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Abstract

Purpose: Anchored in embeddedness, embodiment, and extension principles from situated cognition theory, this study proposes a model to explain customer experience in the metaverse.

Design/method/approach: This study tests the proposed model using partial least squares structural equation modeling (PLS-SEM) on usable data from 816 individuals who attended a metaverse food festival.

Findings: This study demonstrates the role of authentic experiences in activating customers' mental imagery in the metaverse. This mental imagery, in turn, enhances customers' sense of presence, which is crucial for an immersive metaverse experience. The study also shows how this heightened sense of presence, alongside subjective well-being, plays a critical role in shaping purchase intentions, both directly and indirectly, in the metaverse.

Practical implications: The insights suggest that prioritizing authenticity is a viable strategy for brands seeking to leverage the metaverse, as fostering enriched mental imagery and a strong sense of presence can strengthen subjective well-being and stimulate purchase intentions among customers.

Originality: This study enriches understanding by establishing a model that offers a seminal explanation of customer experience in the metaverse from a situated cognition perspective supported by field data from participants of a metaverse food festival.

Keywords: Authentic experience; Metaverse; Mental imagery; Sense of presence; Situated cognition.

1. Introduction

The metaverse is a three-dimensional virtual environment where human interactions occur through personalized digital avatars, spearheaded by advancements in blockchain and virtual reality technologies (Ashton *et al*., 2025). This environment has precipitated a reimagining of industry landscapes—ranging from gaming to commerce, hospitality, and beyond (Chakraborty *et al*., 2025; Kim *et al*., 2025; Sharma *et al*., 2024).

The escalating interest in the metaverse from technological titans like Meta and Microsoft, underscored by their multimillion-dollar ventures into virtual worlds (Kraus *et al.*, 2022), signifies a pivotal shift in corporate strategy toward immersive digital experiences (Ashton *et al*., 2025). This contemporary trend is exemplified by Spatial.io, a metaverse space for collaboration and engagement that has attracted global brands such as McDonalds and Walmart to curate immersive brand experiences and engage brand communities in the metaverse (Spatial, 2025). With projected revenues of $32.56 billion and 1.2 billion users by 2027, Spatial (2025) highlights the metaverse's vast economic potential and underscores the urgency for empirical investigation into the dynamics of customer experience within these digital ecosystems.

Recent reviews highlight that the metaverse has started to boom but remains in its infancy—calling for more empirical studies to explore its unique features and validate its applications across contexts (Hajian *et al*., 2024; Sharma *et al.*, 2024). Hospitality studies such as Cheung *et al*. (2024) and Kim *et al*. (2025), have begun to unravel the metaverse's multifaceted elements and implications, revealing its potential to redefine business models and customer experiences. Noteworthily, the elements of the metaverse's transformative potential, such as its fidelity, immersiveness, and sociability influence user behaviors (Barrera and Shah, 2023), thereby accentuating the importance of investigating how customer experiences in the metaverse should be curated and managed.

Building on this foundational understanding, recent scholars highlight the critical need to investigate how the metaverse's unique attributes shape customer behavior (Lim *et al*., 2025), especially amid ongoing concerns about the fidelity of virtual experiences to real-world interactions and the platform's responsiveness to user preferences (Deloitte, 2022). The shift from traditional to virtual environments in hospitality brings into focus the challenge of translating intangible facets—such as cultural elements and customer-brand relationships—into compelling digital experiences (Ashton *et al*., 2025). Although such translation can be difficult, gamification features have the potential to enrich user engagement by stimulating imaginative thinking and perceptions of authenticity (Flavián *et al*., 2024). Underpinning

these features are sensory cues, which are present in immersive settings and can spark mental imagery, a fundamental element of decision-making (Park and Yoo, 2020), while also fostering a sense of presence as individuals envision themselves within virtual spaces (Bogicevic *et al*., 2019). This immersive quality influences customer experience, perception, and subjective well-being—factors pivotal for brands, including in hospitality, to differentiate themselves (McLean *et al*., 2023). The personal significance customers attach to online interactions further underscores the potential of the metaverse to cultivate authentic experiences that enhance well-being (Kim *et al*., 2020). Given these insights, this study centers on how authenticity in the metaverse can trigger enriched mental imagery and a strong sense of presence, key attributes that may strengthen subjective well-being and encourage purchase decisions.

Against this backdrop, understanding how authenticity fosters enriched mental imagery and a strong sense of presence becomes crucial for advancing metaverse research. Drawing from situated cognition theory (SCT) (Robbins and Aydede, 2009), we establish that people learn and understand the value of an offering through real-time interaction and collaboration with others, which aligns with the nature of the metaverse (Cheung *et al*., 2024). Central to this perspective is the notion that customer behavior is highly contextual, shaped by the cues embedded in the virtual environment (Chylinski *et al*., 2020), thereby suggesting that metaverse users' perceptions and actions are closely tied to the rich, embedded cues within virtual settings. Considering the importance of situated cognition in understanding customer experience in the metaverse, this study aims to explore the attributes that define customer experience in the metaverse, probing how this technological convergence of space facilitates seamless transitions and informed decision-making. In anchoring these observations to SCT, we further underscore how authenticity, mental imagery, and sense of presence may converge to elevate subjective well-being and drive purchase decisions in the metaverse.

Given that a situated cognition perspective of the metaverse remains scarce, this study makes several pivotal contributions. Firstly, this study harnesses the lens of SCT to examine the peculiarities of crafting immersive metaverse environments that not only captivate customers but also engender a profound sense of presence (Robbins and Aydede, 2009; Semin and Smith, 2013). This exploration extends beyond the conventional scope of customer adoption frameworks, such as the unified theory of acceptance and use of technology (Kim *et al.*, 2025), thereby offering a more comprehensive understanding of how virtual interactions, when anchored in real-time contexts and tangible engagements, can elevate the customer experience (Hilken *et al.*, 2017). Secondly, this study illuminates the capacity of metaverse technologies to amalgamate diverse sensory information—auditory, visual, vestibular, and tactile—thus enriching the customer's sensory experience and reinforcing authenticity within the virtual world (Williams and Hobson, 1995). This sensory richness is posited to not only augment the immersive quality of the metaverse but also to foster a more vivid and engaging customer experience. Thirdly, this study posits

that authentic metaverse experiences hinge upon two interrelated facets: first, the stimulation of mental imagery through multifaceted sensory cues, which enhances customers' imaginative engagement in the metaverse, and second, the cultivation of a sense of presence, whereby customers perceive themselves as truly embedded within the metaverse (Bogicevic *et al*., 2019; Miller and Stoica, 2004). This dual approach is anticipated to fortify emotional connections with virtual offerings, thereby amplifying customer satisfaction and driving positive marketing outcomes (McLean *et al*., 2023; Cheung *et al*., 2024). Taken collectively, this study not only advances theoretical discourse by elucidating the mechanisms through which the metaverse can augment customer experiences but also provides a foundational blueprint for hospitality brands to tailor their virtual offerings in alignment with customer expectations, thereby catalyzing desired customer behaviors and opening new opportunities for commercial success.

