

Methodological Metamorphosis In The Metaverse: A New Era For Qualitative Research In Marketing

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Summary

This study delves into the evolution of qualitative research methodologies in the face of the emergence of the metaverse, an expanding virtual environment that reconfigures both consumers' daily lives and marketing strategies. In this scenario, established research practices face a transformation, challenged to adapt to the complexity and possibilities of immersive virtual environments. The analysis focuses on how in-depth interviews, ethnography, case studies, among other methodologies, are being recalibrated for the hypervirtual context of the metaverse, emphasizing the importance of replicating the richness of data and depth of traditional human interactions. We discuss the creation of avatars for interviews, virtual ethnography for metaverse-specific cultural analysis and the adaptation of case studies to virtual consumption. In addition, we examine technological innovations such as the use of virtual reality to simulate research environments, artificial intelligence in the analysis of behavior and language, and specialized platforms for qualitative analysis in digital environments. These tools enhance qualitative research and open up new horizons for in-depth consumer understanding. The article also looks at the ethical, technical and methodological challenges inherent in this new field, proposing guidelines for responsible and efficient research. We identify gaps and suggest future directions for research, underlining the need for a hybrid approach that combines traditional and innovative methods, emphasizing adaptation and methodological innovation as fundamental to navigating the digital frontier of the metaverse.

Keywords: *Metaverse, Qualitative Research, Methodological Adaptation, Emerging Technologies, Ethical Challenges.*

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I. Introduction

As we move deeper into the digital age, the metaverse is revealing itself as a new horizon for human interaction, entertainment, commerce and, crucially, marketing research. This emerging virtual space provides a breeding ground for qualitative research, challenging traditional methodologies and encouraging the exploration of new tools that define this space (Ning et al., 2023). The incorporation of immersive virtual environments into consumers' everyday lives brings unique challenges and opportunities for researchers and marketers, driving the need for methodological innovation (Kozinets, 2015).

Qualitative research, known for its emphasis on in-depth understanding of individuals' behaviors, perceptions and experiences, finds a turning point in the metaverse (Kozinets, 2022). Emerging issues concerning data collection and analysis in this complex virtual environment require a critical analysis of existing practices and the proposition of new adaptive approaches (Boellstorff et al., 2012). Therefore, the central research question of this article is: "How are traditional qualitative research methodologies evolving to adapt to marketing research in the metaverse, and what are the emerging tools and techniques that facilitate this process?"

The aim of this study is to explore the transformation of qualitative research methodologies in the context of the metaverse, identifying the necessary adaptations and methodological innovations. We seek to fill a significant gap in the existing literature, which often approaches qualitative research in virtual environments in a peripheral or incipient manner, failing to keep pace with the accelerated technological development and growing complexity of virtual social interactions (Hine, 2015; Markham, 2018).

This article aims to leverage accumulated knowledge and innovative theoretical constructs to pave the way for future qualitative research in the metaverse. Through this effort, we aspire to contribute to the evolution of qualitative research in marketing, ensuring that methodologies and practices remain relevant and effective in the face of ongoing technological innovations and changes in consumer behavior.

This article sets out to provide a comprehensive review and critical analysis of current developments in the application of qualitative research to marketing in the metaverse. We begin with a literature review of traditional qualitative research methodologies, followed by a discussion of the challenges and opportunities that the metaverse presents. We then explore specific methodological innovations and emerging tools that are reshaping the collection and analysis of qualitative data in virtual environments. In addition, we consider the ethical issues inherent in research in the metaverse, proposing guidelines for conducting studies responsibly. We conclude with a reflection on the implications of these transformations for the future of marketing research, identifying future directions for researchers and best practices for professionals in the field.

II. Theoretical Framework

Historical Overview And Evolution Of Qualitative Research Methodologies

Qualitative research has been a mainstay in the social sciences and marketing, enabling an in-depth understanding of human phenomena through the exploration of attitudes, behaviors and experiences (Ning et al., 2023). Its evolution reflects a journey from an initial focus on introspective techniques to the adoption

of multi- methodological and technologically advanced approaches. Denzin and Lincoln (2018) trace the history of qualitative research through several "moments", starting with the traditional era, passing through modernism and arriving at the postmodern era, where fragmentation and representation become central.

