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Received: 5 January 2023 | Revised: 3 November 2023 | Accepted: 20 November 2023

DOI: 10.1002/cb.2298

SPECIAL ISSUE ARTICLE

WILEY

Consumer behavior in the metaverse

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Abstract

The rising interest in the marketing potential of the metaverse and its influence on consumer behavior is undeniable. Experts in the field have identified gaps in understanding consumer behavior in the metaverse and have highlighted the need of further research in the domain. This study addresses this void by focusing on Gen Z and their interactions within the metaverse. Gathering qualitative data through semi-structured interviews with 63 participants, the study employs a deductive thematic analysis, using the Engel-Kollat-Blackwell (EKB) model as its theoretical framework. The findings align with the stages of the EKB model– awareness, information search, engagement, and post-engagement evaluation. We find that despite facing initial challenges, participants display eagerness to access the metaverse and actively seek engagement opportunities, even encouraging others to join. This research provides empirical insights into challenges and opportunities that exist for consumers and brands within the metaverse. Further, it also enhances our understanding of immersive time in the metaverse and elucidates consumer engagement with digital technologies. Finally, the study also offers practical implications for managers, tech developers, and policymakers looking to enhance consumer interest and involvement in the metaverse.

1 | INTRODUCTION

The emergence of the metaverse has captivated significant attention due to its vast potential for reshaping marketing strategies and influencing consumer behavior. The metaverse has been described as a virtual reality that exists beyond reality (Kolesnichenko et al., 2019; Kye et al., 2021), connecting consumer's imagination to the real world (Bale et al., 2022) and bringing a fusion of social networking with the immersive virtual worlds (Ayiter, 2019). This novel concept has sparked substantial growth in the industry, with projected market values soaring from USD 22.79 billion in 2021 to a staggering USD 996.42 billion by 2030, at an impressive CAGR of 39.8% (Precedence Research, 2023). Brands have recognized the metaverse as a new frontier, surpassing conventional brick-and-mortar and e-commerce avenues, leading to prominent companies like Walmart, Adidas, McDonald's, and others establishing their presence in this virtual landscape (Lee et al., 2021; Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023).

Despite its rapid expansion, there still a lack of understanding about consumer behavior in the metaverse. Prior studies, which are often literature reviews and expert perspectives, lack insights gained through empirical investigation of consumer behavior within the Metaverse, are limited. Dwivedi, Ismagilova, et al. (2021) offered a multidisciplinary perspective on emerging challenges, opportunities, and research, practice and policy agenda for the Metaverse. Dwivedi, Hughes, Baabdullah, et al. (2022) also theoretically predicted how the Metaverse would shape the future of consumer research and practice. Koohang et al. (2023) provided insights on how business operations across different sectors would likely be impacted by the adoption and use of the Metaverse while Mogaji et al. (Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023) conceptualized Immersive

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time (ImT) in the Metaverse. While these studies help develop new theoretical frameworks and perspectives, they offer limited insights as they lack empirical robustness, thereby also suggesting empirical investigation as the next course of action. The current study attempts to bridge this gap by building on the concept of immersive time (Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023) as an emerging and distinctive consumer behavior concept. Further, this study also examines how consumers engage within the Metaverse, exploring their awareness challenges and immersive experiences.

The study adopts a qualitative approach, employing semi-structured interviews to explore the behavior of Generation Z consumers within the Metaverse. This cohort, born between the mid-1990s and early 2010s, exhibits a distinct affinity for digital technology and actively engages in virtual and augmented reality realms (Lim, 2022; Sung et al., 2023). Analyzing Gen Z's consumer behavior in the Metaverse is crucial due to their inherent digital familiarity (Chakraborty, Patre, & Tiwari, 2023; Chakraborty, Polisetty, et al., 2023; Nalbant & Aydin, 2023). Their comfort with virtual interactions provides insights for shaping future Metaverse experiences (Park & Kim, 2023; Periyasami & Periyasamy, 2022). Through the analysis of consumer experiences, this study sheds light on how individuals become aware of the Metaverse, how strategies of the companies influence their awareness and how their exploratory purchase tendencies impact their engagement within the Metaverse.

The theoretical framework of the Engel-Kollat-Blackwell (EKB) model (Engel et al., 2001) guides this investigation, elucidating stages from problem recognition to post-purchase evaluation. The adoption of the EKB offers a structured and comprehensive approach, facilitating an understanding of how users engage, gain knowledge, and exhibit behaviors within virtual environments. Given the complexity of the Metaverse (Dwivedi, Hughes, Baabdullah, et al., 2022; Dwivedi, Hughes, Cheung, et al., 2022; Dwivedi, Hughes, Kar, et al., 2022; Koohang et al., 2023), the multi-dimensional perspective of the EKB framework helps capture diverse aspects, from user engagement patterns to the acquisition of virtual knowledge, ultimately influencing consumer behaviors. The study also integrates the Optimum Stimulus Level theory and the Exploratory Buying Behavior Tendency concept (Baumgartner & Steenkamp, 1996; Otis, 1984; Raju, 1980) to comprehend the early adopters' inclination toward the Metaverse. This blend of theories offers a unique perspective on consumer behavior concerning this innovative technology.

Empirical insights become paramount as organizations contemplate Metaverse integration into their marketing strategies (Golf-Papez et al., 2022; Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023). This study presents three notable contributions: first, it transcends conceptual papers on the Metaverse (Dwivedi, Hughes, et al., 2023; Hadi et al., 2023; Koohang et al., 2023; Mogaji, 2023), offering insights grounded in empirical data on consumer behavior; second, it provides a holistic view, encompassing various consumer activities for better understanding; and third; it employs a qualitative methodology, capturing the lived experiences of consumers engaging in the Metaverse in their attempt for a prolonged immersive time (Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023). This research strives to provide practical recommendations and implications for industry stakeholders, including managers, tech developers, and policymakers, aiming to boost consumer interest and engagement within the Metaverse.

The remaining paper is structured as follows. Section 2 presents the literature review. Section 3 explains the methodology, section 4 and 5 are devoted to findings and discussions respectively. Section 6 concludes the paper by providing a deeper comprehension of the impact of the Metaverse on consumer behavior and paving the way for future research endeavors.

2 | LITERATURE REVIEW

2.1 | The concept of metaverse

The concept of the "metaverse" encompasses a shared virtual space formed through the fusion of physically enhanced reality and virtual space, including virtual worlds, augmented reality, and the internet (Dwivedi, Hughes, Baabdullah, et al., 2022; Dwivedi, Hughes, Cheung, et al., 2022; Dwivedi, Hughes, Kar, et al., 2022). A central theme within metaverse literature revolves around its potential for enhanced social connection and community building (Bale et al., 2022; Kye et al., 2021). Scholars assert that the metaverse offers unique avenues for individuals to connect and interact, transcending the limitations of physical reality (Ayiter, 2019; Dwivedi, Hughes, Baabdullah, et al., 2022; Dwivedi, Hughes, Cheung, et al., 2022; Dwivedi, Hughes, Kar, et al., 2022). This is facilitated by the anonymity and adaptability inherent in virtual environments, enabling self-expression and identity exploration (Lee et al., 2021; Lee & Gu, 2022).

Recent interest in the metaverse extends to its marketing and advertising potential (Shah & Murthi, 2021). Barrera and Shah (2023) offer a conceptual framework, highlighting brands' ability to shape consumer experiences by exploring immersiveness, sociability, and environmental fidelity in the metaverse. Gathering and analyzing consumer data is a key marketing advantage in virtual environments, offering real-time insights into interactions, preferences, and decision-making (Lee et al., 2021). Case studies underscore the metaverse's marketing potential, although challenges like limited technology adoption and privacy concerns persist (Buhalis et al., 2022; Hollensen et al., 2022). Further research is required to determine effective strategies and mitigate potential drawbacks (Barrera & Shah, 2023; Dwivedi, Hughes, Baabdullah, et al., 2022; Dwivedi, Hughes, Cheung, et al., 2022; Dwivedi, Hughes, Kar, et al., 2022).

