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The role of immersive spaces on the customer experience: An exploration of fashion metaverses

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Abstract

This study explores the impact of immersive spaces, such as the metaverse, on the customer experience. The research examines consumers' motivations to use metaverse spaces and analyses how various dimensions of virtual environments and the associated pain points affect the overall customer experience, including cognitive, affective, behavioral, and social outcomes. It also investigates whether consumers perceive differences between brands' metaverse and physical spaces. The fashion industry, as an early adopter of the metaverse, serves as the context. A qualitative research design, including consumer diaries and focus groups, is conducted. Findings reveal five motivations for using metaverse environments: freedom of expression, creativity, exploration, entertainment, and productivity. We identify several pain points that impact the overall customer experience that should be overcome to realize the metaverse's potential. This study highlights implications for theory and practice related to immersive spaces and the customer experience, benefiting metaverse designers and customers alike, and influencing brands' marketing strategies that increasingly focus on incorporating immersive spaces. As the field of omniverse marketing remains underdeveloped, our research advances knowledge by extending the customer experience framework into the context of immersive spaces and contributes to the body of knowledge of consumer psychology and marketing.

KEYWORDS
customer experience, immersive spaces, metaverse, motivations, psychological drivers

1 | INTRODUCTION

Practitioners and scholars are paying increasing attention to immersive spaces due to shifts in consumer behavior and the rapid acceleration of immersive technology capabilities (Barrera & Shah, 2023; Elmasry et al., 2022; Zhou et al., 2024). Immersive technologies encompass tools that blur the boundaries between virtual and real worlds (Zhou et al., 2024). These include augmented (AR), virtual (VR), and extended (XR) reality, which facilitate the (re) creation of digital environments aimed at delivering immersive experiences to users (Cheng et al., 2022; Dwivedi et al., 2022a). Extant literature reveals that when individuals interact with both virtual and physical spaces, they perceive environmental dimensions holistically, with multiple cues influencing the overall customer experience (CX) (Rayburn & Voss, 2013). The metaverse, defined by Hadi et al. (2023) as "a network of digitally mediated spaces that immerse users in shared, real-time experiences" (p. 2), exemplifies an immersive virtual space that brands can leverage to enhance the CX

(Wongkitrungrueng & Suprawan, 2023). Despite being over three decades since Neal Stephenson coined the term "Metaverse" in his novel Snow Crash (1992), its definition has evolved from a dystopian virtual space to a new paradigm for immersive and interconnected virtual engagement, facilitated by XR technologies (Barrera & Shah, 2023; Dwivedi et al., 2022b). The metaverse is perceived as the next iteration of the internet, speculated to generate US$5 trillion in value globally by 2030 (Elmasry et al., 2022). Thus, the metaverse, as a new immersive space, holds many exciting possibilities for brands in terms of socializing, selling, and engaging with consumers (Chakraborty et al., 2023; Hadi et al., 2023; Oleksy et al., 2023).

Despite growing practitioner attention and experimentation, research on metaverse spaces is scarce and largely limited to conceptual papers (e.g., Barrera & Shah, 2023; Hadi et al., 2023; Hollensen et al., 2022; Park & Lim, 2023; Zhou et al., 2024; Dwivedi et al., 2022a, 2022b). Scholars have yet to explore the psychological drivers underpinning metaverse usage (Hilken et al., 2022; Zhou et al., 2024), and how individual experiences differ between physical and virtual environments. Although scholars have recognized the metaverse's potential to enhance the overall CX (Hadi et al., 2023; Park & Lim, 2023; Wongkitrungrueng & Suprawan, 2023), further research is needed to understand how metaverse dimensions influence users' motivational state, leading to metaverse usage (Al-Sharafi et al., 2023; Dwivedi et al., 2022a). There is currently a lack of knowledge regarding what motivates consumers to engage in brands' immersive spaces and how these immersive spaces impact their overall brand experience. Consequently, this study explores the impact of immersive spaces, such as the metaverse, on the overall CX, addressing the following research questions:

RQ1: *What are individuals' perceptions of brands' metaverse dimensions, and do these perceptions differ between physical and virtual environments?*

RQ2: *What motivates users to engage with the metaverse and what pain points prevent them from using it?*

RQ3: *What is the impact of the metaverse on the overall CX?*

We address these research questions by employing a qualitative research design comprising consumer diaries and focus groups. The fashion industry provides the setting for our research, as it is considered an early adopter of immersive metaverse spaces and has multiple use cases for virtual experiences and clothing purchases (Dwivedi et al., 2022b; Elmasry et al., 2022; Joy et al., 2022; Park & Lim, 2023; Yoo et al., 2023). This research contributes to the nascent scholarly field in various ways. First, given the absence of empirical research on immersive spaces such as the metaverse, this study contributes new knowledge through a CX lens. Second, it delves into motivational factors influencing consumer usage of the metaverse and explores related pain points. This contribution not only advances CX literature but also deepens insights into the psychological mechanisms that drive and affect consumer behavior in immersive spaces. Third, the study sheds light on how perceptions between brands' virtual and physical spaces differ, offering methodological novelty by using real-life users of the metaverse, an aspect that is lacking in extant literature.

We begin by providing an overview of the dimensions of immersive spaces, using the metaverse as the context for the paper, including its origins and evolution. We then consider the metaverse within scholarly literature relating to the CX and psychological motivations and pain points. Following this, we present our research methodology and report the results from the qualitative design adopted. We finish with theoretical and management implications, limitations, and future research directions.

2 | LITERATURE REVIEW

2.1 | The metaverse: Definition, characteristics, and dimensions

While the definition of the metaverse is widely contested amongst scholars, there are certain characteristics that are somewhat agreed upon (Park & Lim, 2023). These characteristics can be grouped into three dimensions which make up the metaverse: spatial, social and immersion (Barrera & Shah, 2023; Blazquez, 2024; Dwivedi et al., 2022b; Koohang et al., 2023). The *spatial* dimension relates to the interplay between virtual and physical environments- a collection of technology-mediated spaces that have some of the characteristics of physical spaces (Hadi et al., 2023). This dimension, also denominated environmental fidelity (Barrera & Shah, 2023), refers to the similarity between the real and virtual worlds. It relates to characteristics such as *interoperability*, as the metaverse is a seamless virtual space that includes the use of technologies across different platforms (Park & Lim, 2023). Some studies argue that the metaverse reflects the real world because it replicates its activities and life-like experiences (Elmasry et al., 2022). Others advocate that the metaverse is characterized by the merging (Barrera & Shah, 2023) and fusion (Cheng et al., 2022) of the real and virtual worlds, where interactions take place simultaneously.