At the turn of the 20th century, qualitative research began to gain ground, with anthropologists and sociologists such as Malinowski and Durkheim, respectively, using ethnographic methods and case studies to understand complex cultures and societies (Kozinets, 2022). This era was marked by an emphasis on participant observation and cultural immersion as means of accessing the "truth" of social phenomena.

As the 20th century progressed, theorists such as Glaser and Strauss (1967) introduced the concept of grounded theory, promoting a systematic approach to generating theories from qualitative data. This approach was revolutionary, as it emphasized open and interactive data collection, analyzing it to develop substantive theories that reflect the phenomena studied (Charmaz; Thornberg, 2021).

In subsequent years, qualitative research has expanded to include a variety of methods, such as in-depth interviews, focus groups and discourse analysis, virtual ethnography and netnography (Kozinets; Gambetti, 2021). Authors such as Patton (2015) have emphasized the importance of flexibility and depth in the collection and analysis of qualitative data, allowing researchers to explore the nuances and complexities of human phenomena in a richer way.

The arrival of the digital age has brought new challenges and opportunities for qualitative research. Hine (2000) pioneered the exploration of virtual ethnography, arguing that the online environment offers a new field for qualitative research, where digital cultures and communities can be studied in as valid a way as their equivalents in the physical world. This transition marked the beginning of the exploration of qualitative methods adapted for digital environments, including social media content analysis, online interviews and participant observation in virtual environments.

Recently, the rise of the metaverse as a space for complex human interactions has presented new frontiers for qualitative research. Researchers such as Ritterbusch and Teichmann (2023) highlight the need to adapt and expand qualitative methodologies to explore the depth of human experiences in the metaverse, from identity and community building to consumer behavior and social dynamics. This emerging era demands innovative tools and methodological approaches that can capture the richness of qualitative data in immersive virtual environments (Narin, 2021).

As the era of the metaverse develops, the continuity of qualitative research depends crucially on our ability to adapt and innovate our methodologies to encompass immersive virtual environments. The dynamic nature of the metaverse, with its rich and complex interactions, demands a reimagining of qualitative approaches that have previously been applied in more traditional contexts. Researchers such as Kozinets (2015) have led the way in adapting netnography, a methodology designed to explore online communities, to investigate culture and behavior within virtual environments. This methodological evolution underlines the need for tools that can navigate the complexity of the metaverse, capturing the essence of human virtual experiences (Wang, 2022). The evolution of these methods, their applications, the phenomena observed and other elements that have marked these developments in qualitative research can be seen in Table 1 below.

Table 1 - Evolutionary Overview of Qualitative Research Methodologies:

Method	Objectives	Observed phenomena	Main Authors	Landmarks	Dates	Theoretical Elements
Ethnography	Understand complex cultures and societies through immersion and participant observation.	Cultures, social practices, rituals.	Malinowski, Durkheim	Early 20th century	Early 20th century	Participant observation, cultural immersion.
Grounded Theory	Generate substantive theories from systematically collected qualitative data.	Social processes, interactions, behavior.	Glaser, Strauss	1960s	1967	Open and iterative data collection, systematic analysis.
In-depth interviews	Explore individuals' attitudes, behaviors and experiences in depth.	Individual perceptions, experiences, motivations.	Patton	1970s-1980s	1970s and 1980s	Depth exploration, face-to-face interaction.