The metaverse, as a post-reality universe merging physical and digital realms, relies on technologies like Virtual Reality (VR) and Augmented Reality (AR), enabling multisensory interactions with virtual environments, objects, and individuals. AR integrates digital information into real-world settings, while VR constructs artificial environments. The metaverse interconnects social immersive platforms, blending digital and physical domains (Mystakidis, 2022). Consumer attitudes toward the metaverse, particularly VR and AR technologies, have garnered research attention (Barrera & Shah, 2023; Dwivedi, Hughes,

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Baabdullah, et al., 2022; Dwivedi, Hughes, Cheung, et al., 2022; Dwivedi, Hughes, Kar, et al., 2022). Prior studies emphasized upon AR and VR applications for customer interactions (Rauschnabel et al., 2022). Literature indicates positive consumer attitudes toward the Metaverse, with interest in trying VR and AR experiences (Kim et al., 2017). Additionally, (Gursoy et al., 2022) detail the Metaverse consumer experience journey and its potential impact on attitudes and behavior.

In our current study, we recognize the inherent breadth of the term "Metaverse," which often encompasses a variety of virtual platforms, each distinguished by its unique features and characteristics. This concept is, indeed, a dynamic and evolving one, not yet fully realized in its ultimate, all-encompassing form (Dwivedi, Hughes, et al., 2023; Dwivedi, Kshetri, et al., 2023; Ooi et al., 2023). Within the context of our research, we employ the term "Metaverse" to encompass the existing platforms and technologies that represent significant steps toward the realization of this grand vision – a fully immersive, interconnected digital universe. It is important to acknowledge that the Metaverse, in its most comprehensive sense, remains a work in progress. In this study, our primary objective is to shed light on the contemporary technological advancements and their far-reaching implications for consumer behavior and brand engagement. We do so with a keen awareness that we are, in fact, in the midst of a gradual evolution toward the eventual manifestation of a more comprehensive Metaverse (Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023).

2.2 | Behavior and metaverse

Metaverse-related marketing research encompasses three main streams. The first stream investigates consumer motives and purchasing behavior within earlier virtual environments and games. The second stream focuses on pre-purchase consumer experiences in the context of immersive technologies. The third stream synthesizes previous research, identifying gaps and outlining potential research opportunities (Wongkitrungrueng & Suprawan, 2023). Despite studies on virtual worlds, empirical research on modern Metaverse consumer behavior still needs to be conducted. Many of these studies offer a conceptual and thought leadership perspective. Dwivedi, Hughes, et al. (2023); Dwivedi, Kshetri, et al. (2023) and Koohang et al. (2023) present a generic conceptual framework, highlighting the Metaverse's future impact on consumer research and practice.

In contrast, Hadi et al. (2023) concentrate on the Metaverse as a new digital frontier for consumer behavior. Their exploration of consumer identity, social influence, and ownership as Metaverse components underscore the collective role of these components in reshaping consumer behavior. Mogaji et al. Mogaji, Wirtz, et al., 2023; Mogaji, Dwivedi, & Raman, 2023 introduce the concept of immersive time (ImT), describing it as the time consumers spend in the Metaverse. They argue that understanding ImT's significance has implications for researchers, practitioners, tech developers, brand managers shaping Metaverse strategies, and policymakers ensuring consumer safety within immersive Metaverse experiences.

The exploration of conceptual papers has expanded significantly to enhance our comprehension of consumer engagement within the Metaverse. Chakraborty et al. (Chakraborty, Patre, & Tiwari, 2023; Chakraborty, Polisetty, et al., 2023) investigated the influences driving Generation Z's Metaverse adoption for socializing, evaluating the impact of individual personality traits on usage intentions. Wongkitrungrueng and Suprawan (2023) studied consumer responses to immersive brand experiences, revealing that users who enjoy the branded virtual world tend to invest more time in its exploration. This extended involvement allows them to better appreciate both the practical and symbolic value of the virtual environment, in line with the concept of immersive time (Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023). Similarly, Choi et al. (2023) explored the positive impact of the Metaverse on consumers' life satisfaction and usage intentions as a mood management tool. They found that engaging in the Metaverse for positive mood enhancement and negative mood alleviation notably enhances life satisfaction and subsequently drives increased usage intentions.

Several studies have delved into specific activities that shape consumer behavior, particularly regarding engagement with brands and purchasing NFTs. Arya et al. (2024) established the impact of "gamification of marketing activities" on consumer-based brand equity for intangible products (NFTs) in the Metaverse, linking consumer-based brand equity with the Metaverse. They examined gamification's influence on NFTs, highlighting consumers' perspectives on immersive luxury brand experiences within this digital realm. Similarly, Sung et al. (2023) explored consumer behavior related to purchasing NFTs, discovering that the desire for purchasing NFTs arises from their perceived economic and social value, authenticity, and scarcity. This influences consumers' assessment of potential gains and losses tied to NFT acquisition. Beyond NFTs, Chakraborty et al. (Chakraborty, Patre, & Tiwari, 2023; Chakraborty, Polisetty, et al., 2023) investigated dating intentions within the Metaverse. Using a mixed methods approach, they found that consumer attitudes toward Metaverse dating significantly drive user engagement, underscoring their importance. Addressing privacy and security concerns necessitates robust verification and security measures to establish trust. Recognizing these evolving consumer needs, Zallio and Clarkson (2022) emphasized the importance of considering inclusion, diversity, equity, accessibility, and safety in digital immersive environments from developers' perspectives.

Despite the extensive body of literature on consumer behavior in response to the Metaverse, our understanding still needs to be improved. First, research must extend beyond conceptual papers to incorporate empirical data for a comprehensive grasp. While some studies have expanded on these conceptual foundations (Chakraborty, Patre, & Tiwari, 2023; Chakraborty, Polisetty, et al., 2023; Choi et al., 2023; Wongkitrungrueng & Suprawan, 2023), our study contributes to this growing body of work. Second, prior research often narrowly focuses on peripheral Metaverse activities, failing to provide a holistic view of consumers' challenges and experiences in the Metaverse. Although some studies delve into specific aspects like NFTs (Arya et al., 2024; Sung et al., 2023), dating (Chakraborty, Patre, & Tiwari, 2023; Chakraborty, Polisetty, et al., 2023), and immersive brand experiences (Wongkitrungrueng & Suprawan, 2023), a thorough

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exploration of consumer behavior is essential. Third, methodologically, heavy reliance on quantitative approaches, despite their large sample sizes (Arya et al., 2024; Choi et al., 2023; Wongkitrungrueng & Suprawan, 2023), yields restricted insights into lived experiences. Qualitative insights, as underscored by Mogaji et al. (Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023), call for a balance between qualitative and quantitative perspectives on immersive time and Metaverse activities. This study aims to bridge these gaps, and Appendix A offers a summarized overview of relevant literature on consumer behavior in the Metaverse.

2.3 | Theoretical framework

This study is rooted in the Engel-Kollat-Blackwell (EKB) theory of consumer behavior (Engel et al., 2001), serving as a foundational framework for understanding consumer engagement in the Metaverse. This model, previously applied in diverse contexts (Maulana et al., 2023; Sihi, 2018; Yeo et al., 2022), delineates the stages of the consumer decision-making process, covering problem recognition, information search, evaluation of alternatives, purchase decisions, and post-purchase evaluation. In the Metaverse, consumers identify their need for immersive experiences and digital goods, driven by an awareness of the Metaverse's potential (Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023). Information search parallels traditional decision-making by gathering details about the virtual environment. Consumers evaluate a multitude of Metaverse alternatives based on their preferences and perceived value. The purchase decision involves acquiring virtual goods and experiences, while post-engagement, consumers evaluate their experiences and satisfaction, aligning with post-purchase evaluation. This consumer journey, based on Engel-Kollat-Blackwell's model, seamlessly applies to the Metaverse, providing valuable insights into this unique digital landscape.

Furthermore, the EKB model can be extended in the Metaverse context to accommodate the unique nature of virtual worlds. For instance, the concept of "presence" in the Metaverse may play a crucial role. Presence refers to the feeling of "being there" in the virtual environment and influences consumer behavior, decision-making, and emotional responses. The EKB model also interacts with other psychological and sociological factors relevant to the Metaverse, such as consumers' sense of identity and self-expression through avatars, the impact of social interactions, and the influence of virtual communities on decision-making processes.