The metaverse's *social dimension* facilitates *social interactions* and *sharing* (Bourlakis et al., 2009; Chakraborty et al., 2023; Davis et al., 2009; Hennig-Thurau et al., 2023; Kim, 2021; 2021). Studies suggest that the ability to interact with other customers and employees within a virtual environment positively influences the overall CX (Cheng et al., 2023; Yoo et al., 2023). Online social cues are represented by customer reviews, comments and communities, which enable the presence of employees and other customers (Hazari et al., 2017). Yoo et al. (2023) characterize social dimensions in the metaverse as online collaboration, high consumer immersion and digital personas, all of which allow for social relationships that are much stronger than those in traditional digital environments (i.e., social media). Metaverse users share the same experience, meaning that their interactions happen in *real-time*, which can also promote a

sense of social presence for them (Hadi et al., 2023). Real-time social interaction among consumers and employees in the metaverse is posited to be a promising prospect for companies (Chakraborty et al., 2023; Yoo et al., 2023).

The last dimension addressed in prior definitions is *immersiveness*. The metaverse is a *digitally mediated* space, as the experiences within it are mediated by interactions with digital technologies such as AR and VR (Damar, 2021; Hadi et al., 2023). These technologies are characterized for being immersive and stimulating different senses in a simulated environment, creating the perception of being there (e.g., Barrera & Shah, 2023; Zhou et al., 2024). An example of sight and touch sensory dimensions would be the combination of virtual try-on and haptic technologies while sound sensory dimension involves the use of sound technologies (Batat, 2024). Further technologies are being developed to replicate other senses in the metaverse including scent and taste (Batat, 2024). On a wider level, Hennig-Thurau et al. (2023) refer to real-time multisensory interaction among users in the metaverse. The importance of immersive technologies in marketing literature has been widely documented, with research ascertaining how technologies can revolutionize the CX (Lemon & Verhoef, 2016; Van Doorn et al., 2017). Tom Dieck and Han (2022) define immersive technologies as any form of technology that permits the blurring of virtual and real worlds, thus providing a sense of immersion. Immersion is a critical dimension of the CX, whereby technology-related factors may manipulate the degree (i.e., low to high) of telepresence (the feeling of being present). For Barrera and Shah (2023), the degree of immersion is one of the levers to consider when designing CXs in the metaverse. Brands are experimenting with immersive digital technologies (e.g., VR, AR, AI) to create effective CXs (Farah et al., 2019), which provide highly personalized and customizable experiences (Jung & tom Dieck, 2017; Yoo et al., 2023), leading to more favorable customer evaluations (Hennig-Thurau et al., 2023).

Nevertheless, there is still uncertainty surrounding how individuals perceive these metaverse dimensions - namely, spatial, immersiveness and social, and how these dimensions impact the overall CX in immersive spaces, a gap which this study aims to address. The next section will review motivational factors that drive individuals to engage with immersive spaces and pain points that prevent them from doing so.

2.2 | Consumer motivations and pain points

Consumer motivations, encompassing psychological states such as needs, wants, drives, and desires, are critical in understanding what shapes consumer behavior (Hadi et al., 2023; Zhang & Mao, 2016). The most widely accepted classification of consumer motivations distinguishes between hedonic and utilitarian drivers (Baltas et al., 2017; Chen et al., 2021). Hedonic motivation is driven by the pursuit of *enjoyment*, *pleasure*, and the *experiential aspects*, while utilitarian motivation is more *pragmatic* and *task-oriented*, focusing on the *functional value* and *practical benefits* of products (Baltas et al., 2017). While this binary classification offers a useful starting point, it oversimplifies and restricts the complexity of consumer motivations, particularly in immersive spaces like the metaverse. Recent research advances motivational theory to examine what drives user engagement in virtual environments, such as social media, gaming platforms and virtual spaces, providing a useful reference for this study.

Research shows that consumers are motivated to engage in social media platforms for reasons related to *sociality or connection* (i.e., the desire to connect with other people and to alleviate loneliness) (Hilvert-Bruce et al., 2018) and *escapism* (i.e., indulging in virtual environments to avoid real-world problems) (Kaczmarek & Drążkowski, 2014). These psychological drivers highlight the emotional and cognitive needs that users seek to fulfill in digital environments. Interestingly, Kim and Choo (2023) found that *curiosity* (i.e., the desire to acquire new information to stimulate interest and remove ambiguity) is a key motivation for consumers engaging in virtual reality shopping experiences. Literature classifies consumer motivations to interact with virtual spaces as either *experiential* (i.e., exploring virtual worlds, gaming, entertainment or escapism), *social* (i.e., the need for socializing) or *functional* (Lee & Chaney, 2024; Zhou et al., 2011). These types of motivations relate to the value sought by consumers, which is divided into group-reference value (social motivations) and self-value, which is independent of other users (experiential and functional) (Hassouneh & Brengman, 2014). This classification is further refined to include customer groups based on their motivations to use virtual spaces, including, among others, *friendship*, *escapism*, *role playing* (i.e., users enjoy being someone different from their real-life persona) and *uninvolved* (i.e., users do not engage with virtual spaces) (Hassouneh & Brengman, 2014). The metaverse, however, is posited to offer a far richer environment than traditional online spaces, suggesting that motivations to engage (or not) with this space may differ from those that drive (or detract from) other engagements in online contexts. Despite this, there remains a paucity of research investigating what motivates users to engage with the metaverse, prompting several scholars to call for further research to explore this question directly (e.g., Dwivedi et al., 2022a; Hadi et al., 2023).

This study also examines the pain points that hinder individuals from engaging with immersive metaverse spaces. Before explaining the importance of pain points in this study, it is necessary to distinguish between "pain points" and "frictions" within the context of CX and how these differ theoretically. Pain points refer to the issues or barriers that hinder and negatively impact the CX (Holz et al., 2024; Kranzbühler et al., 2019). Friction is a characteristic of the experience when completing a goal-oriented task (Padigar et al., 2024). Frictions can also cause negative experiences, such as creating obstacles in the customer journey, but the friction itself does not result in a positive or negative experience (Padigar et al., 2024). Given that this paper aims to understand what prevents consumers from engaging with immersive spaces, our focus is on pain points which represent negative experiences that impede user engagement with immersive spaces. To date, there is no formal classification of pain points (Holz

et al., 2024), especially in the context of immersive spaces, a salient gap which this research aims to fill. Previous research has either investigated what causes certain pain points during the CX (e.g., employee's attitude and/or disconnected touchpoints) (Bitner, 1990; Salminen et al., 2022) or how consumer pain points can be mitigated in both online and offline channels (e.g., Boudkouss & Djelassi, 2021; Quinones et al., 2023). Thus, the pain points experienced by metaverse users and how these can be alleviated in order for the metaverse to be a fully realized concept remains unknown.