Focus Groups	Gain insights into the perceptions and opinions of groups of participants on a specific topic.	Group dynamics, consensus, disagreements.	Morgan	1980s-1990s	1980s and 1990s	Group dynamics, moderate interaction.
Discourse Analysis	Analyze how language is used to construct social and individual realities.	Use of language, narratives, speeches.	Foucault, Potter	1960s-1970s	1960s and 1970s	Textual analysis, social construction of reality.
Virtual Ethnography	Study digital cultures and communities using ethnographic methods adapted for online environments.	Digital interactions, online identities, virtual communities.	Hine	The 2000s	2000	Adapting ethnographic methods to the online world, digital immersion.
Netnography	Explore online communities and behavior within virtual Environments using ethnographic techniques.	Digital culture, online behavior, virtual identity.	Kozinets	The 2000s	2015, 2022	Ethnographic techniques for virtual environments, culture and online behavior.

In addition, technological evolution brings with it issues of accessibility and inclusion, which are crucial for qualitative research in the metaverse. As Markham (2018) argues, as we explore new virtual territories, we must remain mindful of the ethical issues that arise, particularly in relation to consent and participant privacy. This is largely uncharted territory that requires deep reflection and clear guidelines to ensure that qualitative research in the metaverse is conducted responsibly and ethically.

The intersection of advanced technology with traditional qualitative methods presents a unique opportunity for qualitative research. For example, using virtual reality to simulate consumer experiences within the metaverse can offer insights into consumer behavior, their meanings, symbolisms and visions that have influenced their decision-making processes (Stanoevska-Slabeva, 2022). This approach allows researchers to create highly controlled and immersive scenarios that can reveal nuances of human behavior that are difficult to capture through more conventional methods (Wang, 2022).

The emergence of the metaverse as a field of study for qualitative research represents both a challenge and an opportunity. It challenges us to rethink and expand our methodological tools and theoretical approaches to embrace the complexity of virtual environments. At the same time, it offers an unprecedented opportunity to explore new forms of human interaction, digital culture and social dynamics. Researchers embarking on this journey must navigate a delicate balance between methodological innovation and ethical integrity, ensuring that the voices and experiences of participants are captured with fidelity and respect.

The journey of qualitative research, from its introspective origins to the adoption of multi-methodological and technologically advanced approaches, reflects an evolution marked by constant adaptation to social and technological changes. This evolution has expanded the scope of human understanding and prepared the ground to face the emerging challenges of digital environments. This panorama requires a critical reassessment of established tools and methods, driving the search for approaches that can effectively capture the complexity of online experiences. Thus, questions emerge about how consolidated practices can be adapted or transformed to embrace the peculiarities and riches of digital environments that predate the advent of the metaverse, signaling a new stage in the ongoing evolution of qualitative research.

Challenges And Opportunities For Qualitative Research In Digital Environments Prior To The Metaverse

The transition to the digital environment has profoundly transformed qualitative research, presenting both challenges and unprecedented opportunities for researchers. As social interactions, commerce and everyday life increasingly move to online platforms, researchers are compelled to adapt their methodologies to understand these new dynamics (Büyüközkan; Mukul, 2024). Hine (2015) highlights the importance of virtual ethnography as a means of investigating online communities, arguing that digital environments offer rich fields for qualitative research, albeit requiring methodological adaptations to address issues of access, ethics and representativeness.

One of the significant challenges faced in qualitative research in digital environments is the issue of authenticity and representativeness of data (Büyükoğkan; Mukul, 2024). Kozinets (2015) discusses how the constructed nature of online identities can complicate the interpretation of qualitative data, requiring researchers to have an in-depth understanding of the contexts in which these identities are presented. The distinction between the online and offline 'self' becomes a crucial area of interest, where researchers must navigate carefully to capture genuine perspectives on behaviors and attitudes.

In addition, accessibility and ethics emerge as pressing considerations in digital qualitative research. Markham (2018) emphasizes the need for flexible ethical approaches that fit the fluid nature of online environments, where notions of consent and privacy are often more complex than in offline contexts. The speed and scale of digital interactions also introduce logistical challenges for data collection and analysis, requiring the use of new tools and techniques to manage large volumes of information (Charmaz; Thornberg, 2021).