The EKB model's flexibility and potential for adaptation to different contexts make it a strong candidate. Our adaptation of the EKB model for the Metaverse is grounded in the unique dynamics of the Metaverse and the need to address its emerging and evolving nature. This adaptation bridges the gap between traditional and digital realms, which is crucial for scholars, marketers, and businesses navigating this evolving digital landscape. While alternative models could be considered, the modifications we have made to the EKB model provide a practical and effective approach to studying consumer behavior in the Metaverse. They ensure alignment with the nuances of the Metaverse and offer valuable insights into this emerging and complex digital realm, furthering our objective of advancing the understanding of consumer behavior in this distinctive context.

By shifting the model's focus toward engagement processing, we gain a more accurate understanding of how consumers interact within this dynamic digital space. The Metaverse represents a significant departure from traditional consumer behavior (Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023). It is not solely about making purchases but immersing in experiences, interactions, and digital goods (Dwivedi, Hughes, et al., 2023; Dwivedi, Kshetri, et al., 2023; Hadi et al., 2023). The EKB model, with its well-defined stages, effectively captures this process. Problem recognition is reimagined as recognizing the potential for engaging experiences, information search now involves seeking details about these experiences, and evaluation of alternatives pertains to choosing among various Metaverse activities. Purchase decisions extend to engaging in activities, and post-purchase evaluation relates to reflecting on the Metaverse experience.

In addition to the EKB model, the study incorporates the Consumer's Optimum Stimulation Level (OSL) and Exploratory Buying Behavior Tendency (EBBT) concepts (Steenkamp & Baumgartner, 1992). These concepts offer a deeper understanding of consumers' psychological factors and buying behaviors, especially in the context of unique and stimulating experiences. The OSL theory, originating from psychology literature (Zuckerman, 1994), postulates that individuals seek a minimum level of stimulation and, when unsatisfied, actively pursue novelty and variety. Studies have shown that OSL is linked to curiosity-driven, variety-seeking, and risk-taking behaviors (Baumgartner & Steenkamp, 1996), making it highly relevant in understanding consumer engagement within the Metaverse.

Furthermore, the Exploratory Buying Behavior Tendency (EBBT) framework, based on exploratory information search (Steenkamp et al., 1996), offers insights into how consumers explore the features and variety of brands within the Metaverse. EBBT distinguishes between two facets of exploratory buying behavior: exploratory acquisition of products (EAP) and exploratory information seeking (EIS). EAP reflects the desire for sensory stimulation and innovation, while EIS indicates cognitive stimulation through information acquisition.

These theoretical components interplay in the context of the Metaverse, shaping consumer behavior, and engagement. The Metaverse's immersive and interactive nature has prompted a growing body of research (Chakraborty, Patre, & Tiwari, 2023; Chakraborty, Polisetty, et al., 2023; Choi et al., 2023; Wongkitrungrueng & Suprawan, 2023), focusing on avatar interactions, biometrics, and the formation of digital personas. However, a critical gap exists in comprehensively examining technology adoption and innovation through the lens of OSL and EBBT in the Metaverse. This underscores the urgency of investigating Metaverse awareness, the drivers of engagement, and the challenges faced within this dynamic environment.

In this pursuit, the assessment of Metaverse awareness aligns with the strategic deployment of advertising campaigns by firms seeking to capture the attention of early adopters (Arora et al., 2020; Sethi et al., 2018). Shaping the perceptions of early adopters regarding the advantages of the Metaverse can be achieved through targeted

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advertising investments and tailored messaging. As consumer, behavior within the Metaverse remains a complex and evolving sphere, in-depth exploration is essential to navigate its multifaceted dimensions effectively.

3 | METHODOLOGY

3.1 | Qualitative inductive research design

Considering that consumer behavior with the Metaverse is an emerging research area with limited insight and theoretical understanding, a qualitative inductive research design approach was deemed necessary to gain an initial and exploratory insight and theory generation (Soetan et al., 2021; Zallio & Clarkson, 2022). The epistemology, ontology adopted for the study is constructive, and Interpretivist. Data collection method was through semi-structured interviews, which allowed the participants to offer descriptive information and opinions about the Metaverse (Saunders et al., 2019). This data collection approach is consistent with previous research, where in-depth interviews have been used as a crucial tool of qualitative research for many consumer behavior and management studies (Farinloye et al., 2019; Mogaji et al., 2021; Wolny & Charoensuksai, 2014).

3.2 | Sample participants

The study adopts a convenience sample of Generation Z in India. Gen Z, born between the mid-1990s and early 2010s, is the first generation to grow up fully immersed in digital technology and online experiences. They have a unique perspective on virtual interactions and are likely to shape the future of the Metaverse in significant ways. By examining how Gen Z engages with the Metaverse, we can gain insights into their preferences, expectations, and behaviors, which are crucial for brands and developers looking to create meaningful and relevant experiences. The comfort of this generation with technology, willingness to embrace new digital platforms, and ability to navigate complex virtual spaces, provides valuable information for understanding the evolving landscape of the Metaverse. This generation has also been seen as the early adopters of new innovative technology (Nalbant & Aydin, 2023; Periyasami & Periyasamy, 2022). This set of Generation Z Indian consumers were targeted in their active environment. The researchers visited the Gaming parlors (arcades) of the five major metro cities in India (New Delhi, Mumbai, Chennai, Kolkata, and Chandigarh) and invited the participants to participate in the research. Leaflets containing details about the research and contact information were shared around these gaming parlors.

3.3 | Data collection

A total of 78 individuals reached out to the research team to participate in the interview procedure. Based upon our initial conversation, further depending upon their answers to our filter questions (around their interest in AR, VR and the Metaverse) and their availability, we collected interview data from 63 participants interviewed for the research. Demographic details of these participants are presented in Table 1. The interviews were conducted face-to-face at an agreed upon venue across different locations in India between August and November 2022. The interviews were conducted using a standardized interview guide that had been developed by the research team based on the literature review after alignment with the five stages of the EKB theory of consumer behavior (Engel et al., 2001) (See Appendix B for interview guide). This interview guide allowed the interviewers to ask open-ended questions and open the discussion about the participant's behavior, action and attitudes toward the Metaverse. The participants were assured of their anonymity, and all other ethical considerations were implemented to reassure them further. Interviews were audio-recorded and lasted between 32 and 56 min, with an average duration of 44 min.

TABLE 1 Demographics of sample participants in the study.

Variable	Item	Frequency ($n = 63$)	Percentage
Gender	Female	19	30%
	Male	44	70%
Age	21–23	40	63%
	24–26	15	24%
	26–28	8	13%
Cities	New Delhi	11	17%
	Mumbai	13	21%
	Chennai	16	25%
	Kolkata	12	19%
	Chandigarh	11	17%

3.4 | Data analysis

The audio of each interview was transcribed by a professional, saved as a PDF document and exported to NViVo, a qualitative data analysis computer software. Qualitative data analysis was chosen due to its iterative nature, uncovering tacit meanings in participants' actions and responses to Metaverse exposure (Braun & Clarke, 2006). Engaging deeply with Generation Z individuals' narratives on Metaverse awareness and engagement in India, the study conducted thorough data preparation, coding, categorization, and thematic analysis. This approach conceptualized the phenomenon, abstracting themes without diluting participants' voices, as evident in the findings.

The six phases of thematic data analysis, as outlined by Braun and Clarke (2006), were followed in the data analysis process for this study. This process involved familiarizing with and immersion in the data, such as reading interview transcripts and field notes and reviewing photos/videos. This phase was followed by generating themes (child nodes) highlighting the challenges and opportunities that

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TABLE 2 Summary of Consumer behavior with the metaverse.