2.3 | The CX

The CX is holistic in nature because it encompasses the cognitive, emotional, physical, and social aspects that define customers' direct or indirect interactions with companies (Heinonen & Lipkin, 2023; Verhoef et al., 2009). Customers can achieve an experience through physical touchpoints (e.g., in-store), digital channels (e.g., websites, social media and now immersive spaces) or a combination (i.e., phygital) (Batat, 2024). The CX is measured using cognitive, affective, social, and behavioral outcomes (Verhoef et al., 2009). The *cognitive* aspect is understood as the capability of marketing stimuli to make customers think and reflect, arouse curiosity, awaken creativity, and inspire customers (Bustamante & Rubio, 2017). The *affective* system is conceptualized as a "balanced feeling state," and mood and emotions of customers are integral to its composition (Cohen & Areni, 1991; Erevelles, 1998; Richins, 1997 p. 297). Affective responses vary in intensity from slightly positive or negative moods to intense positive or negative emotions (Schmitt, 1999). The affective experience is a component of the CX because stimuli (immersive spaces) can provoke emotions in customers, which in turn creates affective experiences that influence customers' responses toward the company that caused them. The *social* aspect of the CX relates to the impact of social dimensions on the experience itself, which is built on the assumption that the experience is co-created with other customers (Bustamante & Rubio, 2017). The social outcome involves customers establishing relationships with others through interactions in retail spaces (Bustamante & Rubio, 2017). Last, the *behavioral* outcome refers to the impact of the CX on different behavioral responses including the intention to participate in spaces/communities (Hassouneh & Brengman, 2014) or actual purchasing behavior (Lemon & Verhoef, 2016). However, the most relevant experience outcomes for immersive spaces need further exploration. The present study aims to provide this.

In immersive spaces, the CX holds the utmost significance, as these spaces offer brands a unique platform to craft interactive and engaging experiences (Mehrotra et al., 2024). Therefore, we use CX as the foundational behavioral theory to inform our conceptual framework. Despite the considerable attention paid to conceptualizing the CX holistically (Becker & Jaakkola, 2020), research concerning how specific metaverse dimensions (i.e., social, spatial and immersion) trigger various CXs (i.e., cognitive, affective, social and behavioral) and how these experiences are further shaped by consumers' internal motivations and perceived pain points, is insufficient. Drawing from CX literature, our research addresses this gap by exploring how metaverse dimensions act as antecedents of the CX with motivations and pain points ultimately shaping their perceptions and engagement. The development of our conceptual framework (Figure 1) offers a novel theoretical contribution by linking the external dimensions of the metaverse space to deeper psychological constructs of consumer motivation and CX outcomes. This contribution not only advances CX theory but also deepens insights into the psychological mechanisms that underlie consumer behavior in immersive spaces.

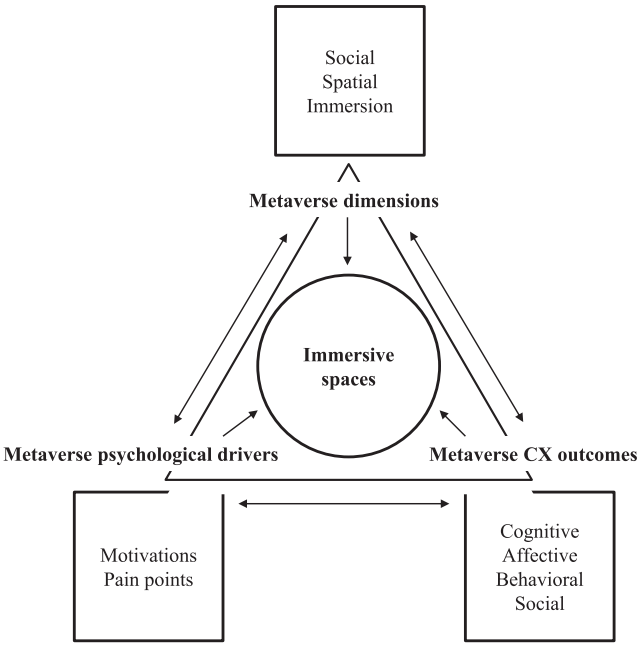

FIGURE 1 Customer experience in the metaverse. (Author's own).

3 | METHODOLOGY

3.1 | Research design

Given the nascency of empirical metaverse studies, there is a need to examine the impact of metaverse dimensions on the overall CX (Dwivedi et al., 2022a). To date, quantitative enquiries dominate research on online CXs. The need for a qualitative approach to understand how such emergent, complex concepts are perceived and experienced is increasingly recognized as essential, favorable and valuable in marketing and consumer psychology research (Dwivedi et al., 2022a; Koronaki et al., 2023; Pizzi et al., 2019). The value of qualitative research is its ability to help answer questions about how or why things are. It captures people's lived experiences, leading to rich descriptions and robust understandings (Petrescu & Lauer, 2017). We employ a multi-method qualitative approach to develop interpretive meanings on an emerging phenomenon, using the

triangulation of diaries and focus groups to strengthen validity (Crick, 2021). A systematic process is followed comprising four steps: sample selection, data collection, data analysis and quality criteria.

3.2 | Sample selection

A combination of purposive and snowball sampling is deployed because of their relevance to the research questions and their suitability to reach hard-to-reach populations (Shaghaghi et al., 2011). Due to the increasing attention on the metaverse, consumer awareness is high, but few consumers have experienced fashion metaverse environments, making actual users hard to reach (Aiello et al., 2022). The specificity of the metaverse environment and its recency further raises the barriers to access (Kaufmann & Tzanetakis, 2020). For this reason, we use an event-based application of time–space sampling (Becker, 2018). We selected Metaverse Fashion Week (MVFW), hosted on Decentraland, as the place of encounter at a specific time (March 2023) to ask users about their experiences.