2. Theoretical foundation: situated cognition theory

SCT offers a theoretically-grounded perspective on how people process information, learn, and evaluate offerings within a specific context (Brown *et al.*, 1989). Central to this theory is the premise that cognitive processes are closely intertwined with the environment, rather than operating in isolation (Lave and Wenger, 1991), thereby underscoring the interdependence of knowledge acquisition and the environment in which it occurs (Vera and Simon, 1993). This situativity principle challenges traditional notions of cognition by emphasizing the role of environmental and social contexts in shaping cognitive processes (Wilson and Myers, 2000), with recent scholarship exploring how virtual contexts and interactions influence customer engagement, learning, and perceived value (Hilken *et al.*, 2017; Lui and Goel, 2022), thereby revealing the potential of SCT for understanding customer experience in digital spaces.

Despite the recognition of the metaverse's capability to meld virtual elements with real-world contexts and enhance customer interactions (Barrera and Shah, 2023), there is a gap in empirical research examining the critical factors that shape positive perceptions and behaviors within these digital environments. Addressing this gap is pivotal for elucidating the unique process of value creation in the metaverse, distinguishing it from conventional interactive technologies. In this vein, SCT (Brown *et al.*, 1989) emerges as an instrumental lens to explain how the metaverse can generate meaningful experiences and guide decision-making based on three critical stages: *embeddedness*, *embodiment* and *extension*. According to Chylinski *et al.* (2020), *embeddedness* reflects the customer's integration into the virtual environment, which illustrates how the metaverse supports immersion and interaction. *Embodiment* denotes the presence and engagement within that space, for instance, using avatars to establish a sense of personal presence and emotional connection. *Extension* relates to the expansion of customer capabilities and experiences beyond physical limitations, including how customers derive value in areas such as subjective well-being.

Focusing first on *embeddedness*, this dimension captures the depth of customer immersion and interaction in a given context (Brown *et al.*, 1989). Within the metaverse, embeddedness moves beyond mental visualization, as customers actively participate in vivid, immersive encounters instead of merely imagining them. Offering interactive features, metaverse platforms foster an environment where embeddedness can be fully realized, transporting users into convincingly realistic virtual settings.

Turning to *embodiment*, this dimension underscores how cognition remains inextricably linked to the experiences and actions of individuals (Niedenthal, 2007). Cognitive processes are thus not strictly abstract, because tangible, interactive activities anchor them more deeply in the customer's experience. Within the metaverse, integrating sensory feedback mechanisms—anchored in embodiment—intensifies mental imagery and sense of presence. This holistic approach to design surpasses visual simulations alone, producing multifaceted experiences that reflect the complexity of real-world interactions.

Finally, *extension* focuses on how people draw from external resources, such as collective experiences and social connections, to enrich cognitive processes (Carrozzi *et al.*, 2019). Within the metaverse, this dimension illustrates how the metaverse transcends physical constraints by enabling socially connected and fulfilling experiences for customers, thereby enhancing their subjective well-being (Flavián *et al.*, 2024). Subjective well-being in virtual environments often involves emotional states such as happiness, pleasure, and satisfaction (Wang *et al*, 2022). SCT further emphasizes that cognitive processes benefit from external influences, such as the quality of social interactions in the metaverse (Chylinski *et al.*, 2020). These experiences not only enhance customers' memories and evaluations (Zhang *et al.*, 2023), but also guide more favorable behaviors, including eventual purchase decisions (McLean *et al.*, 2023).

In synthesizing these insights, this study posits that immersive metaverse experiences not only heighten well-being but also shape cognitive processes in ways that directly influence purchase behavior. Examining these relationships through the lens of embeddedness, embodiment, and extension clarifies how virtual experiences, emotional states, and consumer decisions intersect, yielding important implications for academics and practitioners seeking to leverage the metaverse.

3. Literature review and hypothesis development

3.1 Embeddedness: authentic experiences

According to SCT, cognition is influenced by a situated environment in which multi-sensory cues within the metaverse enrich the customer experience and social interaction by offering a sense of authenticity (Flavián *et al.*, 2024). In contrast to authenticity in traditional service settings—often reflected through the physical interactions and genuine display of emotions by employees (Hwang and Seo, 2016)—authentic experiences in the metaverse are typically defined by the internal sensations or emotions evoked by the virtual setting (McLean and Barhorst, 2022). Building upon this foundation, this study broadens

the application of authenticity to encompass the metaverse, prompting two key inquiries. Firstly, this study endeavors to examine how authentic experiences shape customer perceptions in the metaverse. Although prior research has demonstrated the influence of authentic experiences on customer satisfaction in other contexts (e.g., Nam *et al.*, 2023), the applicability of these insights to virtual events in the metaverse remains unclear. Secondly, this study seeks to explore the dimensions essential for assessing the authenticity of experiences as a multidimensional construct in the metaverse (Hede *et al.*, 2014). Drawing from related literature (Kim *et al.*, 2020; Lee *et al.*, 2020), five dimensions—simplicity, informativeness, social interactivity, playfulness, and escapism—were employed to evaluate customers' authentic experiences in the metaverse, thereby advancing understanding of overall customer experience in this novel virtual setting.

Simplicity captures the intuitive ease with which customers can navigate and interact within the virtual environment, encompassing aspects such as system functionality, structural design, interface organization, workflow, and overall layout (Lee *et al.*, 2015). Within the metaverse, simplicity assumes heightened importance, wherein customers navigating a clear and intuitive platform are more likely to perceive the experience as genuine and immersive (Kim *et al.*, 2020). *Informativeness* encapsulates the degree to which virtual environments deliver comprehensive and relevant information, which enhances comprehension and engagement (Qin *et al.*, 2021). This facet is vital, as it enables customers to effortlessly acquire and process information, thereby enriching their metaverse experience. *Social interactivity* involves the dynamic interpersonal exchanges facilitated by technology, wherein customers engage with each other and deepen their overall experience (Sujood and Pancy, 2024). This dimension is particularly salient in the metaverse, which thrives on collective participation and community building (Cheung *et al.*, 2024). Establishing social interactivity thus elevates authenticity by fostering a sense of belonging among participants. *Playfulness* refers to the intrinsic enjoyment that customers derive from actively engaging and interacting with immersive content, systems, and other users. This facet transcends mere amusement and constitutes a fundamental element of customer interaction, shaping the appeal and efficacy of virtual technologies (Sharma *et al*., 2024). When effectively integrated into the metaverse, playfulness can thus bolster perceptions of authenticity by making the experience more engaging. *Escapism* reflects immersive experiences that enable customers to temporarily detach from daily realities and explore alternative identities or pursuits (Pal and Arpnikanondt, 2024). This dimension is particularly salient in the metaverse, where the intrinsic properties of virtual environments enable customers to adopt alternate identities through avatars, facilitating engagement in experiences that may be unattainable in their physical lives (Cheung *et al.*, 2024; Pal and Arpnikanondt, 2024).