S/N	Consumer behavior	Description	Sub-themes
1	Awareness	*Tech-savvy consumers recognize the metaverse as a trend, and are motivated to explore it, especially those interested in games and virtual reality.*	Motivated to explore the metaverse Recognize metaverse as a growing trend Technology-savvy individuals Interested in games and virtual reality
2	Information search	*Consumers seek information on the metaverse by watching videos, following influencers, and engaging with others. They attend events and demonstrations to learn more.*	Seeking out information about metaverse Watching YouTube and other resource videos Following influencers and trend setters Engaging with friends and other gamers Events Demonstrations
3	Evaluation of alternatives	*Consumers recognize challenges with accessing the metaverse and explore alternatives like the desktop version, borrowing or buying cheaper/second-hand accessories. They meet up with friends to borrow accessories.*	Recognizing their challenges with access and accessories Exploring the desktop version Meet up with friends to borrow accessories Buy cheaper or second-hand accessories
4	Engagement	*Consumers exhibit diverse Metaverse engagement: immersive hours, brand interaction, skepticism about NFTs. Alternatives explored include gaming, creativity, reflecting readiness for this evolving virtual realm.*	Engagement levels and time allocation Desires for engagement Financial and NFT engagement Mixed sentiments and brand engagement Exploring alternatives and readiness
5	Post-engagement evaluation	*Consumers reflect on their metaverse experience, share thoughts, create content, explore options for continued stay, and host curated events. They also provide tutorial sessions for trial access.*	Reflecting on their time on the metaverse Reflecting on their NFT investments Sharing thoughts with friends Creating content to share their experiences Exploring options for continued stay Creating timetable of activities and events on the metaverse Inviting friends to join on the curated events Creating tutorial sessions to give people trial access to the metaverse

emerged from the participants' transcripts and direct observations. These child nodes were subsequently evaluated and merged to form parent nodes. A deductive thematic analysis approach was adopted concerning the parent nodes. This is when the data are structured to align with a theoretical underpinning (Braun & Clarke, 2006). We structured our analysis to align with the five stages of the EKB theory of consumer behavior (Engel et al., 2001) – *awareness*, *information search*, *alternative evaluation*, *purchasing process (changed to engagement), and post-purchase evaluation (changed to post-engagement evaluation).* Changing the fourth and fifth stages from purchasing to engagement was aligned with engagement in the Metaverse (Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023). All subsequent child nodes (sub-themes) were structured around those themes. After a detailed analysis and discussion with colleagues about the sub-themes and determination of their optimum alignment with the key theme, the analysis concluded with a thematic table illustrated in Table 2 with 28 sub-themes (second-order concepts, fourth phase of thematic analysis) and five main themes (aligning with EKB theory of consumer behavior).

3.5 | Trustworthiness

Consistent trustworthiness was upheld throughout the study, encompassing the essential concepts of reliability and validity in qualitative research (Sattarapu et al., 2024). Although qualitative researchers lack standardized instruments for assessing validity and reliability, they diligently ensure the credibility and dependability of their findings. This assurance extends to credibility, transferability, dependability, and confirmability. Confirmability, as highlighted by Lim Lim (2019), represents the impartiality embedded in a research study's outcomes, ensuring that participants' responses remain untainted by any biases

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or personal inclinations of the researchers involved. This confirmability principle was rigorously observed in the current research endeavor (Abdulquadri et al., 2021; Lim, 2019). The researchers obtained ethical approval from the University of the second author and followed all necessary ethical procedures, including obtaining informed consent from the participants, to ensure the study's credibility. The participants were informed that the interviews would be recorded, that the data collected would be used solely for academic purposes and that their details would not be shared. We also conducted a member check, in which the participants of the semi-structured interviews were allowed to read and confirm the accuracy of the transcripts. There were debriefing sessions among the research team members to verify and discuss the themes. In addition, the clustered themes, presented in Table 2, to exhibit the different stages of data analysis, were also used to improve the trustworthiness and traceability of the study (Mogaji & Nguyen, 2021).

4 | FINDINGS

As the study aimed to understand consumer behavior on Metaverse, analysis of our findings aligns with the five stages of the EKB framework (Engel et al., 2001) of consumer behavior (as enumerated under section 3.4 of this study). These five themes are (1) awareness about the Metaverse, (2) information search about the Metaverse, (3) Evaluating alternatives to access the Metaverse, (4) engagement in the Metaverse and (5) post-engagement evaluation of activities in the Metaverse. These themes are subsequently discussed and buttressed with relevant quotes from the participants.

4.1 | Awareness of metaverse

Our participant' pool ($n = 63$) was very conversant with technology and all were aware of the Metaverse. Participants recognized the growing buzz around Metaverse and how every brand tried to become a part of it. Our participants were highly motivated to go into the Metaverse based on their interest in gaming, technology and what they had been reading. They regularly followed news updates on technology and engaged with different media, including YouTube, where the prospects of the Metaverse are being discussed. The participants noted that their interest in games, cartoons and avatar characters attracted them much more to the Metaverse.

Some participants shared their childhood experiences with games and how games had shaped their interest in the Metaverse.

> *I remember watching 'The Real Adventures of Johnny Quest' as a child. It was a cartoon series wherein a significant portion took place in a 'virtual world' called Questworld, which could be accessed via special headsets. The series was my first experience in the world of virtual reality* – **Male, 21–23, Kolkata**

> *I remember seeing an episode of 'South Park' related to this. Grounded Vindaloop's the name. It was a really weird episode. I have played Pokémon Go on my smartphone. It was my best experience with augmented reality. I had caught a Digglett once!* – **Female, 26-28, Chennai**

Some participants had a strong opinion about the Metaverse and were keen to share their thoughts; one said:

> *Metaverse is a rather old concept. Earlier, it used to stand for cyberspace-like virtual reality scapes. But with new tech coming into play and being put under Metaverse, it is better to call it a platform like the internet rather than a technology* – **Female, 26-28, Chennai**

Consumers' awareness and motivation to explore Metaverse enhanced their attitude toward seeking information and engaging with these technologies. Their knowledge about VR could be easily transferred to the Metaverse.

4.2 | Information search about the metaverse

With the growing interest in the Metaverse, many participants shared their experiences about their search for information about the Metaverse. Their experiences with VR games showed they were very interested in this emerging technology. Their interests and opinions were found to be shaped by the media, influencers, and friends. Many participants followed influencers on YouTube, TikTok and Instagram, who provided updates.

One participant shared her experience:

> *I was introduced to the Metaverse game by my favorite YouTuber. In addition, I have seen many other YouTubers and content creators speaking about it.*

Another participant also detailed her she got interested in Metaverse through an influencer:

> *I have seen a reel video about the Metaverse shared by an Influencer I follow on Instagram. He was showing himself walking around a haunted graveyard, punching ghosts with his fists. In another video, he showed himself walking around wearing a VR Helmet and making punching gestures and motions* – **Female, 21–23, New Delhi**.

Some other people were influenced by their friends who introduced them to the Metaverse or invited them to play games and share headsets. One participant said:

> *A friend of mine bought an Oculus Rift headset in the USA. He had brought it with him to India when he had come to visit his relatives. He showed it to me and asked*

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> *me to play a game with it. It was a fantastic experience with the surrounding visuals, which broadened my vision inside the game, similar to real life, and the sounds were amazing* – **Male, 24-26, Mumbai**.

Some individuals became more interested in the Metaverse after attending events where these technologies are being demonstrated, giving them ample opportunity to expand their knowledge about the Metaverse. One participant said he bought the Facebook headset after using it at an event:

> *I did participate in a demonstration of this platform in a city shopping mall. A guy from Facebook, now Meta, had come and demonstrated a Metaverse headset. I tried it as I was curious and amazed at how close it came to the Questworld* – **Female, 26-28, Chennai**.
> *I have experienced Metaverse on VR Handset at JIO and Airtel at the Indian mobile congress, where I was able to experience a Space tour through VR and real-life simulation where can walk and pinch in and out to zoom and watch the sun closely* – **Male, 26-28, Mumbai**.

Our analyses revealed that the awareness of the Metaverse and its vast opportunities influence the consumers' attitude to search for more information and explore opportunities to interact with this technology. This is consistent with the established body of work on e-WOM (Gökerik et al., 2018; Mogaji et al., 2021), reporting that consumers are attracted to these digital technologies based on feedback and interaction with other consumers and users.