To ensure homogeneity, participants were identified and recruited based on purposeful criteria, including (1) prior experience using fashion metaverses in the past 12 months (not limited by gender, or geography), and (2) age–Millennial (born 1981–1996) or Generation Z (1997–2005), as they are the primary metaverse and immersive technology users (Dwivedi et al., 2022a; Joy et al., 2022) (see Table 1). A definition of the metaverse was provided to limit self-selection misunderstanding. The recruitment proceeded via LinkedIn and researchers' networks, where over 500 people were targeted, resulting in 20 acceptances (c.4% response rate). In qualitative

TABLE 1 Fashion metaverse participants.

Group no.	Participant no.	Fashion metaverse's experienced	Metaverse platforms experienced
1	1	Gucci Vault, Chanel, Nike, Clarks, Sybarite, Adbada	Roblox, Decentraland
	2	MVFW: Coach, Neo Plaza, Fashion Street Estate, Play Dear Vivienne, DressX	Zepeto, Decentraland
	3	MVFW, Dematerialized, DressX, Gucci World	Roblox, Decentraland
	4	MVFW: House of Web 3.0, SHOWstudio x Vogue Singapore, Coach, Adidas, Vogue Singapore, Dear Vivienne Westwood	Spatial, Dencetraland, Foundation, OpenSea
2	5	MVFW: Dundas, Clarks, Coach, Adidas, Haus of Fuego, Auroboros, Ben Bridge, DKNY, Dolce & Gabbana, Tommy Hilfiger, DressX, Dear Vivienne, Vogue Meta-Ocean, Gucci Vault	Sandbox, Decentraland
	6	Spatial. io, Zero 10, DressX	Roblox, Spatial. io
	7	Adidas	Roblox, Minecraft
	8	MVFW: Adidas, DKNY, Coach, Dolce & Gabbana, Altr, Institute of Digital Fashion, DressX, Fabricant, Tommy Hilfiger	Roblox, Decentraland
3	9	MVFW: Dundas Spatial Store, Diesel	Decentraland, Spatial, Roblox, Sandbox
	10	MVFW, Dematerialized, The Fabricant, Roberto Cavalli Mansion	Decentraland, Spatial, Roblox, Sandbox, Open Sea
	11	Gucci × Zepeto	R3, Zepeto, Gathertown, Fortnite
	12	Nike Swish, DressX	Decentraland, Spatial, Roblox, Zepeto, Ready Player Me
4	13	MVFW: Coach, Adidas, Auroboras, Dundas, Balenciaga, Vivienne Westwood, Alo Yoga	Decentraland
	14	MVFW: Coach, Tommy Hilfiger, Dolce & Gabbana, Balenciaga, Dear Vivienne Westwood	Decentraland, OpenSea
	15	DressX	Decentraland, Spatial
	16	n/a	Fortnite
5	17	n/a	Fortnite
	18	Moncler Genius, Vogue x Snapchat	VR Chat, VSpatial
	19	MVFW, Gucci × Zepeto, L'Atelier × Decentraland, Zero10	Decentraland, Zepeto, Outernet (VR)
	20	Gucci Garden	Alt Space, Kooler, MV on Oculus

studies, data adequacy is more important than sample quantity (Hennink & Kaiser, 2022) and a lack of consensus remains about the sample size necessary to reach theoretical saturation (Farah et al., 2019). Many scholars argue between three-six focus groups is sufficient to reach over 90% saturation i.e. no new ideas generated in the data (Boddy, 2016; Guest et al., 2017), especially for homogenous populations and narrowly scoped topics like ours. Therefore, our sample size is comparable to the sample sizes of other exploratory studies (e.g., Farah et al., 2019; Moore et al., 2022). Similarly, focus group participant numerosity is variable, with little agreement amongst researchers on the optimal group size (Cortini et al., 2019). Many researchers affirm that between four-eight participants is ideal, evidencing no significant difference in idea generation between group sizes of four and eight. On the contrary, literature states that diminishing returns may occur with larger group sizes (Fern, 1982; Nyumba et al., 2018). Mini homogenous groups are deemed advantageous in facilitating depth of interaction, especially on relatively complex or novel topics on which participants have shared knowledge or experience (Guest et al., 2017). In our study, we reached data saturation after the fourth focus group, when most prevalent themes were identified (see Supporting Information S1: Appendix A). Data saturation was established using the four principles for analysis and reporting of qualitative data saturation by Saunders et al. (2018). This includes (1) a *priori* specifying initial sample size i.e. four focus groups/sixteen participants, (2) a *priori* stating the number of additional focus groups/participants to be conducted without new themes emerging to determine data saturation (stopping criterion) that is, one additional focus group/four participants, (3) analysis to be conducted independently and agreed by two researchers to establish reliability and (4) reporting of the data saturation procedure. Therefore, twenty fashion metaverse users, split equally across five focus groups, was sufficient to evidence content validity on fashion metaverse experiences (Guest et al., 2017).

Twenty diary studies were conducted in total, eight of which were fully completed and twelve partially completed (between 50% and 90% completion rates), reflecting the burden of participation limitation often associated with the diary method (Unterhitzenberger & Lawrence, 2022). This was offset in the focus groups through participant probing to fill any data gaps, and ensuring the sample size was comparable to other diary studies that focus on data richness (Filep et al., 2018; Hyers, 2018).

3.3 | Diary method

Diaries are an innovative method designed to record participants' lived experiences, opinions and circumstances, making it highly appropriate to our study (Unterhitzenberger & Lawrence, 2022). The strength of the method is its potential to elicit individual responses that are more emotional, embodied and relationally complex than traditional methods (Bartlett & Milligan, 2020; Becker, 2018). The diary's flexibility for recording real-time and context-specific details of a phenomenon, and its ability to be used in conjunction with other methods, increases data validity (Bolger et al., 2003; Filep et al., 2018). It is a useful method to gain an accurate account of an individual's experience, as it is not subject to the vagueness of memory, retrospective censorship or the reframing of events that may be present in other methods (Bartlett & Milligan, 2020). An event-contingent protocol was adopted, which required participants to complete a self-reporting digital diary of their experiences during the MVFW immersive space. The global event, MVFW ran for four days, 28–31 March 2023, and was used as the diarists' research setting. The participants were asked to record their interactions, motivations for using and experiences within the MVFW immersive space. They were asked to visit specific areas and events as well as those of their own choice. The diary protocol comprised three sections. The first was the *metaverse experience*, which captured feedback on the metaverse dimensions (e.g., spatial design, immersion, social presence), psychological factors (e.g., social and individual motives), and its impact, including cognitive, affective, behavioral and social experience. The second section was *MVFW impressions*, in which participants were asked to take photographs of the metaverse stores and events that made a positive or negative impression on them and upload these onto a Padlet for use in the follow-up focus group. The third section asked participants to comment on the overall *experience* (enjoyable, easy, connected, frustrating, disconnected, annoying, etc.) in the virtual space by discussing all aspects of their interaction with the environment, including the pain points (aspects that they found difficult or challenging) and delight points (aspects that they enjoyed). The protocol design was informed by the theoretical framework and the procedure that was systematically carried out (Table 2).