Authenticity in the metaverse underpins customers' evaluations of how genuine their virtual experiences, objects, traditions, places, or performances appear (Pine and Gilmore, 2007). Their perceived

authenticity engenders a sense of presence, making them feel as though they are part of a real place, despite the lack of physical co-location (Cheung *et al.*, 2024). Literature has shown that the authenticity of the virtual world is crucial in amplifying the sense of presence, enabling customers to partake in activities transcending their physical geographical constraints (Gursoy *et al.*, 2022).

The concept of *embeddedness* highlights the metaverse's ability to deliver an authentic experience in a sensory-rich simulated environment, thus activating mental imagery and transporting customers to an immersive, parallel space (Skard *et al.*, 2021). Mental imagery within the metaverse, spurred by the authenticity of the experience, involves the generation of vivid mental images and interactions with virtual objects, facilitated by the unique technological attributes of interactivity and vividness inherent in the metaverse (Zheng *et al.*, 2022). This mental imagery is characterized by both its elaboration—i.e., the detail and complexity of the mental images formed by customers—and its quality, which denotes the clarity and vividness of these mental representations (Miller and Stoica, 2004; Park and Yoo, 2020). Given the interconnections between authenticity, mental imagery, and the sense of presence within the metaverse, the following hypotheses are proposed:

H_1. The authenticity of the metaverse experience has a positive impact on (**H_{1a}**) the elaboration of mental imagery, (**H_{1b}**) the quality of mental imagery, and (**H_{1c}**) the sense of presence among customers.

3.2 Embodiment: mental imagery and sense of presence

Grounded in the principle of *embodiment*, the authentic experiences enabled by the metaverse evoke customers' embodied cognition because they rely on contextual cues to evaluate and interact with products and services (Semin and Smith, 2013). Specifically, this embodied experience encourages active inference, empowering customers to vividly imagine events, control their avatars, or adjust their appearance (Chylinski *et al.*, 2020; Flavián *et al.*, 2024). Such embodied control has also been shown to create a sense of presence (Holken *et al.*, 2017).

Mental imagery, encompassing the ability of customers to visualize and mentally interact with virtual objects, settings, or scenarios, acts as a catalyst for deepening immersive experiences, allowing customers to feel as if they are truly part of the virtual world (Skard *et al.*, 2021; Saunders *et al.*, 2011). The elaboration and quality of mental imagery serve as key mechanisms through which this sense of presence is enhanced. Elaboration, referring to the complexity and richness of the mental images constructed by customers, enables detailed and immersive visualization of the virtual environment. This detailed mental construction facilitates a stronger cognitive and emotional connection to the virtual space, making the experience more vivid and real (Park and Yoo, 2020). The quality of mental imagery, denoting the clarity and vividness of these mental constructs, further intensifies this experience, ensuring that customers' mental visualizations are as close to real-life perception as possible.

The role of mental imagery in cultivating a profound sense of presence is a critical facet of customer

engagement and immersion in the metaverse. The extant literature has shown that when customers engage in high levels of mental imagery elaboration and quality, they are more likely to experience a sensation of being virtually transported to another space (Park and Yoo, 2020). This transportation is not solely about visual immersion, as multiple senses are stimulated, narrowing the gap between the virtual and the real, and significantly enhancing the sense of presence (Zheng et al., 2022). In this regard, more elaborate and vivid mental imagery intensifies the immersive nature of the experience, which, in turn, heightens the sense of presence in the metaverse. Accordingly, the following hypotheses are proposed:

H_2. The elaboration of mental imagery has a positive impact on metaverse customers' sense of presence.

H_3. The quality of mental imagery has a positive impact on metaverse customers' sense of presence.

3.3 Extension: consequences of sense of presence

The concept of *extension* advances understanding of the metaverse's transformative value by illustrating how this environment surpasses physical limitations to offer more fulfilling customer experiences. The sense of presence in the metaverse, shaped by the cognitive (sense of "being there"), affective (feelings), and sensory (visual and auditory stimuli) elements, serves as a foundation for creating a compelling and immersive metaverse experience (Cadet *et al.*, 2022).

The sense of presence in virtual environments carries implications for customers' subjective well-being (van Brakel *et al.*, 2023). Virtual realities, by virtue of their engaging and immersive nature, can significantly enhance subjective well-being by providing experiences of happiness and life satisfaction, particularly when customers achieve certain goals, needs, or states (Kim *et al.*, 2020). The interaction and immersion afforded by augmented and virtual realities have been linked to increased life satisfaction and subjective well-being, as these technologies facilitate multisensory interactions in highly engaging environments (McLean *et al.*, 2023). The sense of connection and involvement fostered by a strong sense of presence can further amplify subjective well-being (McLean *et al*., 2023), suggesting that participation in an immersive environment such as the metaverse contributes to customers' overall well-being. Building on this, we argue that a metaverse food festival can elicit immediate positive experiences (i.e., joy and social bonding) that enhance subjective well-being, such as reducing stress. This aligns with Zhang *et al*. (2023), who demonstrated that the perceived value derived from a single cultural event influenced visitors' subjective well-being. Moreover, evidence suggests that elevated subjective well-being in virtual environments can influence purchase intentions, as positive experiences within these environments often shape behavioral intentions toward future activities and increase willingness to pay for products or services that contribute to customers' well-being (Kim *et al.*, 2020; McLean *et al.*, 2023).