4.3 | Evaluating alternatives to access the metaverse

Despite the interest and enthusiasm for the Metaverse, only 10 participants had their headsets and spent approximately 1 h per day in the Metaverse. Many participants who had yet to be able to access the Metaverse through headset and accessories, still enjoyed their immersive time (Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023), though they were cognizant of the significant challenges with access and accessories. Approximately 77.8% of participants ($n = 49$) who did not have their headsets felt that they could not engage on the Metaverse as they wished, while for approximately 10.7% of participants ($n = 17$), the issue was limited access to the internet. Owing to these challenges, participants mentioned that they sought alternatives to enjoy the thrills of the Metaverse. Around 18.2% of participants ($n = 29$) stated they had used the desktop version of Decentraland to access the Metaverse. One of them said:

> *It is different when you use the headset, but accessing Metaverse through my desktop is another alternative; I can design my avatar, use my mouse and keyboard to move around and interact with others, I can also invite my friend to join me at a particular time to walk around the Metaverse.* – **Female, 21–23, Mumbai**

Some participants shared that they relied on friends to lend them headsets ($n = 4$), while some tried it out at various tech demonstrations within their city ($n = 15$). Participants also revealed that just like some friends had introduced their friends to the Metaverse, there was a continued shared interest in the Metaverse, and to enhance the ongoing interest in the Metaverse, they kept coming back to borrow headsets from their friends. These insights emerged naturally during our interviews with participants and one participant shared her experience:

> *My Mum thinks we talk about fashion and make-up, but when I go to my friend's house, I borrow her headset to explore the Metaverse. She introduced Metaverse to me when her uncle bought her the headset, and it has been a wonderful experience. You wear it and hit play*. **Female, 24-26, New Delhi**

Some participants who wanted to use their time to enjoy the Metaverse without relying on friends or tech shows had invested in purchasing buying cheaper and second had headsets. Six participants said that they had bought their headset from a second-hand shop or online because they found it cheaper. One participant shared her experience.

> *I wanted to get one for myself, and I did not want to keep going to my friend's place, but these headsets can be costly, so I looked for a second-hand headset on eBay, and I found it fun to use; it is cheaper than buying a new one*. **Female, 26-28, Kolkata**

Participants were found to be keen on accessing the Metaverse, aligning with a common theme around the adoption of technology. They reported seeking alternatives to enhance their engagement and adoption of this technology, either using a different version or buying a cheaper option.

4.4 | Engagement with the metaverse

Participants' levels of engagement with the Metaverse varied based on their access to technology and free time. Some individuals who possessed the necessary accessories to engage with the Metaverse spent considerable time in the Metaverse. One participant who regularly accessed the Metaverse shared her timeline, saying:

> *I have a smartphone, a broadband computer, unlimited internet, and my headset. So, I would say that I could spend 2 – 3 h in the Metaverse. Sometimes, I may spend more time, around 4 – 5 h, depending on my free time.* **Female, 21–23, Chandigarh**

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This dedicated time allowed for exploration, brand engagement, and social interactions. The growing allure of the Metaverse drew another participant, who previously spent 5 h on the internet daily. She spent even more time with a new headset within this virtual realm. These accounts highlight that the Metaverse is beginning to occupy a significant portion of participants' leisure hours.

Participants also expressed a range of motivations for their engagement in the Metaverse. A key theme was the desire for interactive and immersive experiences. They eagerly explored what brands had to offer, sought out social events such as concerts, and were intrigued by the prospect of browsing virtual stores and engaging with other users. These engagements extended from participants' familiarity with gaming and the thrill of discovering novel experiences. Participants shared their experiences and expectations.

> *I am into gaming, and the whole Metaverse feels like a natural step. I have some cool accessories that have helped me ease into it smoothly*. **Male, 24-26, New Delhi**.

> *I believe that companies should view the Metaverse as a significant place for their brand presence as the novelty of the technology can motivate virtual visits by people who are curious about what this new thing is about or the generation like me who might feel a sense of nostalgia because of what we have seen before and what we are seeing now*. **Female, 24-26, Chennai**

Approximately 54% of the participants demonstrated interest in financial activities within the Metaverse, such as buying and selling NFTs. This level of engagement highlights the growing acceptance of virtual currencies and digital assets. Some participants revealed successful experiences with transactions using Metaverse Wallets, citing safety and ease of use.

Participants took pride in their wallet, as described by one participant (Male, 24–26, Chennai):

> *A Metaverse wallet is similar to a cryptocurrency wallet, wherein you store your bitcoins, digicoins and any other coins you have bought*.

Another participant (Female, 21–23, Chandigarh) reiterated this point:

> *They are considered safe as long as you do not lose or give away the password. Metaverse wallet might be a digital real wallet like the one in our pockets*.

However, a portion of participants remained skeptical about the true value of NFTs, comparing them to artificially hyped assets. One of the participants who had tried using the Metaverse wallet said:

> *I am still getting more knowledgeable about it. However, from what I understand of the Metaverse wallet, we need digital currency to purchase any digital property, and the wallet is a place where we can store our digital currency. I am still keen on trying and hope to get it sorted out soon*. **Male, 21–23, Kolkata**

Another participant (female, 24–26, New Delhi) also said:

> *An NFT is artificially hyped up to be something it is not, and I do not see it having a long run as an art*.

Despite the growing popularity of the Metaverse and brands' investments, a notable segment of participants needed clarification about the reasons for engaging with brands in this virtual space. This group expressed concern about limited opportunities and transient activities needed to align with the promised continuous interaction. This sentiment underscores the challenges brands might face in meeting the expectations of all consumers within the Metaverse.

In response to their reservations, some participants explored alternatives to their engagement in the Metaverse. These alternatives aligned with the participants' pre-existing interests and inclinations. Communication platforms like VRChat allowed them to connect and interact with others while gaming on platforms like Roblox and engaging in augmented reality experiences fulfilled their desires for entertainment. Additionally, participants recognized the potential of VR tools for creativity, using them to create 3D art and sculptures.

One participant shared her experience, saying:

> *The Metaverse is getting much attention, but I am not sold on it yet. It needs to live up to all the excitement it promised. So, for now, I am going my way and checking out different virtual realities to have fun. Playing games with my buddies and tweaking my avatar is keeping me occupied. And you know, I am also diving into AR stuff for design and creative projects. I figured this way and would be ready for whatever the Metaverse throws our way* – **Female, 24-26, New Delhi**.

This exploration of alternatives reflects their preparedness to embrace whatever the evolving Metaverse landscape brings. In summarizing this theme, participants' engagement with the Metaverse spanned across various levels, motivations, and areas of interest. From dedicated immersion time to skepticism about NFTs, participants showcased a dynamic range of responses to this emerging virtual realm. This diverse engagement landscape underscores the need for brands and developers to cater to a broad spectrum of user expectations and desires as the Metaverse continues to evolve.

4.5 | Post-engagement evaluation of activities in the metaverse

When participants were prompted to reflect on their post-engagement evaluation of Metaverse activities, their responses were overwhelmingly

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positive, conveying optimism about the future of the Metaverse. Many participants expressed confidence in the growing appeal of the immersive Metaverse experience. Some even highlighted their investment in Metaverse technology as a testament to its future significance.

One participant who had acquired a second-hand headset quipped:

> *Why do you think I invested in the headset? This is the future of technology*.

Participants' retrospective contemplation of their time in the Metaverse revealed a desire for more engaging activities to enhance their experience. Some acknowledged that the absence of interaction or a clear plan could lead to moments of boredom. Anticipating this, participants hoped for a broader range of content created by brands and organizations.

One participant articulated,

> *More brands and organizations should develop content for the Metaverse*.

Among the participants who had purchased NFTs (19%), there was a notable concern about their investment decisions. Consistent with previous research (Albayati et al., 2020), awareness of the volatile nature of NFTs contributed to uncertainty and apprehension. Some questioned whether their NFTs would appreciate.

One participant shared her uncertainty about an avatar dress purchase:

> *I bought this dress for my avatar from one of the fashion retailers, I wanted to try it and see how it feels, but now I am thinking if I have made a good decision and if the value will increase or reduce*. **Female, 21–23, Chandigarh**

Participants with positive Metaverse experiences expressed a willingness to share their encounters and attract others. Some had begun creating content on platforms like YouTube and TikTok, while others helped friends mint NFTs. Certain participants even considered monetizing their Metaverse expertise by teaching others how to navigate it.