On the other hand, the digital environment offers unique opportunities for qualitative research. The ability to reach diverse and geographically dispersed populations is significantly expanded in online environments, allowing researchers to access groups that may be difficult to study by traditional means (Kozinets, 2015). Burgess and Green (2018) highlight how social media platforms in particular provide fertile ground for the study of emerging cultures and communication practices, offering valuable insights into how identities and communities are constructed and maintained online.

The integration of digital tools in data collection and analysis also represents a significant innovation in qualitative research. Techniques such as sentiment analysis and text mining, supported by advances in artificial intelligence and machine learning, open up new possibilities for interpreting large sets of qualitative data with unprecedented depth and precision (Gibbs, 2020). These digital tools can complement traditional qualitative approaches, offering new ways of understanding patterns and trends in complex data.

Observing the context of the dynamic transformation of qualitative research in digital environments prior to the metaverse, we understand the importance of recognizing the transformative role of technology in both data collection methods and data analysis techniques. The digitization of human communication has created new spaces for social interaction, requiring researchers to evolve their methodological approaches accordingly. In this way, it can be seen that the sheer volume of data generated on digital platforms presents both an invaluable resource and an ethical and analytical challenge, putting pressure on researchers to develop methods that respect the integrity of participants while distilling meaningful insights from complex data sets.

Interaction in digital environments broadens the scope of qualitative research beyond physical limitations, offering a window into understanding behaviors, norms and values on a global scale (Park; Kim, 2022). This geographical and cultural expansion is particularly relevant for studies that seek to understand global phenomena such as social movements, consumer trends and online community dynamics. Marres (2017) emphasizes the importance of qualitative approaches that adapt and respond to the fluidity of digital spaces, allowing researchers to capture the evolving nature of social interactions in the information age.

In addition, digitalization has brought to light the need for interdisciplinary approaches in qualitative research (Ozdemir; Kalinkara, 2023). Collaboration between social scientists, computer scientists and data experts becomes crucial to develop methodologies that harness the potential of digital data while addressing its ethical and practical limitations (Charmaz; Thornberg, 2021).

Rogers (2013) advocates a "digital turn" in social research, in which digital methods are employed to investigate not only online content, but also the structures, patterns and processes that shape it. This interdisciplinary approach is vital for unraveling aspects of digital life, from the construction of identity to the dynamics of power and resistance in virtual spaces.

The transition from traditional digital spaces to more complex and immersive structures highlights a natural evolution in the way we interact and understand human behavior online. This scenario sets the stage for the emergence of a new domain, promising to redefine the boundaries of marketing research. The ability to immerse oneself in rich virtual experiences broadens the scope of qualitative research and opens up a range of possibilities for uncovering deeper phenomena about consumer dynamics in an even more expansive and complex context.

The Emergence Of The Metaverse: Definition, Main Characteristics And Implications For Marketing Research.

The metaverse, a concept that has become increasingly defined in the early 21st century, represents an unprecedented evolution of digital spaces, offering a shared virtual reality where individuals interact, work and play. This term, first popularized in science fiction, specifically in Neal Stephenson's novel "Snow Crash" in 1992, today transcends its literary origins to become an integral component of the next generation of online experiences. Kzero (2020) defines the metaverse as a persistent, highly immersive and interactive digital space that exists parallel to the physical world, allowing users to live experiences ranging from entertainment to complex social and professional interactions.

The main characteristics of the metaverse include persistence, interoperability, scale and an economy of its own (Ning, 2023). Persistence refers to the continuity of the metaverse regardless of the presence of users, suggesting a world that "never sleeps". Interoperability highlights the ability to move digital assets and information from one virtual space to another, facilitating a cohesive user experience across different platforms and virtual environments. The scale of the metaverse is another critical factor, with the potential to support millions of users simultaneously in rich and detailed environments. Finally, an economy of its own in the metaverse encompasses everything from virtual goods to services, creating new opportunities for monetization and economic interaction (Chen & Cheng, 2022).