The feeling of "being there" in the metaverse not only enhances the customer's connection to the virtual space but also influences their perceptions and interactions with virtual objects, including products. When customers perceive a high level of presence in the metaverse, they are more likely to

engage with virtual objects as if they were real, rather than dismissing them as mere digital constructs (Lin *et al.*, 2024). This heightened cognitive engagement, driven by a strong sense of presence, has been shown to improve overall customer satisfaction, stimulate fantasies and connections to real-world experiences, and positively influence various intentions, such as purchasing, recommending, and revisiting within the virtual environment (Kim *et al.*, 2020; Nam *et al.*, 2023). Moreover, a pronounced sense of presence enhances the reliability of the virtual environment, thereby encouraging purchase intentions and repeat engagements (Bogicevic *et al.*, 2019; Ye *et al.*, 2020). Considering these dynamics, it is hypothesized that a strong sense of presence within the metaverse will positively correlate with customers' purchase intentions, as they are more likely to engage with and perceive value in the virtual offerings. Thus, the following hypotheses are proposed:

H_4. Metaverse customers' sense of presence has a positive impact on their subjective well-being (**H_{4a}**) and purchase intention (**H_{4b}**).

H_5. Metaverse customers' subjective well-being has a positive impact on their purchase intention.

3.4 Mediator: Subjective well-being

Subjective well-being, encompassing emotional responses and life satisfaction (Wang *et al.*, 2022), has been implicated in numerous psychological processes across diverse contexts, functioning as a bridge between various antecedents and consequences. For instance, Wang *et al.* (2020) delineated the mediating role of subjective well-being in the relationship between destination fascination and loyalty. Gordon *et al.* (2019) highlighted the mediating influence of subjective well-being on the relationship between perceived supervisor support and staff turnover intentions in the hospitality industry. These studies underscore the potential of subjective well-being to mediate complex psychological and behavioral dynamics.

In the context of virtual environments, the sense of presence can foster deeper emotional connection and life satisfaction (Kim and Hall, 2019). This enhanced well-being, in turn, could serve as a mediating factor that positively influences customers' behaviors within the metaverse. While the direct influence and mediating effect of subjective well-being on various outcomes have been extensively documented in other contexts (e.g., McLean et al., 2023), its mediating function in the context of the metaverse remains less understood and warrants further investigation, given its more diverse and interactive elements.

Translating these insights to the metaverse, the sense of presence may not only directly influence customers' purchase intentions but could also exert an indirect effect through subjective well-being. Customers who experience a heightened sense of presence—and, consequently, greater subjective well-being—may be more inclined to engage in purchase behaviors, driven by the positive cognitive and emotional states associated with immersive virtual experiences. Therefore, the following hypothesis is proposed:

H_6. The relationship between metaverse customers' sense of presence and purchase intention is mediated

by their subjective well-being.

3.5 Controls: Age, gender, marital status, and monthly income

A study by BigCommerce (2022) highlights that younger generations (i.e., Generation Y and Z) demonstrate a more profound understanding and readiness to participate in virtual worlds than other age groups. Findings from Chen *et al.* (2019) further suggest that highly educated and digitally literate young women exhibit a predisposition toward making purchases in virtual environments such as the metaverse. This inclination also appears among individuals with higher income levels, who are more likely to engage in purchase behaviors within these digital settings (Chen *et al.*, 2019). Given these observations, we control the socioeconomic factors—namely age, gender, marital status, and monthly income—to minimize confounding effects on the proposed hypotheses, as illustrated in Figure 1.

[Insert Figure 1]

4. Methodology

4.1 Context

This study's context centers around "Tiger Street Food," a metaverse food festival by Tiger Beer, renowned in Malaysia and produced by Heineken Asia Pacific in Singapore. This fully immersive food festival in the metaverse was held from 28 October to 6 November 2022 on a dedicated platform (Figure 2, Panel A to Panel D) and sought to replicate the diversity of street food culture, providing a novel avenue for culinary discovery and engagement within an immersive metaverse environment. Customers began their journey by registering and creating a personalized avatar to navigate the festival, interact with other avatars (customers and vendors), participate in interactive games and challenges, and seamlessly transition from virtual exploration to real-world consumption by purchasing street food and Tiger Beer for home delivery.

[Insert Figure 2]

4.2 Instrumentation

To enhance *content validity*, the questionnaire underwent a *pre-test*, involving review by five hospitality professors, while a *pilot study* with 55 respondents was also conducted, resulting in minor adjustments based on feedback and thus improving clarity and *face validity* of the questionnaire.

The survey was administered using a questionnaire. The first section gathered demographic information (see Appendix 1 under supplementary materials), followed by the next section measured the constructs adapted from established scales on a 7-point Likert-type scale (see Appendix 2 under supplementary materials). The items for simplicity, informativeness, social interactivity, playfulness and subjective well-being were adapted from Kim *et al*. (2020) while escapism from Lee *et al.* (2020). Elaboration and quality of mental imagery were measured using scales from Zheng *et al.* (2022) and Park and Yoo (2020). The items for sense of presence were developed by Bogicevic *et al.* (2019), while the

items for purchase intention were established by Talwar *et al.* (2020).

Several strategies minimized common method bias (CMB). Clear survey instructions were provided to promote understanding, supplemented by an introductory message and definitions of key constructs. Respondents were assured of anonymity and confidentiality, encouraging honest, uninfluenced responses. This rigorous approach to instrumentation and scale adaptation ensures that the data collected is both reliable and valid in this study (MacKenzie and Podsakoff, 2012).

4.3 Sampling

Data were collected through an online survey hosted on SurveyLegend (https://www.surveylegend.com) from 15 November to 31 December 2022. A purposive sampling method was employed with a screening question at the outset to ensure that only eligible participants—those attending the festival for the first time—completed the questionnaire, thus isolating the perspectives of first-time customers, which is critical for understanding novice customer engagement in the metaverse.

Of the 1,000 responses received, 816 were deemed usable, yielding an 81.6% effective response rate after excluding ineligible responses and patterned answering. Most respondents were female (56.1%), predominantly single (73.8%), and largely within the 20 to 25 age group (61.4%). The most common monthly income bracket was 4,001 to 6,000 (53.7%), with a significant portion of respondents (24.2%) indicating that friends or family recommended the festival to them (see Appendix 1 under supplementary materials).

4.4 Analysis

Partial least squares structural equation modeling (PLS-SEM) technique was employed in this study. The first reason for selecting PLS-SEM is its theory-building orientation (Hair *et al.*, 2022), aligning with the goal of examining multiple and sequential hypotheses (e.g., the mediation effects of subjective well-being) as well as evaluating higher-order construct of authentic experiences (Becker *et al*., 2023). The second reason is the recognized effectiveness of PLS-SEM in causal-predictive studies (Hair *et al.*, 2022), which is particularly pertinent for the current investigation to explore and predict how different aspects of the metaverse experience shape customer behavior and perceptions.

5. Results

5.1 Assessment of common method bias

To evaluate the presence of CMB, both Harman's single-factor test and the full collinearity (FC) test were employed. Harman's single-factor test revealed that the variance explained by the first factor was 37.023%, which is well below the recommended 50% threshold (MacKenzie and Podsakoff, 2012). The FC test was then performed (see Appendix 2 under supplementary materials), where variance inflation factor (VIF) values ranged from 1.785 and 2.932, all well below the threshold of 3 (Hair *et al.*, 2022).