3.4 | Focus group interview

The focus group method provides an opportunity to explore people's attitudes, meanings, and experiences regarding unexplored topics in a dynamic, interactive way (Denise Threlfall, 1999). The focus group is an under-used method in the CX field (Becker, 2018) and in metaverse marketing studies (Gadalla et al., 2013). Conducted after diary keeping, the focus groups enabled us to clarify data, probe deeply and elicit rich descriptions on fashion metaverses, thereby enhancing validity (Silverman, 2014). A semi-structured approach was adopted for our focus groups to ensure the theoretical assumptions were embedded whilst also allowing for themes to emerge (Becker, 2018). The protocol was designed following the theoretical framework and addressed four broad themes, that is, metaverse experiences, metaverse motivations, perceptions of the metaverse dimensions, metaverse impact and response on CX (see Table 3). Inter-researcher reliability was realized by ensuring two researchers facilitated each focus group, with pre-post discussions of the data collection procedure and analysis that ensued. The researchers integrated the experiences from MVFW, the diary reports and the photo-elicitation to gain deeper insights. We conducted five focus groups comprising four participants each over a period of 1 week, immediately following MVFW. Each focus group took place via MS Teams and lasted 90–120 min. The focus group interviews were recorded, and transcribed verbatim.

TABLE 2 Diary method protocol.

Unit of analysis: MVFW 28–31 March 2023		
Areas/events to visit* *(*not restricted to*)	Coach, Fashion Street Estate, Neo Plaza, Arts Gala, Dundas × DressX runway show, DKNY × MVFW closing party	
Section 1	Metaverse dimensions	Metaverse dimensions and its impact, including cognitive, affective, behavioral, and social experiences.
	Motivations and pain points	Social and individual motives (e.g., sociality, escapism, entertainment, functional etc.) and barriers/issues.
Section 2	MVFW impressions	Auto-photography – metaverse stores/events for focus group photo-elicitation; difference in perception of virtual and physical stores.
Section 3	Overall Metaverse Experience	Cognitive, affective, behavioral, social experience overall

TABLE 3 Focus group protocol.

CX in the metaverse		
Personal information, for example, age, gender, occupation		
Theme 1: Metaverse experiences	Metaverses visited, interactions, fashion brands associated with each metaverse	Projective technique – fashion metaverse bubble drawing – "what comes to mind"
Theme 2: Motivations	Typical fashion shopping behaviors, motivations for use (social and individual)	Draw on MVFW diary entries to enrich discussions, that is, pain/delight points experienced
Theme 3: Metaverse dimensions	Metaverse dimensions, perceptions of metaverse brand spaces compared to physical spaces.	Draw on MVFW diary entries where relevant
Theme 4: Overall metaverse CX	Cognitive, affective, sensory, behavioral, overall metaverse experience	Draw on MVFW diary entries and photo-elicitation

3.5 | Data analysis

We analysed both sets of data using thematic analysis (Clarke & Braun, 2017). To improve validity, transcripts were read through and analysed by two researchers, who manually coded the data independently. The researchers then jointly checked the coding and themes, and key quotes were added to gain an interpretative understanding (Silverman, 2014). We deployed a three-phase coding process. Phase 1 - initial codes were deduced from reviewing and color coding the transcripts in relation to the research questions. Phase 2 comprised a combination of descriptive, concept and In Vivo coding to retain the participant voice. Phase 3 involved grouping similar codes into categories and themes that were checked and agreed upon by the researchers. This systematic process enhanced data accuracy for conceptual development and validity (Crick, 2021).

3.6 | Quality criteria

We applied Lincoln and Guba's (1985) criteria for assessing qualitative research to the operationalisation of the study. The theoretical constructs identified in the literature were used to guide the data collection in the protocol design (Shenton, 2004), and they were piloted (with five participants) to ensure understandability. We gained procedural transparency by consistent usage of the protocols and by returning the focus group transcripts to participants to check for accuracy, to improve trustworthiness (Crick, 2021). We ensured inter-researcher reliability in the data analysis to add rigor and quality to the themes deduced. We assessed the results against the existing literature to evaluate the congruence and spotlight new and emerging themes. The research was conducted in accordance with ethical guidelines. The participants were given information about the study and their signed consent was obtained. We removed participant names and replaced with them a code (P1-P20) in accordance with ethical practices of confidentiality and anonymity.

4 | FINDINGS AND DISCUSSION

4.1 | Metaverse dimensions

Participants held conflicting expectations concerning RQ1, which delved into individuals' perceptions of key metaverse dimensions and the perceived interplay between physical and digital environments. Concerning the *spatial* dimension, less than half of the participants expected the environment to be a digital twin of the retailer's

physical store and liked its familiarity, whereas the rest expected something radically different and perceived the metaverse as an opportunity to showcase a different side of the brand and push innovation. This was expressed by P20, who said: "Badly replicating things we can already do well in the real world seems pointless.... There's a great evolution that still needs to happen." This contested perspective reflects the existing studies related to the spatial dimension (Cheng et al., 2022; Hadi et al., 2023). The projective technique, used to capture participants' first impressions of the fashion metaverse stores, reinforces these opposing opinions (see Figure 2).

However, participants perceived a lack of *interoperability* between physical and virtual spaces which presented a major pain point in the CX and contributed to poor product utility perception. This will be further discussed in the next epigraph.