For marketing research, the emergence of the metaverse provides opportunities for new and expansive investigations. The implications for this area are vast, changing how consumers interact with brands and how consumer experiences are constructed and understood (Ning, 2023). In an environment where the boundaries between the real and the virtual are becoming increasingly blurred, marketing strategies must evolve to address new forms of consumer behavior (Park; Kim, 2022). Caulfield (2021) argues that the metaverse allows for the creation of immersive and personalized brand experiences, where consumers can interact with products and services in previously impossible ways, challenging marketing researchers to rethink traditional models of consumer behavior and brand loyalty.

In addition, the metaverse presents outstanding opportunities for collecting research data. The richness and depth of interactions in the metaverse can provide detailed data on consumer preferences, behaviors and attitudes at an unprecedented level of specificity. This requires, however, careful consideration of ethical issues related to privacy and consent, as the boundaries between online and offline data collection become increasingly blurred (Charmaz; Thornberg, 2021).

Marketing research in the metaverse must also consider the growing role of artificial intelligence and augmented reality technologies, which enhance the creation of highly personalized and adaptive user experiences. These technologies enrich consumer interaction with the virtual environment and offer new methods for analyzing consumer behaviors and trends in real time (Devagiri et al., 2022).

The immersive nature of the metaverse promises to radically transform the customer journey, providing experiences that are simultaneously global and hyperlocal, individual and collective (Charmaz; Thornberg, 2021). In this scenario, the ability to create engaging and interactive brand narratives opens up new avenues for building meaningful relationships between brands and consumers. In this way, the dynamics of consumer engagement are reimagined, requiring brands to have an authentic and integrated presence in the metaverse (Weinberger, 2022).

The potential for personalization at scale in the metaverse, facilitated by artificial intelligence and big data analysis, provides avenues for targeted marketing and market segmentation (Narin, 2021). In addition, there is a need for a careful balance between delivering personalized experiences and maintaining consumer trust, emphasizing the importance of transparent and consensual data collection practices in the metaverse (Weinberger, 2022).

In addition, the metaverse challenges existing market research paradigms by introducing virtual environments where social and consumer interactions occur simultaneously in multiple layers of reality (Weinberger, 2022). This requires a methodological expansion that goes beyond traditional qualitative and quantitative research methods, incorporating immersive and interactive approaches to understanding consumer behavior in this new context (Firmansyah & Umar, 2023). Tools such as virtual reality simulations and immersive test environments are becoming essential to capture the complexity of consumer experiences in the metaverse (Weinberger, 2022).

The emerging economy of the metaverse, with its system of virtual currencies and digital goods markets, also represents an insight for marketing research. Investigating the economic dynamics provides a greater understanding of the metaverse as a market space and will inform marketing strategies adapted to the emerging expectations and preferences of digital consumers (Chen & Cheng, 2022).

It is also relevant to consider the environmental and social impact of virtual activities, as well as the role of brands in promoting an inclusive and ethical metaverse. Researchers and marketing practitioners must work together to ensure that the development of the metaverse aligns with broader goals of sustainability and social justice, shaping a digital future that benefits all participants.

With the rise of the metaverse, outlining an innovative virtual territory with profound implications for marketing research, a new field of study has emerged. This new digital universe redefines human interaction and the consumer experience, challenging researchers to rethink existing methodological approaches. It is therefore essential to understand the various ways of adapting and evolving qualitative research practices in order to effectively exploit this environment. This context encourages a methodological transition, where traditional techniques are revisited and transformed, paving the way for rich, immersive investigations at the heart of the metaverse.

III. Methodological Challenges In The Metaverse

How Traditional Qualitative Methodologies Are Being Adapted For The Metaverse

The incursion of qualitative research into the metaverse requires a reassessment and adaptation of traditional methodologies such as in-depth interviews, ethnography, case studies, and others to suit this new immersive virtual context. This methodological challenge reflects the complexity inherent in the metaverse and represents a unique opportunity to expand the scope and depth of marketing research (Charmaz; Thornberg, 2021).