Collectively, these findings confirm that CMB does not pose a concern and reinforce the rigor of this study.

5.2 Assessment of measurement model

Reliability was evaluated using composite reliability (CR). All constructs exceeded the accepted benchmark of 0.7 (see Appendix 2 under supplementary materials), indicating strong internal consistency (Hair *et al.*, 2022). The outer loadings for all items—apart from three items (EMI1, QMI4, and SP4) removed due to low loadings—were above the recommended threshold of 0.708 (see Appendix 2 under supplementary materials), indicating strong indicator reliability (Hair *et al.*, 2022). The average variance extracted (AVE) values for all constructs exceeded the benchmark of 0.50, indicating convergent validity. Discriminant validity was assessed using the heterotrait-monotrait (HTMT) ratio (Hair *et al.*, 2022), with all values remaining below the conservative threshold of 0.90 (see Appendix 3 under supplementary materials). The $HTMT_{inference}$ test further showed that none of the confidence intervals included 1, thereby demonstrating satisfactory discriminant validity (Hair *et al*., 2022).

A disjoint two-stage approach was employed to evaluate the higher-order construct (HOC) of authentic experience (Becker *et al.*, 2023). Our redundancy analysis yielded a path coefficient above 0.7, suggesting that convergent validity was achieved for our HOC of authentic experience (see Appendix 4 under supplementary materials). Additionally, the VIF values for all lower-order constructs (LOCs) remained below 3.33, signaling the absence of collinearity issues. Alas, statistical significance of all LOCs was confirmed, with weight values ranging from 0.106 to 0.399, thus validating the operationalization of authentic experience as accurately represented by its LOCs.

5.3 Assessment of structural model

The initial step in assessing the structural model involved examining potential collinearity issues. The VIF values for all paths ranged from 0.2358 to 2.081 (Table 1), remaining well below the accepted threshold of 3 (Hair *et al.*, 2022). These results confirm that collinearity does not threaten the structural model.

[Insert Table 1]

Next, we assessed the significance of our proposed hypotheses. Based on Table 1, authentic experiences were found to significantly influence customers' elaboration (β=0.773, p<0.01) and quality (β=0.687, p<0.01) of mental imagery, as well as their sense of presence (β=0.189, p<0.01), affirming H_{1a}, H_{1b}, and H_{1c}, with coefficient of determination (R^2) values that ranged between 47.2% to 62.2%. Furthermore, both metaverse customers' elaboration (β=0.301, p<0.01) and quality (β=0.376, p<0.01) of mental imagery significantly impacted their sense of presence, supporting H_2 and H_3. Moreover, a strong positive relationship was identified for sense of presence on both subjective well-being (β=0.758, p<0.01) and purchase intention (β=0.309, p<0.01), thereby supporting H_{5a} and H_{5b} with the R^2 values of 57.5% and 58.5%. Noteworthily, the subjective well-being of metaverse customers had a significant influence on their purchase intentions (β=0.506, p<0.01), rendering support for H_5, especially after controlling for demographic variables (age, gender, marital status, and monthly income) that exhibited no statistically significant effect (p>0.05). Most paths, including H_{1c}, H_2, and H_{4b}, demonstrated small yet meaningful effect sizes (f^2) (Hair *et al.*, 2022), with values ranging from 0.036 to 0.099. Meanwhile, the paths for H_3 and H_5 revealed medium effect sizes of 0.155 and 0.264, respectively, highlighting their substantial influence within the model (Table 1).

Our mediation analysis identified a significant mediating effect (β=0.384, p<0.01), thus supporting H_6 and signaling a complementary mediation condition, with a variance accounted for (VAF) value of 55.411% (Hair *et al.*, 2022). Thus, this result underlines the critical role of subjective well-being in driving purchase intention following authentic metaverse experiences.

Finally, $PLS_{predict}$ was employed to gauge the predictive relevance ($Q^2_{predict}$) values of the endogenous constructs, which ranged from 0.386 to 0.538 (Table 1), exceeding zero and thus indicating substantial predictive power (Hair *et al.*, 2022).

6. Discussion

6.1 Theoretical contributions

Grounded in SCT, this study is the first to illustrate how the metaverse can enrich customers' experiences and guide their decision-making. Crucially, the proposed model integrates SCT by emphasizing how cognitive processes are shaped by interactions within the metaverse through three critical stages: *embeddedness*, *embodiment* and *extension*.

This study accentuates the critical role of authentic experiences in the metaverse as catalysts that activate customers' mental imagery and foster a strong sense of presence, thereby facilitating deep immersion. In the case of the metaverse food festival, this activation enables customers to vividly imagine the flavors and experiences offered, encompassing both the *elaboration* and *quality* of *mental imagery* (H_{1a} and H_{1b} supported) and a sense of presence (H_{1c} supported). This finding advances existing research on how virtual environments engage customers' imagination and immersion (Park and Yoo, 2020) by showing that metaverse authenticity specifically heightens the elaboration and quality of mental imagery while reinforcing a deeper sense of presence. Unlike prior work, which tends to treat mental imagery as a unidimensional construct (Skard *et al*., 2021), this study unpacks its multifaceted nature—elaboration and quality—and reveals how authentic experiences trigger these dimensions to enhance immersion. Subsequently, this study establishes that a higher level of mental imagery—spanning elaboration and quality—significantly amplifies customers' *sense of presence* in the metaverse (H_2 and H_3 supported). This discovery aligns with recent calls to examine how synergy between virtual spaces and customers' cognitive processes magnifies presence (Koo et al., 2023). Notably, the interplay among authenticity, mental imagery, and sense of presence clarifies the cognitive mechanisms that drive value creation in the metaverse and advances understanding of how authenticity systematically influences customer experiences. Specifically, customers with richer and more vivid mental images immerse themselves more fully in the virtual environment, intensifying their sense of presence. Taken collectively, these findings suggest that authenticity strengthens both the complexity (elaboration) and vividness (quality) of mental imagery, prompting customers to construct more detailed representations of metaverse scenes while perceiving them as lifelike. This heightened visualization, in turn, fortifies the sense of presence by making the boundary between the virtual and real worlds less pronounced.

This study also demonstrates the positive impact of sense of presence on *subjective well-being* and *purchase intention* (H_{4a} and H_{4b} supported), echoing previous research by McLean *et al.* (2023) and Ye *et al.* (2020). A heightened or strong sense of presence enables customers to feel more connected to the virtual environment and the products within it, akin to a physical shopping experience, which, in turn, promotes subjective well-being and stimulates purchase behavior. This immersive sensation enriches engagement with the metaverse, highlighting the platform's capacity to replicate and elevate desired customer behaviors.