One participant envisioned a business of lending his headset for a fee to those curious about the Metaverse. He said:

> *Metaverse can be challenging to negotiate. I see a business opportunity here to help people access and experience the Metaverse; I can borrow my headset and charge them per hour to access the Metaverse. I see many people using my service to see what the Metaverse looks like*. **Male, 24-26, New Delhi**

Overall, participants who enjoyed their Metaverse experiences indicated a strong desire to return, invest in accessories like headsets, and engage in various activities. Strategically planning their Metaverse visits to maximize time and fun, some participants even shared schedules with friends for a coordinated experience. Reflecting on this, a participant said:

> *I have to be strategic anytime I go into the Metaverse; I take note of the time, different activities, and places to explore and make my time worthwhile; I also share this schedule with my friends so we can all be there and make it fun*. **Female, 26-28, Chennai**

Furthermore, our analysis delved into participants' Metaverse journey, spanning awareness, information search, engagement, and evaluation. Despite challenges, participants displayed an eagerness to revisit the Metaverse. Refer to Table 2 for a summary of these themes, their associated consumer behaviors, and subthemes.

Despite some negative sentiments, the overall attitude toward the Metaverse was predominantly positive. Our analysis identified an increased consumer familiarity with the Metaverse, encompassing advertising, digital marketing, purchase processes, and brand engagement. Notably, our findings revealed a willingness to engage with the Metaverse, transcending the digital divide and highlighting the substantial potential for digital marketing. Brands have the opportunity to deepen their interactions with consumers within the Metaverse, aligning with the EKB model applied to our study's findings.

In the awareness stage (Stage 1), our study observed exploratory buying behavior tendencies among specific Indian consumer segments interested in the Metaverse. This suggests that consumers familiar with the Metaverse will likely embrace new technologies and innovations. However, our analysis also highlighted a contradiction: while consumers exhibit exploratory buying tendencies, the opportunities and activities in the Metaverse often fall short of meeting their expectations.

The promise of round-the-clock activities must be consistently fulfilled, so as to avoid any dissatisfaction. Furthermore, our analysis demonstrated that although consumers may possess the EBBT (Exploratory Buying Behavior Tendency), current companies still need to adequately provide services that incentivize diverse product purchases within the Metaverse. For instance, despite a gamification enthusiast's EBBT, participants noted the limitation of being unable to play with worldwide participants at any time. This signifies an unmet need for comprehensive and globally accessible services on the Metaverse.

5 | DISCUSSION

Our study is a pioneering effort, offering one of the first empirical investigations into consumer behavior within the Metaverse, aligning with studies like that of Arya et al. (2024) exploring XR-based gamification marketing activities in the Metaverse. Our primary aim was to extend the understanding of this emerging digital realm, breaking new ground by building upon conceptual papers (Dwivedi, Hughes, et al., 2023; Dwivedi, Kshetri, et al., 2023; Hadi et al., 2023) and

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adapting the EKB model (Engel et al., 2001). In doing so, we sought to provide valuable insights into the dynamics of consumer engagement in the Metaverse, which remains a relatively unexplored area (Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023). While it is true that the sample size and scope of our study may be perceived as narrow, as we focused on collecting qualitative data participants with interest in Games and who were based in India, it is essential to recognize that the Metaverse is still in its nascent stages of development. As such, assembling a large, diverse sample that accurately represents the entire Metaverse marketplace is a challenging endeavor.

Our research serves as an initial step, laying the foundation for a more comprehensive understanding of consumer behavior within the Metaverse and opening the door to broader research efforts (Arya et al., 2024; Choi et al., 2023; Wongkitrungrueng & Suprawan, 2023). More so, we contribute toward the concept of Immersive Time (ImT) (Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023), enhancing our understanding of consumer engagement in immersive digital environments. ImT delves into the notion of time within the Metaverse, illustrating how consumers allocate their time, engage with digital experiences, and invest in virtual interactions. This temporal perspective adds an extra layer to our comprehension of consumer engagement, particularly in a context where individuals spend considerable time within the Metaverse.

Our employment of the EKB Model of Consumer Behavior (Engel et al., 2001) to explore consumer engagement with the Metaverse is underpinned by the model's framework, which delineates various stages in the consumer decision-making process. When applied to the Metaverse, it suggests a parallel decision journey that consumers undergo when evaluating their engagement with this digital realm. The notable change from "purchase" to "engagement" and "post-purchase" to "post-engagement" within the EKB model was not made arbitrarily but with a purpose. These modifications were introduced to better resonate with the essence of interactions, experiences, and activities within the Metaverse. We acknowledge that these adjustments represent a deviation from the traditional EKB model. Still, this departure was essential in our pursuit of a model that could encapsulate the unique and evolving dynamics of the Metaverse (Mogaji, 2023). We firmly believe that these adaptations represent a crucial step in exploring new approaches that will mold the development of future Metaverse consumer behavior models and theories.

Moreover, our study recognizes the 'awareness' stage, as this is a crucial initial step for consumers venturing into the Metaverse. To augment our insights, we align this with the concepts of Optimum Stimulus Level (OSL) and Exploratory Buying Behavior Tendency (EBBT). The alignment of EBBT with OSL underscores how companies' stimuli can effectively align with consumer motivations for Metaverse adoption. Participants in our study recognize the potential of the Metaverse in expanding brand presence, primarily driven by its novelty, invoking curiosity-driven virtual exploration. Additionally, nostalgia emerges as a significant influencer of consumer engagement, showcasing the relevance of EBBT among Indian consumers. Our research findings are in harmony with existing literature linking risk-taking and variety-seeking behaviors to the transformation of stimuli into optimal experiences (Dwivedi, Hughes, Baabdullah, et al., 2022; Dwivedi, Hughes, Cheung, et al., 2022; Dwivedi, Hughes, Kar, et al., 2022; Gañac, 2018; Lim et al., 2023; Steenkamp et al., 1996). These results emphasize the critical role of avatars and the diverse applications within the Metaverse, highlighting the significance of variety-seeking behavior.

Figure 1 encapsulates our research findings, providing an illustrative portrayal of consumers' interactions within the Metaverse across various stages: from the initial awareness and information search to the evaluation of alternative engagement options, proceeding to active involvement within the Metaverse, and the subsequent evaluation of immersive time. Our study delves deeper into consumer engagement within the Metaverse, with a particular focus on motivational drivers, information-seeking behaviors, and various stages of interaction. Notably, we highlight that positive experiences within the Metaverse tend to foster sustained engagement, presenting challenges and opportunities for managers and technology developers alike. This research adds a comprehensive and temporal perspective to our understanding of consumer behavior in the Metaverse and contributes to the evolving discourse on this dynamic digital landscape.

5.1 | Theoretical implications

Our study offers three significant theoretical contributions to in the domains of the metaverse, consumer behavior, and technology adoption.

First, we move beyond conceptual papers and opinion pieces within the Metaverse (Dwivedi, Hughes, Baabdullah, et al., 2022; Dwivedi, Hughes, Cheung, et al., 2022; Dwivedi, Hughes, Kar, et al., 2022; Koohang et al., 2023), providing empirical insights into consumer behavior. Our examination delves into multiple facets of this behavior, including information-seeking activities (such as following influencers and content exploration), alternative access strategies (using different devices or borrowing accessories), and post-engagement evaluations. Figure 1 illustrates that our research identifies and categorizes distinct stages of consumer behavior within, upon, and after engagement with the Metaverse.

Secondly, we extend the theoretical framework of technology adoption, employing the Engel-Kollat-Blackwell (EKB) theory (Engel et al., 2001), which has been used in studies like Sihi (2018) and Yeo et al. (2022) to explore technology's impact on consumer decisions. Our study pioneers the incorporation of OSL and EBBT concepts into the EKB framework. Notably, we enhance awareness by investigating how the Optimum Stimulus Level (OSL) and the Exploratory Buying Behavior Tendency (EBBT) of Generation Z consumers influence consumer behavior in the Metaverse. Furthermore, we extend the purchase stage into a broader engagement phase, acknowledging that engagement within the Metaverse involves various activities. This aligns with the concept of immersive time (Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023), elucidating insights into whether and how consumers will further engage with the Metaverse. Our study is the first to integrate EBBT and OSL into the EKB model,

