <i>marcom</i> to be advantageous in my job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Rate the following statements on the provided scale^b
The abbreviation "*marcom*" stands for Marketing Communications

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
My interaction with the Metaverse would be clear and understandable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe that it would be easy to get the Metaverse to do what I want it to do in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall, I believe the Metaverse would be easy to use for <i>marcom</i> purposes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning to operate <i>marcom</i> in the Metaverse would be easy for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Rate the following statements on the provided scale^b
 The abbreviation "*marcom*" stands for Marketing Communications

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Organizations that use the Metaverse in their <i>marcom</i> have more prestige than those that do not	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Organizations that use the Metaverse as an instrument for <i>marcom</i> have a high profile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using the Metaverse as a tool for <i>marcom</i> is a status symbol	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

Rate the following statements on the provided scale^b
 The abbreviation "*marcom*" stands for Marketing Communications

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I would be permitted to use the Metaverse on a trial basis long enough to see what it could do in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Before deciding to use the Metaverse as a tool for <i>marcom</i> , I would be able to properly try it out	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Metaverse would be available to me to adequately test run various applications in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be able to experiment with the Metaverse as necessary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

Rate the following statements on the provided scale^b
 The abbreviation "*marcom*" stands for Marketing Communications

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I would have no difficulty telling others about the results of using the Metaverse as an instrument for <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe I could communicate to others the consequences of using the Metaverse as a tool for <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The results of using the Metaverse in <i>marcom</i> would be apparent to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would have difficulty explaining why using the Metaverse may or may not be beneficial in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

Rate the following statements on the provided scale^b
 The abbreviation "*marcom*" stands for Marketing Communications

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I have seen what other companies do in the Metaverse for <i>marcom</i> practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have had plenty of opportunity seeing the Metaverse being used in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy for me to observe others using the Metaverse in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: PCIno

Start of Block: Voluntariness

Rate the following statements on the provided scale
 The abbreviation "*marcom*" stands for Marketing Communications

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
My boss does not require me to use the Metaverse for <i>marcom</i> practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Although it might be helpful, using the Metaverse in <i>marcom</i> is certainly not compulsory in my job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My superiors expect me to use the Metaverse in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Voluntariness

Start of Block: Anxiety

Rate the following statements on the provided scale
 The abbreviation "*marcom*" stands for Marketing Communications

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I feel apprehensive about using the Metaverse in <i>marcom</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I hesitate to include the Metaverse in our <i>marcom</i> for fear of making mistakes I cannot correct	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Metaverse is somehow intimidating me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Anxiety

Start of Block: Competition

You are almost done!

Rate the following statements on the provided scale

The abbreviation "*marcom*" stands for Marketing Communications

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Competition in our sector is "cut throat"	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our customers tend to look for new services all the time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In our kind of business, customers' preferences for services and products change quite a bit over time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An industry move to utilize the Metaverse as a tool for <i>marcom</i> would put pressure on my firm to do the same	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>





End of Block: Competition

Start of Block: SDM

Rate the following statements by dragging the bar to indicate your answer.
 The abbreviation "*marcom*" stands for Marketing Communications

0 - "never" 7 - "always"

0 1 2 3 4 5 6 7

To what extent do you participate in decisions about major changes in the company's/division's market position?	
To what extent do you participate in decisions about the company's/division's moves into new major customer segments and market areas?	
To what extent do you participate in decisions about the development of new important capabilities in <i>marcom</i> ?	
To what extent do you participate in decisions to adopt new policies and practices in company's <i>marcom</i> ?	

End of Block: SDM

Start of Block: CompanyInfo



Please indicate the location of your company/organization.

▼ Afghanistan ... Other

How many people work at the company/organization where you are currently employed?

- Fewer than 10 employees
- 10-49 employees
- 50-249 employees
- 250 or more employees

Page Break

Please indicate the industry your company/organization fits in.

- Manufacturing
 - Retail/wholesale
 - Services
 - Other (Please specify bellow)
-

How would you describe the main business model employed by the company you work for?

- B2B
 - B2C
 - Mixed B2B/B2C
 - B2B2C
 - Other (Please specify bellow)
-

End of Block: CompanyInfo

Start of Block: Demographics

What is your gender?

- Male
- Female
- Non-binary / third gender
- Prefer not to say

How old are you?
(please write in numbers)



Where are you from?

▼ Afghanistan ... Other

Page Break

Is there anything you would like to add? Do you have any comments?

End of Block: Demographics

Note. Some questions have two versions, one for participants with previous experience with the Metaverse in marketing communications and one for participants without.

^a indicates that the question and the answer options were displayed to participants with previous experience with the Metaverse in marketing communications.

^b indicates that the question and the answer options were displayed to participants with no previous experience with the Metaverse in marketing communications.