This study further substantiates the positive influence of subjective well-being on purchase intention (H_5 supported), aligning with the findings of McLean *et al*. (2023). The evidence suggests that customers are more inclined to make purchases when their experiences positively contribute to their subjective well-being. A possible reason for this is that the metaverse creates a sense of isolation, enabling customers to escape stress and thereby enhance their subjective well-being (Kim *et al*., 2025). Unlike physical environments, the metaverse's digital nature and avatar-based communication may uniquely amplify this effect. Therefore, this study goes beyond examining the direct relationship by revealing the mediating role of subjective well-being in bridging the sense of presence and purchase intention (H_6 supported). This discovery, in turn, enhances existing knowledge by demonstrating that subjective well-being not only directly affects customer behavior

but also shapes the pathway through which a heightened sense of presence translates into purchase intentions. Noteworthily, presenting subjective well-being as a mediator clarifies how immersive metaverse experiences drive customer actions in virtual environments due to the metaverse's interactive features (Sharma *et al*., 2024). Success in these virtual activities can foster a sense of accomplishment to elevate customers' subjective well-being, and in turn, act as a catalyst for purchase intention, underscoring the integral role of subjective well-being in the purchasing process.

6.2 Managerial implications

The managerial implications of this study shed light on actionable strategies for hospitality brands seeking to leverage the metaverse to enhance customer engagement and improve returns.

6.2.1 Enhancing embeddedness: crafting authentic experiences in the metaverse

As hospitality brands venture into metaverse initiatives, these findings provide crucial insights for creating authentic experiences that resonate with digital natives. Direct and straightforward *information* (Zazzle Media, 2018) is highly valued by these consumers, making *simplicity* in design and content presentation essential. Ensuring that the metaverse environment is easy to navigate and that information is presented clearly and comprehensively will contribute to the perceived authenticity of the virtual experience.

Playful elements can further heighten authenticity (Sharma *et al.*, 2024). Elements such as dynamic animations, hidden surprises, and *interactive* challenges spark imagination and enable customers to express individuality. Such features align well with the immersive aspect of hospitality, where experiential engagement can extend beyond traditional physical offerings.

The metaverse's ability to transcend geographical barriers also offers an opportunity to provide a diverse range of cultural and thematic virtual environments. To make virtual experiences more authentic, hospitality brands collaborating with metaverse developers can create virtual spaces that blend global influences—ranging from historical settings to modern urban landscapes—catering to varied customer interests and enhancing *escapism*.

6.2.2 Tapping into embodiment: leveraging mental imagery and sense of presence

Within the metaverse, stimulating customers' mental imagery and reinforcing their sense of presence are critical for crafting immersive experiences. Hospitality brands and metaverse developers can stimulate and strengthen *mental imagery* by weaving compelling narratives and storylines into the virtual environment (Sharma *et al*., 2024). Well-developed narratives encourage customers to visualize and immerse themselves more deeply, adding substance to the virtual experience.

Personalization also plays a significant role in augmenting customers' sense of presence. Detailed avatar customization options allow individuals to connect strongly with their virtual representations, increasing perceived authenticity and reinforcing embodiment. Incorporating elements from real-world contexts—such as live weather updates or news—further anchors the metaverse in everyday life, boosting the environment's authenticity and making the experience more relatable for customers.

6.2.3 Promoting extension: enhancing subjective well-being and purchase intention

This study underscores the role of subjective well-being in mediating the relationship between sense of presence and purchase intention. Hospitality brands can leverage this finding to design strategies that heighten customer engagement and encourage repeat patronage.

Gamification elements such as points and badges that reward achievement can significantly boost customers' sense of fulfillment and foster intrinsic motivation, leading to deeper connections and repeated engagement. Viewing the metaverse as a communal space where customers share experiences and pursue shared goals further cultivates a sense of belonging. User-generated content and community-building features offer customers the chance to co-create experiences, thereby enhancing their subjective well-being and attachment to the virtual platform.

Incorporating features that promote mental health and stress reduction can further elevate customers' subjective well-being. Motivational games, virtual relaxation zones, and supportive community interactions help make the metaverse a haven for mental rejuvenation, appealing to customers seeking positive, wellness-oriented experiences.

Addressing digital literacy and accessibility is essential. Hospitality brands must design metaverse experiences that are intuitive and inclusive, enabling users from diverse backgrounds to easily navigate and benefit from these virtual environments. Moreover, ethical considerations—such as data privacy, equitable access, and transparency—should be prioritized to safeguard customer interests and promote societal well-being. Given the strong link between subjective well-being and purchase intention, hospitality brands have a significant opportunity to implement well-being-centered marketing strategies by positioning the metaverse as a compelling environment for patronage and purchases. Ensuring customers perceive the metaverse as valuable and satisfying is, therefore, likely to enhance purchase intentions and loyalty, benefiting hospitality brands in this evolving digital frontier.

While our study focuses on a particular metaverse event, the insights gained may be applicable to a wider range of metaverse-driven hospitality experiences. For example, virtual hotel previews, online concierge services, and metaverse-based tourism events similarly offer immersive and interactive environments that can influence customer perceptions and behaviors. Such experiences have the potential to foster engagement, enhance the sense of presence, and positively impact key customer outcomes such as subjective well-being and purchase intention.

7. Conclusion, limitations, and future directions

This study contributes to addressing the paucity of empirical research on the metaverse and enhances understanding of customer experience in this virtual environment by examining how authentic experiences influence mental imagery, sense of presence, and subsequent outcomes such as subjective well-being and purchase intention, using the Tiger Street Food Festival in the metaverse as a case. The insights garnered from this study through the lens of SCT, therefore, serve as a foundation for future explorations that endeavor to harness and maximize the potential of the metaverse for brands and customers alike. However, the approach and scope of this study introduce several limitations that open up opportunities for future

exploration.

To begin, while the current study provides valuable insights by focusing on a single metaverse event, this narrow scope may limit the generalizability of the findings. Future research could expand the investigation to encompass customer experiences across various metaverse and diverse settings, such as hotel and lodging services (e.g., metaverse hotel tours, virtual concierges) and virtual. Such an approach would offer a more comprehensive understanding of virtual environments and enhance the applicability of the validated model across different contexts.