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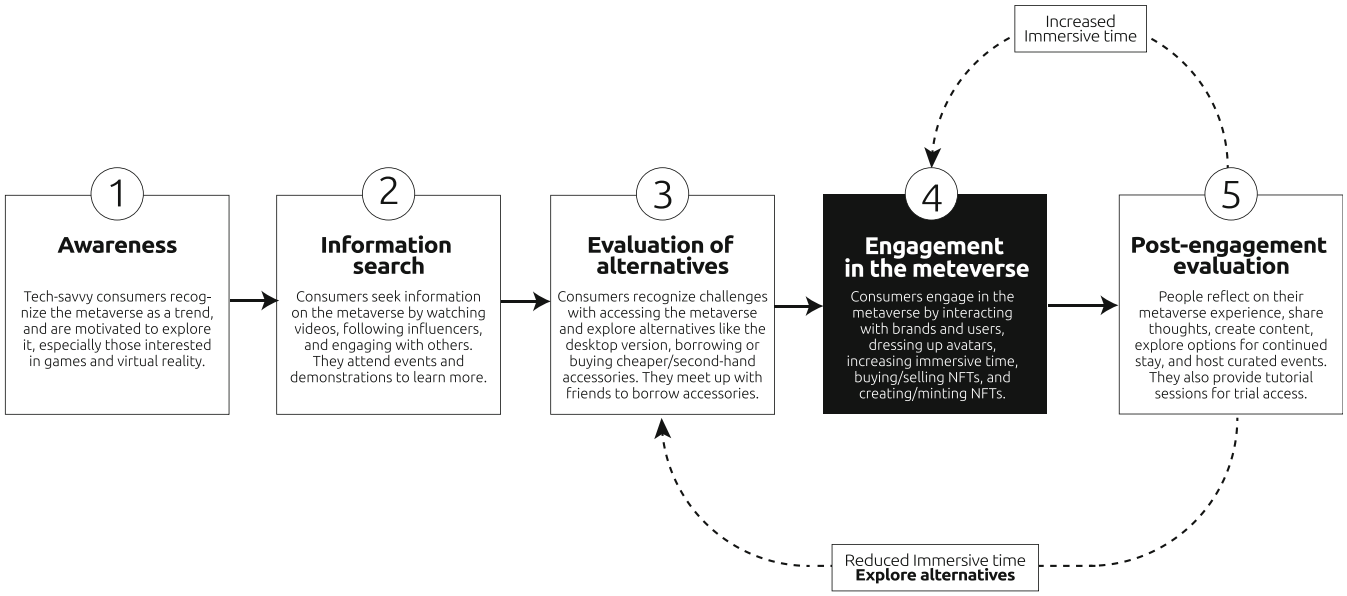

FIGURE 1 Consumer behavior with the Metaverse. Adapted from the EKB model (Engel Kollat Blackwell Model) of consumer behavior.

thus contributing to the nascent literature on the Metaverse, digital marketing, and consumer behavior beyond prevailing conceptual discussions.

Thirdly, our research enhances the understanding of Immersive Time (ImT) within the Metaverse (Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023). ImT is pivotal for brands, as prolonged consumer engagement translates to increased insights, engagement, and data (Dwivedi, Hughes, Baabdullah, et al., 2022; Dwivedi, Hughes, Cheung, et al., 2022; Dwivedi, Hughes, Kar, et al., 2022; Koohang et al., 2023). Our study quantifies and explores the qualitative aspects of immersive time, investigating consumer behavior during this duration and the factors influencing it. It raises questions about how this extensive immersion might impact other marketing strategies, considering the potential for a trade-off between engagement within the Metaverse and engagement with other forms of media. The study uncovers consumers' strategies for overcoming accessory-related challenges in accessing the Metaverse, shedding light on the role of these accessories in shaping the stimulation level for future Metaverse usage.

5.2 | Managerial implications

The findings of our study offer valuable insights that can guide businesses and brands as they navigate the emerging metaverse and seek to effectively engage with consumers. As the Metaverse gains traction, understanding consumer behavior within this novel digital realm is essential. Brands should devise strategies to actively engage consumers, leveraging the potential of the virtual world for product displays and sales. Our study presents three significant managerial implications.

First, Managers should prioritize engagement strategies and effective communication. Participants in our study emphasized the importance of immersive content and how staying informed about events and activities within the metaverse leads to enhanced engagement. Therefore, brands planning events and generating content should proactively communicate these initiatives to their target audience. Effective and timely communication is vital for ensuring consumer awareness of immersive content and events, ultimately fostering increased engagement (Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023). It is crucial to personalize invitations for prospective customers to access the metaverse, considering specific events. The example of the European Commission's Foreign Aid Department event serves as a relevant case study, where the attendance at the metaverse event was limited. This highlights the significant role of effective and timely communication in driving attendance and participation (Palmer, 2022). Ensuring a larger number of participants in the metaverse is of utmost importance because it not only enhances the overall quality but also the quantity of the service time available, contributing to a more vibrant and dynamic metaverse environment.

Second, Managers should re-evaluate customer relationships and experiences. The Metaverse has a transformative impact on customer relationships, communication patterns, decision-making processes, and overall experiences. To capitalize on this transformation, brands should focus on providing highly personalized and customized experiences, including personalized avatars, content, and products (Gursoy et al., 2022; Kim, 2021; Shen et al., 2021). Utilizing AI and machine learning to analyses user behavior and preferences is crucial for creating tailored experiences that resonate with individual consumers (Dwivedi, Hughes, et al., 2023; Dwivedi, Kshetri, et al., 2023; Ooh et al., 2023). Immersive engagement within the Metaverse should be a central focus, and the platform can serve as a space for addressing real-world concerns (Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023). However, ethical considerations, data privacy, and inclusivity are paramount in this dynamic space (Mogaji, Soetan, & Kieu, 2021).

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Third, Managers should explore diverse marketing avenues. Aligning with our findings on post-engagement evaluation of activities in the Metaverse, our research identifies several promising marketing avenues in the Metaverse, including advertising, virtual shopping, augmented reality experiences, and virtual exhibitions. Brands that can seamlessly bridge the gap between virtual and real-world experiences are likely to cultivate enduring consumer relationships. For brands looking to establish a presence in the Metaverse, there are opportunities to explore, such as placing advertisements, collaborating with influencers, and forming strategic partnerships. Collaborations with technology companies, virtual world builders, and Metaverse experts can provide access to cutting-edge technology and platforms, enabling brands to create immersive and engaging experiences for consumers.

In summary, businesses and brands entering the Metaverse must recognize the importance of communication, personalization, and immersive engagement. They should be prepared to adapt their strategies to meet the evolving expectations of consumers in this dynamic digital realm. Moreover, maintaining ethical standards and promoting inclusivity are essential to building and retaining consumer trust within the Metaverse. The Metaverse presents a wealth of opportunities for those who can understand and navigate its complexities while prioritizing consumer engagement and satisfaction.

6 | CONCLUSIONS

Our qualitative study contributes valuable insights into consumer behavior and Metaverse marketing. Consumers are keenly interested in the Metaverse, actively seeking engagement despite challenges. However, our study is exploratory and limited to India's Gen Z demographic, raising questions about generalizability. We encourage further research using a quantitative approach across diverse demographics and global contexts to refine our understanding. Additionally, we recognize our sample focus on gaming as a limitation and suggest future research to incorporate a more diverse range of Metaverse applications and platforms in research design. We aim this strand of research would provide a more comprehensive understanding of consumer attitudes in the Metaverse, ensuring that future findings have relevance and applicability beyond the gaming sector. While we acknowledge that the sample size and scope of our study may be considered narrow, it is essential to recognize that the Metaverse is still in its early stages of development. As such, obtaining a large, diverse sample representative of the entire Metaverse marketplace can be a challenging task. Our research serves as an initial step, offering a foundational understanding that future studies can build upon. It contributes to the discourse on consumer behavior in the Metaverse and sets the stage for broader and more comprehensive research endeavors. Future research has the potential to delve deeper into the notion of immersive time as a distinctive consumer behavior theory, with opportunities to enrich its comprehension within the Metaverse. This exploration could examine its correlations with variables like customer engagement, which is a psychological construct, and its subsequent impact on consumer behaviors, particularly concerning brands. The insights provided in this study will guide future research and strategic decisions in this evolving virtual landscape.

ACKNOWLEDGMENTS

The authors would like to express their sincere gratitude to the Special Issue Editor for their invaluable guidance and support throughout the preparation and review of this manuscript. We extend our heartfelt appreciation to the three anonymous reviewers for their constructive feedback, which significantly contributed to the enhancement of the quality and depth of the research. Additionally, we would like to acknowledge and thank the participants who generously shared their time and insights, contributing to the richness of our study. Their valuable contributions have been instrumental in shaping the outcomes of this research.