In-depth interviews, a cornerstone of qualitative research, are finding new formats in the metaverse. As highlighted by Novak and Johnson (2021), the possibility of conducting interviews in three-dimensional virtual environments offers an additional dimension to data collection, allowing researchers to observe participants' non-verbal reactions in a virtual context. This adaptation preserves the essence of in-depth interviews and enriches the quality of the data collected by incorporating elements of behavior and interaction that are specific to the metaverse (Kozinets, 2022).

Ethnography, in turn, faces the challenge of translating into the digital environment of the metaverse (Mahadevan & Moore, 2023). Murthy (2022) argues that virtual ethnography, or netnography, must be expanded to encompass the nuances of the metaverse, where culture and social interactions transcend the boundaries of text and image to include immersive experiences and three-dimensional spaces. This requires ethnographers to develop new skills and techniques to navigate and interpret these virtual environments, capturing the essence of emerging cultures and social dynamics in the metaverse (Charmaz; Thornberg, 2021).

Case studies, used to explore complex phenomena within their real-life contexts, find the metaverse a fertile field for investigation. The immersive and interactive nature of the metaverse allows researchers to carry out case studies that examine not only isolated interactions or events, but also complete trajectories of user experience and community development. In this way, qualitative studies can benefit from the wealth of data available, allowing for deeper analysis of marketing phenomena in virtual contexts (Kozinets, 2022).

However, adapting these traditional methodologies to the metaverse is not without its challenges. Issues of privacy, consent and representativeness take on new dimensions in this context, requiring researchers to think carefully about ethics and responsibility. Weinberger (2022) highlights the importance of establishing clear ethical protocols for research in the metaverse, ensuring that data collection and analysis respect the rights and dignity of virtual participants.

In conclusion, the adaptation of traditional qualitative research methodologies to the metaverse is an evolving process that reflects both the challenges and opportunities presented by this new digital space. As researchers explore and innovate within the metaverse, it is crucial to maintain a commitment to methodological and ethical integrity, ensuring that the research contributes significantly to the advancement of knowledge in marketing and beyond. This undertaking not only enriches qualitative research with new tools and approaches, but also sets the stage for future investigations in an increasingly virtualized world.

As marketing researchers face the challenge of adapting traditional methodologies to the metaverse, the need for methodological innovation becomes even more pressing (Kozinets, 2022). Interaction in the metaverse is not limited by the physics of the real world, allowing for experiences that can profoundly alter our understanding of consumer behavior. This new dimension of research requires a redefinition of how qualitative approaches, such as in-depth interviews, ethnography and case studies, are conducted and interpreted.

In-depth interviews, for example, when conducted in the metaverse, can explore not only the verbal but also the non-verbal in innovative ways. The ability to customize avatars and environments can influence participants' self-expression, offering unique insights into their identities and preferences. Ritterbusch and Teichmann (2023), argue that this level of personalization and immersion can lead to greater authenticity in participants' responses, as they may feel more comfortable and engaged in virtual environments designed to reflect their interests or personalities.

In ethnography, the transition to the metaverse expands the field of observation beyond traditional boundaries. Researchers can now immerse themselves in virtual cultures and communities with an almost physical presence, observing social and cultural interactions like never before. Kozinets (2024) stresses the importance of this immersion in understanding the meanings and cultural practices that emerge in the metaverse, emphasizing the need for ethnographic approaches that are flexible and adaptable to the specificities of this digital environment.

Case studies, adapted for the metaverse, provide an opportunity to examine brand experiences, marketing campaigns and consumer behavior in depth within this virtual space (Tsai, 2022). The wealth of data available in the metaverse, including detailed interactions and user navigation paths, allows for in-depth and complex analysis of specific cases with a level of detail previously unattainable. Yin (2023) emphasizes the usefulness of these case studies in unraveling the complexities of the metaverse, allowing researchers to identify patterns and trends that inform effective marketing practices.