Participants considered sight and sound to be important within the metaverse space, consistent with earlier studies (Batat, 2024; Koohang et al., 2023; Wu et al., 2014). Participants discussed the significance of color, spatial designs, layouts, and overall esthetics. Coach, Tommy Hilfiger, Dear Vivienne, and Adidas virtual stores were the metaverse spaces that most resonated for spatial design by combining visual, sound, mixed media and gamification elements to create a "fun" (P5), "immersive" (P14), "imaginative" (P5) "dynamic" (P2), "stimulating" (P4), "entertaining" (P13) and "shareable" (P5) spatial ambience. Most participants expected the environments to offer something different compared to the physical stores whilst still representing the brands (see Figure 2). The use of extra-large avatars wearing digital fashion by the Institute of Digital Fashion was considered "unique and different from other stores" (P8); which resulted in a desire to purchase the digital item. This concurs with the notion that metaverses reflect the merging of the real world and virtual worlds to create novel experiences (Barrera & Shah, 2023) and gives credence to the spatial dimension of metaverses (Hadi et al., 2023) while also linking to the *immersive dimension*. Participants considered multisensory cues to be important, with emphasis given to sound (in addition to sight). Music was perceived positively and contributed to a heightened sensory experience, provoking feelings of "escapism" (P5 and P14), "immersion" (P4) and "numbness" (P14). However, for some, the use of music was jarring, as it changed between areas, thus ruining the ambience. MVFW did not require a VR headset, only a laptop, and many participants felt that using only a screen prevented an immersive sensory experience, suggesting issues with digital mediation. Given that immersion is recognized as a critical lever in designing CXs (Barrera & Shah, 2023; Farah et al., 2019), for some, the lack of immersion marred their metaverse experience.

The *social dimension* is analysed in relation to social motivations, pain points and social outcomes of the CX in the next epigraphs.

4.2 | Motivations and pain points for metaverse usage

To answer RQ2, individuals have several psychological factors that *motivate* them to use fashion metaverses. *Research and curiosity* are the main drivers due to the metaverse hype and a fear of missing out (FOMO), a finding which corroborates with existing motivational research (Kim & Choo, 2023). Indeed, P14 expressed that they wanted "to explore something different that potentially is changing our lives." In total, five motivations for use were observed: freedom of expression (sense of escapism), creativity (a source of inspiration from creating and dressing their digital selves), exploration, entertainment, and productivity (to engage with others), which concur with the experiential and social motivations in the literature (Hassouneh & Brengman, 2014; Lee & Chaney, 2024).

FIGURE 2 Projective technique on fashion metaverse store.

Social motivations and, more specifically, sociability evoked contrasting perspectives, which we categorize into three contingent themes: community, mood, and social preferences. Participants considered the sense of *community* to be important, derived from interacting in metaverses, reflecting existing studies (Hadi et al., 2023; Yoo et al., 2023). However, the sense of community was *mood-dependent*, with participants either wishing to remain anonymous or socially active in the space. It also depended on social preference and "who you know" (P13) (i.e., strangers or friends), which elicited issues of identity (i.e., trust) and excitement (i.e., avatar re-embodiment), respectively. This was evidenced by some participants' comments: "Sometimes I just want to explore and see what is there, and sometimes I'm there for more social interaction…. To check the vibe, I'll turn on some of the interactions" (P13) and "I don't really engage in the social part of it" (P12). In contrast to studies that advocate that the social interaction element is promising for retailers entering the metaverse (e.g., Hadi et al., 2023; Yoo et al., 2023), most participants mentioned how empty MVFW spaces were, which induced feelings of loneliness and boredom and resulted in less time spent there. Most participants also chose not to interact with the other avatars in the virtual space. Consequently, even if social presence and connectedness to others in the metaverse are considered important antecedents of the CX (Barrera & Shah, 2023; Koronaki et al., 2023; Oh et al., 2023) they were found lacking. P13 said "I find Decentraland is a bit like exploring an event that has been abandoned because it would only seem to make sense if filled with people." This sense of abandonment contrasts with the scholarly notions of metaverses' social benefits (Oh et al., 2023). Indeed, the absence of social presence could result in avoidance and "not returning to the metaverse" (P15).

Collectively, the metaverse environment resulted in many *pain points* in the CX, which both relate to and extend the features identified in the literature (Lee & Chaney, 2024). We categorize these into six pain points in the CX journey (see Figure 3). Overall, *technical*, hardware and software issues resonated with participants the most, aligning with prior research (e.g., Koohang et al., 2023; Dwivedi et al., 2022a, 2022b). Participants discussed poor loading times, broken links, and lack of ease of use as technical issues that resulted in metaverse disengagement. The use of laptops was seen as a barrier to sensory immersion, which could have been offset with VR headsets, but the lack of ownership of such hardware was also an obstacle. Spending more time in metaverses helped participants to overcome some navigational issues (averaging 20 min per visit), but due to the technical issues, the time spent in metaverses was curtailed.

Lack of ease of use relates to the need for mobile phone metaverse accessibility, which is currently not widely available. The lack of *interoperability* presented a major pain point in the CX and contributed to poor product utility perceptions. This connects with the substandard *technical capabilities* experienced, with poor loading times and broken links aggravating the CX and preventing *seamless* connectivity. Participants discussed a *lack of interaction and immersion*, which relates to the shared and immersive features in metaverses, that proved to be a barrier. This negatively impacted the feeling of a real-time, connected experience. Some participants mentioned the importance of bringing friends into the metaverse; however, many found it difficult to find and interact with others. P12 commented: "We were chatting through Zoom while both of us were in the metaverse, saying, where are you? So, I'd say that kind of seamless interaction or socializing like in a Fortnite game just isn't there yet." This infers that metaverse dimensions of immersion and social, shared and real-time experiences, a sense of coexistence and enriched social presence capabilities are yet to be realized (Hadi et al., 2023; Kim, 2021; Oh et al., 2023; Yoo et al., 2023). All participants believed metaverses to be in an early developmental phase, with opportunities for improvement in the service interface and the experience.

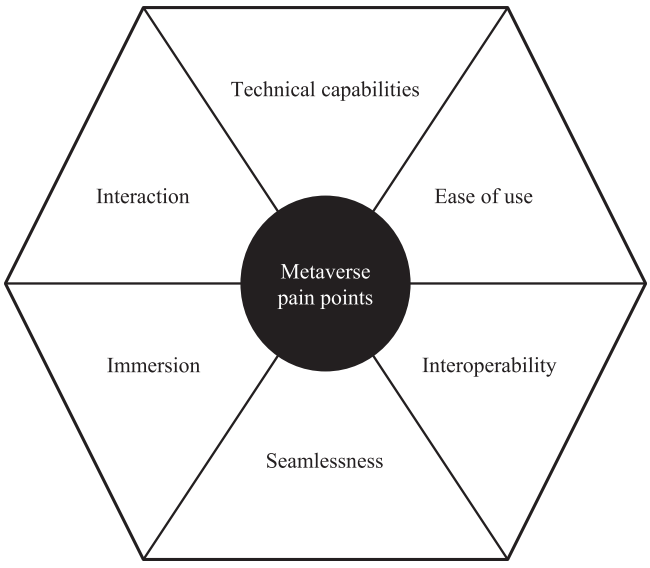

FIGURE 3 Pain points in the metaverse CX. Author's own.