Exploring changes over time would further enrich the existing analysis. A longitudinal research design could reveal how customer perceptions and behaviors evolve within metaverse environments, thereby providing deeper insights into sustained customer engagement and long-term subjective well-being. Monitoring customer participation across multiple virtual events or contexts may also clarify how hospitality brands can continuously refine their offerings to remain relevant. Additionally, future research could adopt experimental designs to establish causal relationships. Researchers might compare engagement and interactivity levels between participants attending hybrid (physical and metaverse) and fully virtual events.

The predominance of younger participants in this sample also highlights the need for more inclusive studies involving older adults and other demographic groups. Examining generational variations in metaverse usage could uncover differences in preferences and obstacles, ensuring that virtual environments curated by hospitality brands remain accessible and appealing to a wide spectrum of customers.

Finally, the rapid advancement of metaverse technologies calls for ongoing investigations into ethical, and policy frameworks that guide development and application. Future research might explore ethical considerations, regulatory challenges, and responsible innovation approaches, all of which bear relevance to the hospitality industry's evolving role in virtual spaces.

References

Ashton, M., Filimonau, V. and Tuomi, A. (2025), "How the metaverse can add new layers of hospitality services: A perspective of senior industry practitioners", *International Journal of Contemporary Hospitality Management*, Vol. 37 No. 4, pp. 1231–1256.

Barrera, K.G. and Shah, D. (2023), "Marketing in the metaverse: Conceptual understanding, framework, and research agenda", *Journal of Business Research*, Vol. 155, p. 113420.

Becker, J.M., Cheah, J.H., Gholamzade, R., Ringle, C.M. and Sarstedt, M. (2023), "PLS-SEM's most wanted guidance", *International Journal of Contemporary Hospitality Management*, Vol. 35, No.1, pp. 321–346.

BigCommerce (2022), "Consumer behavior trends: Venturing into the metaverse", available at https://www.bigcommerce.com/blog/consumer-behavior-trends-metaverse/

Bogicevic, V., Seo, S., Kandampully, J.A., Liu, S.Q. and Rudd, N.A. (2019), "Virtual reality presence as a preamble of tourism experience: The role of mental imagery", *Tourism Management*, Vol. 74, pp. 55–64.f

Brown, J.S., Collins, A. and Duguid, P. (1989), "Situated cognition and the culture of learning", *1989*, Vol. 18, No. 1, pp. 32–42.

Cadet, L.B., Reynaud, E. and Chainay, H. (2022), "Memory for a virtual reality experience in children and adults according to image quality, emotion, and sense of presence", *Virtual Reality*, Vol. 26, No.1, pp. 55–75.

Carrozzi, A., Chylinski, M., Heller, J., Hilken, T., Keeling, D.I. and de Ruyter, K. (2019), "What's mine is a hologram? How shared augmented reality augments psychological ownership", *Journal of Interactive Marketing*, Vol. 48, No.1, pp. 71–88.

Chakraborty, D., Mehta, P. and Khorana, S. (2025), "Metaverse technologies in hospitality: Using the theory of consumption values to reveal consumer attitudes and trust factors", *International Journal of Contemporary Hospitality Management*, Vol. 37 No. 4, pp. 1276–1308.

Chen, Y., Lu, Y., Wang, B. and Pan, Z. (2019), "How do product recommendations affect impulse buying? An empirical study on WeChat social commerce", *Information & Management*, Vol. 56 No. 2, pp. 236–248.

Cheung, M.L., Leung, W.K., Chang, L.M.K., Aw, E.C.X. and Wong, R.Y. (2024), "Immersive time in the metaverse and visits to the physical world: Why not both? A holistic customer engagement framework", *International Journal of Contemporary Hospitality Management*, Vol. 36 No. 11, pp. 3674–3703.

Chylinski, M., Heller, J., Hilken, T., Keeling, D.I., Mahr, D. and de Ruyter, K. (2020) "Augmented reality marketing: A technology-enabled approach to situated customer experience", *Australasian Marketing Journal*, Vol. 28 No. 4, pp. 374–384.

Deloitte. (2022), "Digital consumer trends 2022", available at https://www2.deloitte.com/uk/en/pages/technology-media-and-telecommunications/articles/digital-consumer-trends-2022-metaverse.html

Flavián, C., Ibáñez-Sánchez, S., Orús, C. and Barta, S. (2024), "The dark side of the metaverse: The role of gamification in event virtualization", *International Journal of Information Management*, Vol. 75, p. 102726.

Gordon, S., Tang, C.H., Day, J. and Adler, H. (2019), "Supervisor support and turnover in hotels: Does subjective well-being mediate the relationship?", *International Journal of Contemporary Hospitality Management*, Vol. 31 No. 1, pp. 496–512.

Gursoy, D., Malodia, S. and Dhir, A. (2022), "The metaverse in the hospitality and tourism industry: An overview of current trends and future research directions", *Journal of Hospitality Marketing & Management*, Vol. 31 No. 5, pp. 527–534.

Hair, J.F., Hult, G.T.M., Ringle, C.M. and Sarstedt, M. (2022), *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Thousand Oaks, CA: Sage.

Hajian, A., Daneshgar, S., Sadeghi, K., Ojha, D. and Katiyar, G. (2024), "From theory to practice: Empirical perspectives on the metaverse's potential", *Technological Forecasting and Social Change*, Vol. 201, p. 123224.

Hede, A.-M., Garma, R., Josiassen, A. and Thyne, M. (2014), "Perceived authenticity of the visitor experience in museums: Conceptualization and initial empirical findings", *European Journal of Marketing*, Vol. 48 No. 7/8, pp. 1395–1412.

Hilken, T., de Ruyter, K., Chylinski, M., Mahr, D. and Keeling, D. I. (2017), "Augmenting the eye of the beholder: Exploring the strategic potential of augmented reality to enhance online service experiences", *Journal of the Academy of Marketing Science*, Vol. 45, pp. 884–905.

Hwang, J. and Seo, S. (2016), "A critical review of research on customer experience management: Theoretical, methodological and cultural perspectives", *International Journal of Contemporary Hospitality Management*, Vol. 28 No. 10, pp. 2218–2246.

Kim, J.(S)., Erdem, M. and Kim, B. (2025), "What factors motivate customers to embrace a metaverse hotel?", *International Journal of Contemporary Hospitality Management*, Vol. 37 No. 2, pp. 399–417.

Kim, M.J. and Hall, C.M. (2019), "A hedonic motivation model in virtual reality tourism: Comparing visitors and non-visitors", *International Journal of Information Management*, Vol. 46, pp. 236–249.

Kim, M.J., Lee, C.K. and Preis, M.W. (2020), "The impact of innovation and gratification on authentic experience, subjective well-being, and behavioral intention in tourism virtual reality: The moderating role of technology readiness", *Telematics and Informatics*, Vol. 49, p. 101349.