FUNDING INFORMATION

The authors declare that no specific funding was received for the research, authorship, or publication of this manuscript.

CONFLICT OF INTEREST STATEMENT

The authors declare that there are no conflicts of interest related to the research. We affirm that there are no financial, personal, or professional relationships that could potentially compromise the objectivity, integrity, or impartiality of the findings presented in the manuscript.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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How to cite this article: Kaur, J., Mogaji, E., Paliwal, M., Jha, S., Agarwal, S., & Mogaji, S. A. (2024). Consumer behavior in the metaverse. *Journal of Consumer Behaviour*, *23*(4), 1720–1738. https://doi.org/10.1002/cb.2298

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APPENDIX A: SUMMARY OF RELEVANT LITERATURE ON CONSUMER BEHAVIOR AND THE METAVERSE

Author (s)	Paper type	Focus	Findings
Dwivedi, Hughes, et al. (2023)	Conceptual	Explored how the metaverse will shape the future of consumer research and practice.	Identified multiple themes encompassing a variety of challenges and opportunities that the metaverse can offer to marketers Addressed the potential of consumer-brand interaction within the metaverse
Dwivedi, Kshetri, et al. (2023)	Conceptual	Highlighted the negative impact of the metaverse	Explored the dark side of the metaverse encompassing concerns like technological vulnerability, privacy issues, identity theft, invasive advertising, various negative implications including abuse, mental health, and unintended consequences stemming from the metaverse's influence.
Hadi et al. (2023)	Conceptual	Explored the metaverse as a new digital frontier for consumer behavior	Conceptualized the metaverse as being defined by the combination of five key components Explored how the metaverse components could collectively reshape consumer behavior across three domains: consumer identity, social influence, and ownership.
Mogaji et al. (Mogaji, Dwivedi, & Raman, 2023; Mogaji, Wirtz, et al., 2023)	Conceptual	Introduced the concept of immersive time (ImT) in the Metaverse as the time consumers spend in the metaverse	Highlighted that comprehending ImT's significance holds implications for researchers, practitioners, tech developers, brand managers and policymakers involved in shaping the metaverse strategies, ensuring customer safety in immersive metaverse experiences.
Chakraborty, Polisetty, et al. (2023)	Empirical Mixed-methods design: qualitative ($n = 24$) and quantitative study ($n = 436$).	Examined the drivers behind Generation Z's adoption of the metaverse for socializing Assessed how their individual personality traits impact their intentions to use the metaverse.	Provided an insight into the relationship between the Big Five Personality Traits and technology adoption.
Wongkitrungrueng and Suprawan (2023)	Empirical Quantitative study using Data from 702 Thai users of Asia's largest metaverse platform.	Examined consumer responses to immersive brand experiences	Established that users who find enjoyment in the branded virtual world tend to dedicate more time to exploring it. Concluded that extended engagement allows users to better grasp both the practical and symbolic worth of the virtual environment.
Choi et al. (2023)	Empirical Quantitative study Data of, 304 respondents survey responses from active users of a popular social metaverse platform, Zepeto	Explored social metaverse's positive effects as mood management on consumers' life satisfaction and usage intentions	Revealed that engaging in the metaverse for positive mood enhancement and negative mood alleviation significantly affects life satisfaction and subsequently drives greater usage intentions.
Arya et al. (2023)	Empirical Quantitative study with data of from two emerging countries in Asia and Africa. 516 respondents from (India) and 172 from (Morocco)	Explored the role of a "gamification of marketing activities" and its influence on consumer-based brand equity for intangible products (NFTs) in the Metaverse	Established the link between consumer-based brand equity and the Metaverse, specifically examining gamification and NFTs. Highlighted how consumers view immersive luxury brand experiences in this virtual realm.
Sung et al. (2023)	Empirical Quantitative study with sample Data of 469 actual metaverse platform users from across the United States and South Korea	Investigated consumer behavior toward buying NFTs in the metaverse	Explored consumer behavior in relation to NFTs, revealing that the desire for NFTs increases due to perceived economic and social value, along with authenticity and scarcity, influencing consumers' assessment of potential gains and losses tied to NFT acquisition.

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Author (s)	Paper type	Focus	Findings
Chakraborty, Patre, and Tiwari (2023)	Empirical Mixed-methods design: Q including qualitative content analysis Quantitative data of and 512 survey respondents from India	Assessed dating intentions in the metaverse	Consumer attitudes toward metaverse dating strongly drive user engagement, emphasizing their significance. To ensure trust, addressing privacy and security concerns requires robust verification and security measures.
Zallio and Clarkson (2022)	Empirical Qualitative Study In-depth, semi-structured interviews concepts and opinions were collected from tech industry experts working in technology companies	Explored inclusion, diversity, equity, accessibility and safety for digital immersive environments from developers' perspective.	Offered insights into the ethical and societal consequences of the metaverse on individuals Outlines the considerations businesses and society must consider when designing digital, virtual, and immersive environments.

APPENDIX B: INTERVIEW PROTOCOL AND INTERVIEW GUIDE

Interview Protocol: A semi-structured interview, recorded and transcribed.

Questions:
(Thank the individual for participating in this interview. Assure them that the interview will be recorded. Reassure of confidentiality of responses and potential future interviews)

Background (and filter questions)

- Tell me a bit about yourself.
- How do you spend your leisure time?
- How much time usually do you spend on the internet surfing?
- Tell me more about your experience with gaming?
- Name a few online video games?
- Do you know any games in the metaverse?
- How about Virtual and Augment reality?
- How would you describe your experience with these technologies?
- Have to ever made any purchases with the use of AR or VR?

Awareness

- How did you initially become aware of the concept of the Metaverse? *(Probe further: Was it through advertisements, social media, word of mouth, or other means?)*
- How would you describe metaverse?
- Do you think it is similar or different from i. gaming, ii virtual reality and iii augmented reality?
- Are you aware of Metaverse and how companies are using metaverse for awareness or promotion?
- How do you access the metaverse?
- Can you recall any specific instances where you encountered a brand or company using the Metaverse for promotional purposes?
- How did these encounters shape your perception of the technology and the brand?

Information Search

- When seeking information about Metaverse, do you prefer to explore official brand websites, user-generated content, or a combination of both?
- Why do you trust one source of information over another?
- How do you feel about the information available about the Metaverse?
- Do you find it to be easily accessible and comprehensive, or do you think there are gaps that need to be addressed?

Alternative Evaluation

- Can you describe a time when you had to choose between different virtual experiences or products within the Metaverse?
- What criteria did you use to compare and evaluate your options?
- Have you ever come across user reviews or recommendations that influenced your decision to engage with a particular brand or activity in the Metaverse?
- How did these reviews impact your overall experience?
- What other things do you do apart from entering the metaverse? *(Probe into gaming and VR/AR)*
- Would you say you are getting the best value for your time on the metaverse? *(Probe further to understand their evaluation of Immersive time)*

Engagement

- What factors contribute to your decision to participate in virtual events or experiences hosted by brands in the Metaverse? *(Probe further and ask if its the brand reputation, the content they offer, or other factors that drive your engagement)*

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- Have you ever encountered a situation where your expectations of a brand's presence in the Metaverse differed from the actual experience? *(Probe further and ask how this affected their perception of the brand and the metaverse)*
- What else do you do in the metaverse?
- Do you transact business and engage with brands *(Probe on NFTs, crypto currencies and wallet if they have not mentioned it)*
- How is your experience when in the metaverse?

Post-Engagement Evaluation

- After participating in a brand's metaverse-related experience, do you feel more connected to that brand in comparison to traditional online interactions?
- How does this connection influence your likelihood of future engagement?
- Have you ever discussed your metaverse experiences with friends or online communities?
- How do these discussions impact your own views and decisions regarding metaverse engagement and brands?
- Long-Term Impact:
- Do you foresee the Metaverse becoming a significant part of your daily online interactions in the future?
- How do you think this will impact your overall online behavior and brand preferences?
- Can you imagine a scenario where you would incorporate metaverse experiences into your offline life, such as sharing them with friends in physical spaces or integrating them into events?

Closing

- Ask if there are any questions or clarifications.
- Provide further information and stages of the research.
- Thank them and bring interview to an end.

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