4.3 | Impact of the metaverse on the overall CX

Finally, concerning RQ3, participants' metaverse interactions elicited a wide range of responses across the CX dimensions. From an *affective* perspective, opposing emotions were triggered, with credence given to more negative feelings, such as "bored" (P2, P8, P10, P12, P13, P14 and P18) "frustrated" (P6 and P8), "confused" (P10, P13 and P19), "lost" (P10, P11, P12, P19 and P20) and "lonely" (P4, P8 and P19). The state of loneliness, which reflects the perceived lack of satisfying social relationships, has been the subject of research in online environments. Some of this research suggests that the greater the perception of sociability, the less lonely people feel (e.g., Dwivedi et al., 2022b; Hilvert-Bruce et al., 2018); however, in accordance with our study, others (e.g., Lee & Chaney, 2024; Oh et al., 2023) have found that some types of metaverse interactions do lead to loneliness. This warrants further research. Some participants felt that the metaverse was too big and lacked direction (jumping between areas

to progress the interaction) and social presence, which resulted in feelings of "travel sickness" (P18). Others felt the initial excitement of being in the metaverse was short-lived, evoking feelings of, "Is that it?" (P19), whilst a few participants felt "seduced" (P9) by its "limitless" (P3 and P18) nature. The point made by P19 is exemplified by P12, who said: 'Most of the time you go in, and after the first 5 min, you end up a bit bored, so you either exit or see if there's anything else that's interesting to do.'

Regarding the *cognitive* perspective, four themes emerged: recognizing metaverses' potential, skepticism, nostalgia, and trust. Most participants saw the metaverse as a work-in-progress and having more value for creators rather than customers; that is, its *potential* is not yet realized. *Skepticism* relates to a lack of interaction and poor interoperability that resulted in the need to move in and out of metaverses into other touchpoints, which fragmented the virtual experience. *Nostalgia* refers to gamified aspects of the metaverse, which are well-established and familiar. Participants were more inclined to *trust* known brands in metaverse spaces. Their level of *trust* in the capability of the technology was also important. Participants raised concerns about digital items getting lost in digital spaces, which resonates with security risks. Several participants highlighted the unease that arose from the advances in digital environments, which enabled more human-like avatars. "At the moment, avatars aren't very human-like, so it's not very realistic, but in the future, the metaverse could be a bit dangerous with the like, uncanny valley effect," said P5.

Regarding the *behavioral* aspect, the metaverse did result in some participants visiting the physical stores and websites, thereby increasing engagement with other touchpoints, and potentially attracting new audiences, aligning with previous research (Dwivedi et al., 2022b). In others, the metaverse evoked participants' willingness to purchase in the future to feel included, whilst some, who spent more time in the fashion metaverses, either felt more engaged or, in antipode, that it was a waste of time. Participants commented: "I honestly felt like I might have been wasting time standing around… [but] it was cool if it was just a game or place I could meet people at a specific time and experience brands together" (P6) and, "That was fun! It was different and interesting, and I'll remember it" (P13).

Finally, the *social experience* gained from fashion metaverses can be categorized into three key themes. First, given the hype surrounding metaverses, participants were motivated to engage with others due to FOMO, from a social and personal perspective. For some, the attraction was more related to their personal experience when discovering and interacting with metaverse spaces while for others it was the ability to play with others and *develop online relationships*. However, despite the assumption that metaverses are inclusive and accessible digital spaces (e.g., Hadi et al., 2023; Oh et al., 2023), our findings proved contrary to this. Technology inaccessibility, including long loading times and disconnection, as well as a lack of understanding of how to act and interact within metaverses led to exclusion. P6 said: "There's a lot of chat threads going on where people were just talking like they had a lot of things they knew and did, which I didn't. I felt a bit [of] FOMO, a bit excluded." The lack of people in the metaverse also led to a feeling of isolation and exclusion, which contradicted the general assumptions that it facilitates sociability (Barrera & Shah, 2023; Oh et al., 2023), "You feel separate inside that community…. It's like a barrier," said P18.

4.4 | Conclusions, implications and future research

This study explores how various metaverse dimensions, motivational factors and pain points, affect the overall CX. The proceeding section synthesizes key findings and discerns the scholarly and managerial contributions of the study.

Regarding the metaverse dimensions that underpin our study, we discovered conflicting sentiments among participants concerning the *spatial* dimension and design of brands' metaverse environments. Indeed, although participants anticipated the metaverse space to diverge significantly from the brands' physical space, this anticipation was not realized, with participants feeling "bored" and "underwhelmed." Thus, brands should refrain from merely replicating their physical stores in the metaverse (Elmasry et al., 2022) and prioritize crafting distinct spatial designs that diverge from physical channels. We found that some metaverse dimensions interrelate, as the notion of immersing users in an experience generates social presence, a feeling of being there with others (as avatars) (Hadi et al., 2023; Park & Lim, 2023), which in turn, generates sensory modality, deepens the immersive experience and affects the overall CX (Barrera & Shah, 2023; Hennig-Thurau et al., 2023). Diverging from the existing studies, our research shows that *immersion* in metaverse spaces is curtailed due to poor digital mediation, scarcity of other users and notional interoperability, which negatively impacts the overall experience. Participants brought up issues and pain points regarding the metaverse's lack of ease of use due to noninteroperability and technical problems. This concurs with Park and Lim (2023), who argue that the biggest obstacle to fully realizing the metaverse is interoperability. Brands should consider ways to improve this aspect by leveraging rewards, incentives and access to unique events to stimulate and strengthen consumers' discovery, awareness, interest and engagement.