Content analysis, as discussed by Krippendorff (2018), is evolving to encompass multimedia

communications in the metaverse, requiring researchers to be proficient in tools capable of deciphering text, audio, video and 3D interactions. This multidimensional approach allows for a richer understanding of marketing strategies and consumer responses, highlighting the need for data protection and ethical considerations in contextual interpretation.

Participant observation, a technique traditionally rooted in ethnography, is adapted to the metaverse by allowing researchers, acting as avatars, to immerse themselves in virtual communities to observe and interact. Emerson, Fretz and Shaw (2011) stress the importance of developing virtual navigation skills and an ethical understanding for this form of non-intrusive observation, emphasizing the need for explicit consent in environments where the boundaries between public and private are fluid.

Virtual diaries, as described by Bolton (2010), become powerful tools for collecting personal accounts of experiences in the metaverse. This methodology facilitates the intimate documentation of user interactions and perceptions, offering a valuable perspective on engagement with brands and products in digital environments, while raising questions about the authenticity of the records and the privacy of the participants.

Virtual focus groups, explored by Stewart and Shamdasani (2017), adapt the traditional group discussion format for the digital environment, allowing for the analysis of social dynamics and opinions in real time. This approach capitalizes on the ability of virtual environments to bring together individuals from dispersed geographical locations, highlighting the challenges of facilitating effective discussions and ensuring the diversity and representativeness of participants in virtual spaces.

Table 2 below systematizes the qualitative research methods, their main characteristics and how they have adapted to the new hypervirtual environment of the metaverse.

IV. Conclusion

This article explored the evolution of qualitative research methodologies in the emerging context of the metaverse, addressing methodological challenges, opportunities for interaction and data collection, the integration of immersive and AI technologies, and pertinent ethical considerations. Through this investigation, we identify how the metaverse is redefining the marketing research paradigm, offering new possibilities for deeply understanding consumer behavior and social interactions in virtual environments.

The main findings highlight the metaverse's ability to provide a rich environment for collecting qualitative data, allowing for unprecedented immersion and interactivity. Immersive technologies, such as VR, and the use of AI in qualitative data analysis are emerging as crucial tools, allowing for deeper analysis and the creation of personalized experiences. However, these advances also bring significant ethical and methodological challenges, especially related to privacy, informed consent and representativeness.

The research question was addressed effectively, with the exploration of qualitative methodologies in the metaverse revealing both the potential and the challenges that accompany this new era of research. The article's objectives were achieved, providing a comprehensive overview of how traditional methodologies are evolving and highlighting emerging tools and techniques that facilitate marketing research in the metaverse.

This study contributes to the literature by exploring relatively unexplored territory, providing conclusions on the application of qualitative methodologies in the metaverse. For practice, it offers guidance on how marketers can implement research and consumer engagement strategies in these virtual environments, emphasizing the need for adaptability and ethical considerations.

For professionals, it is recommended to carefully integrate immersive technologies and AI into data collection and analysis, while ensuring that research practices are conducted ethically, with attention to privacy and user consent. It is also essential to maintain an interdisciplinary approach, combining knowledge of social sciences, computing and design to address the unique challenges of the metaverse.

This study recognizes limitations, including the rapid evolution of the metaverse that may outpace current practical and theoretical elements and the need for deeper empirical investigation in these environments. Representativeness and accessibility are also challenges that limit the generalizability of the findings.

Future research should explore innovative methodologies that address the limitations identified, especially in relation to ethics and inclusion. Investigation into how metaverse experiences translate to real-world behaviors and the development of specific ethical guidelines for metaverse research are critical areas. In addition, studies on the scalability of qualitative research in the metaverse and the impact of cultural diversity on virtual interactions promise to further enrich our understanding of this emerging domain.

The metaverse offers an exciting new horizon for marketing research, with the potential to transform our understanding of consumer behavior. By tackling the ethical and methodological challenges, and seizing the unique opportunities that the metaverse presents, researchers and practitioners can unlock profound and innovative contributions that push the frontier of knowledge and practice in the field of marketing.

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