Regarding *social dimensions*, we reveal issues of social isolation, loneliness and exclusion within fashion metaverse spaces, contradicting extant studies (Hadi et al., 2023; Yoo et al., 2023) that expound that experience is positively influenced by the presence and actions of others in the same metaverse space. Findings show that, although individuals are driven to engage in metaverse environments for reasons including "sense of community" and "engagement with others," which align with motivations in previous studies (e.g., Barrera & Shah, 2023; Koronaki et al., 2023; Oh et al., 2023), these *social dimensions* were notably absent in the fashion metaverse space. Consistent with Oh et al. (2023), we propose that brands embed more features and services in their immersive spaces that

amplify the social presence of users. Creating ways to unite offline friends would enhance the sense of spatial coexistence and potentially encourage users to actively engage, thus creating a more enjoyable metaverse experience. Yet, in contrast to other studies, we found that social motivations were mood-dependent, so brands could offer users a more customized experience, ranging from individual to sociable, dependent on how they are feeling. This is a novel finding and one that future research could extrapolate to other immersive spaces and product categories.

We found that there is the capacity to stimulate *immersive* experiences by leveraging and strengthening multisensory cues. Sight and sound are the most dominant, which reflects the modalities that have received the most attention in metaverse research (Hadi et al., 2023). However, the opportunity to leverage advanced technologies (AR, VR, and XR) that coalesces the senses (visual, auditory, haptics, olfactory) to imaginatively create novel, interactive, and personalized experiences (Batat, 2024; Park & Lim, 2023) is compelling. In summary, the findings shows that the metaverse CX is determined by the environmental dimensions. Thus, the dimensions (social, spatial, immersion) should be used as levers to design the CX (Barrera & Shah, 2023).

5 | CONTRIBUTION

Whilst many brands have created metaverse environments (Elmasry et al., 2022; Joy et al., 2022; Park & Lim, 2023; Sung et al., 2023), and several scholars posit conceptual developments (Barrera & Shah, 2023; Hadi et al., 2023; Yoo et al., 2023; Zhou et al., 2024; Dwivedi et al., 2022a, 2022b), there remains a dearth of empirical studies on immersive spaces. This is the only known study that has looked at the metaverse from a CX perspective and responds to calls for more context-specific metaverse research (Zhou et al., 2024). It illustrates the divergent views on fashion metaverse CXs, the connectivity between the metaverse dimensions and experiential outcomes and the metaverse's potential for enhancing the CX considering consumer's psychological drivers. The study elucidates implications for theory and practice on metaverse marketing and the CX, benefiting metaverse designers and customers and influencing marketing strategies.

As an underdeveloped field of study, this research provides theoretical insights by linking the external dimensions of the metaverse environment to deeper psychological constructs of consumer motivation and overall CX, contributing to CX literature (e.g., Batat, 2024; Koronaki et al., 2023; Bustmante and Rubio, 2017; Grewal et al., 2009; Jain et al., 2017; Schmitt, 1999; Verhoef et al., 2009). Indeed, this study extends the CX framework to immersive spaces, providing novel insights into their importance and potential to enhance the CX. In addition, it expounds on the extent to which customers are using the metaverse and their motivations for interacting with it as well as the related barriers and enablers to facilitating the metaverse CX. Although the context of this study is fashion, these findings are also relevant to other sectors, such as gaming, another sector that is advanced in the creation of immersive spaces, as it provides insights into how consumers interact with companies in these spaces, increasing our understanding of this phenomenon. Finally, the study provides originality in its methodological novelty, which investigated the phenomenon by engaging with fashion metaverse users through a multi-method qualitative approach to provide a rich understanding of metaverse marketing and the CX (Dwivedi et al., 2022a; Koronaki et al., 2023).

Practically, the study provides a useful lens into factors for consideration when designing metaverse CXs and how immersive spaces might coexist and interact with other touchpoints to amplify CX. As metaverse users are known to have different motivations to engage with immersive spaces (Barrera & Shah, 2023; Dwivedi et al., 2022a; Hassouneh & Brengman, 2014), our study sheds light on the relative importance of each motivation. We also suggest that future metaverse spaces would need to effectively converge physical and digital touchpoints and focus on strengthening immersion, sociability and interoperability to enhance CXs. For example, brands could design specific spaces for socialization including experiential activities involving interactions with other users or with representatives of the brand in the form of avatars. By using the context of fashion, an industry that is more advanced in its creation of immersive spaces as an early metaverse adopter, the findings can be used by brands concentrated on other product categories that are newer to this area, to help inform their marketing strategies for immersive spaces. Furthermore, the immersive space used in the context of this study, Metaverse Fashion Week, was a global event and our sample recruitment was not limited to geography or gender. This indicates that the findings, although non generalizable, could be extrapolated to enhance our understanding of global consumer-brand interactions. Understanding the psychological and behavioral criteria is crucial for brands seeking to design immersive metaverse experiences that genuinely resonate with users. Thus, brands must critically assess the diverse and conflicting user motivations, potential psychological pain points, and behavioral responses that arise in these immersive environments. Without a nuanced approach, there is a risk of creating experiences that fail to engage or, worse, alienate potential users. The findings of this study shed light into the complex, and sometimes contradictory, psychological dynamics that will ultimately determine the success or failure of metaverse engagement.

Despite the contributions of this research, it is bound by the scale, digital setting and platform. Similar research could be undertaken across different industries, including brand case studies (within and across market levels), different metaverse stores and platforms and with different customers (i.e., generational studies) as metaverses become more pervasive. Moreover, there is scope to use different methods of inquiry, i.e. qualitative, quantitative and mixed. More specifically, the theoretical framework proposed for this research could be tested through quantitative inquiry and the findings could be used to formulate hypotheses and test these relationships.

It would also be interesting to create experimental settings using immersive technologies to test the effect of accessing the metaverse using different devices and tools (i.e., VR headsets) or the impact of different immersive technologies and sensory attributes on the CX.

Moreover, the social implications that characterize the metaverse warrant further consideration, specifically, the risks associated with loneliness illuminated in our study that resonate with other work around privacy, safety, accessibility and metaverse resistance more generally (Dincelli & Yayla, 2022; Lee & Chaney, 2024). As an emerging virtual environment, brands need to consider the implications (benefits, risks and responsibilities) of creating and engaging in metaverses, which offers worthwhile avenues for scholars to investigate. This study expounds on the potential of the metaverse as an immersive space to enhance the CX in the fashion industry and provides a useful starting point for extended exploration in the domain of omniverse marketing.

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CONFLICT OF INTEREST STATEMENT

The authors declare that they have no known competing interests or personal relationships that could have appeared to influence the research in this paper.

DATA AVAILABILITY STATEMENT

The data that has been used is confidential.

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