Koo, C., Kwon, J., Chung, N. and Kim, J. (2023), "Metaverse tourism: Conceptual framework and research propositions", *Current Issues in Tourism*, Vol. 26 No. 20, pp. 3268–3274.

Kraus, S., Kanbach, D.K., Krysta, P.M., Steinhoff, M.M. and Tomini, N. (2022), "Facebook and the creation of the metaverse: Radical business model innovation or incremental transformation?", *International Journal of Entrepreneurial Behavior & Research*, Vol. 28 No. 9, pp. 52–77.

Lave, J. and Wenger, E. (1991), "Learning in doing: Social, cognitive, and computational perspectives", *Situated Learning: Legitimate Peripheral Participation*, Vol. 10, pp. 109–155.

Lee, D., Moon, J., Kim, Y.J. and Mun, Y.Y. (2015), "Antecedents and consequences of mobile phone usability: Linking simplicity and interactivity to satisfaction, trust, and brand loyalty", *Information & Management*, Vol. *52* No. 3, pp. 295–304.

Lee, H., Jung, T.H., tom Dieck, M.C. and Chung, N. (2020), "Experiencing immersive virtual reality in museums", *Information & Management*, Vol. 57 No. 5, p. 103229.

Lim, W.M., Bansal, S., Nangia, P. and Singh, S., 2025. The bright and dark side of metaverse marketing. *Global Business and Organizational Excellence*, Vol. 44, No. 2, pp.58-82.

Lin, Q., Ng, S.I., Kamal Basha, N., Luo, X. and Li, Y. (2024). "Impact of virtual influencers on customer engagement of Generation Z consumers: A presence perspective", *Young Consumers*, Vol. 25 No. 6, pp. 851–868.

Lui, T.W. and Goel, L. (2022), "Learning effectiveness of 3D virtual reality in hospitality training: A situated cognitive perspective", *Journal of Hospitality and Tourism Technology*, Vol. 13 No. 3, pp. 441–460.

MacKenzie, S.B. and Podsakoff, P.M. (2012), "Common method bias in marketing: Causes, mechanisms,

and procedural remedies", *Journal of Retailing*, Vol. *88* No. 4, pp.542–555.

McLean, G. and Barhorst, J.B. (2022), "Living the experience before you go... but did it meet expectations? The role of virtual reality during hotel bookings", *Journal of Travel Research*, Vol. 61 No. 6, pp. 1233–1251.

McLean, G., AlYahya, M., Barhorst, J.B. and Osei-Frimpong, K. (2023), "Examining the influence of virtual reality tourism on consumers' subjective wellbeing", *Tourism Management Perspectives*, Vol. 46, p. 101088.

Miller, D.W. and Stoica, M. (2004), "Comparing the effects of a photograph versus artistic renditions of a beach scene in a direct-response print ad for a Caribbean resort island: A mental imagery perspective", *Journal of Vacation Marketing*, Vol. 10 No. 1, pp. 11–21.

Nam, K., Dutt, C.S. and Baker, J. (2023), "Authenticity in objects and activities: Determinants of satisfaction with virtual reality experiences of heritage and non-heritage tourism sites", *Information Systems Frontiers*, Vol. 25 No. 3, pp. 1219–1237.

Niedenthal, P.M. (2007), "Embodying emotion", *Science*, Vol. 316 No. 5827, pp. 1002–1005.

Pal, D. and Arpnikanondt, C. (2024), "The sweet escape to metaverse: Exploring escapism, anxiety, and virtual place attachment", *Computers in Human Behavior*, Vol. 150, p. 107998.

Park, M. and Yoo, J. (2020), "Effects of perceived interactivity of augmented reality on consumer responses: A mental imagery perspective", *Journal of Retailing and Consumer Services*, Vol. 52, p. 101912.

Pine, B.J. and Gilmore, J.H. (2007), *Authenticity: What consumers really want*. Boston: Harvard Business School Press.

Qin, H., Peak, D.A. and Prybutok, V. (2021), "A virtual market in your pocket: How does mobile augmented reality (MAR) influence consumer decision making?", *Journal of Retailing and Consumer Services*, Vol. 58, p. 102337.

Robbins, P. and Aydede, M. (2009), A short primer on situated cognition. In *The Cambridge Handbook of Situated Cognition*. Cambridge, MA: Cambridge University Press.

Saunders, C., Rutkowski, A.F., Genuchten van, M., Vogel, D. and Orrego, J.M. (2011), "Virtual space and place: Theory and test", *MIS Quarterly*, Vol. 35 No. 4, pp.1079–1098.

Semin, G.R. and Smith, E.R. (2013), "Socially situated cognition in perspective", *Social Cognition*, Vol. 31 No. 2, pp .125–146.

Sharma, W., Lim, W.M., Kumar, S., Verma, A. and Kumra, R. (2024), "Game on! A state-of-the-art overview of doing business with gamification", *Technological Forecasting and Social Change*, Vol. 198, p. 122988.

Skard, S., Knudsen, E.S., Sjåstad, H. and Thorbjørnsen, H. (2021), "How virtual reality influences travel intentions: The role of mental imagery and happiness forecasting", *Tourism Management*, Vol. 87, p. 104360.

Spatial (2025), "Interactive media, limitless possibilities", available at https://www.spatial.io/

Sujood and Pancy (2024), "Travelling with open eyes! A study to measure consumers' intention towards experiencing immersive technologies at tourism destinations by using an integrated model of TPB, TAM captured through the lens of S-O-R", *International Journal of Contemporary Hospitality Management*, Vol. 36 No. 11, pp. 3906–3929.

Vera, A.H. and Simon, H.A. (1993), "Situated action: A symbolic interpretation", *Cognitive Science*, Vol. 17 No. 1, pp. 7–48.

Wang, Y.C., Liu, C.R., Huang, W.S. and Chen, S.P. (2020), "Destination fascination and destination loyalty: Subjective well-being and destination attachment as mediators", *Journal of Travel Research*, Vol. 59 No. 3, pp. 496–511.

Williams, P. and Hobson, J.P. (1995), "Virtual reality and tourism: Fact or fantasy?", *Tourism Management*, Vol. 16 No. 6, pp. 423–427.

Wilson, B.G. and Myers, K.M. (2000), *Situated cognition in theoretical and practical context*. In Theoretical Foundations of Learning Environments (pp. 57–88). New York: Routledge.

Ye, S., Lei, S.I., Shen, H. and Xiao, H. (2020), "Social presence, telepresence and customers' intention to purchase online peer-to-peer accommodation: A mediating model", *Journal of Hospitality and Tourism Management*, Vol. 42, pp. 119–129.

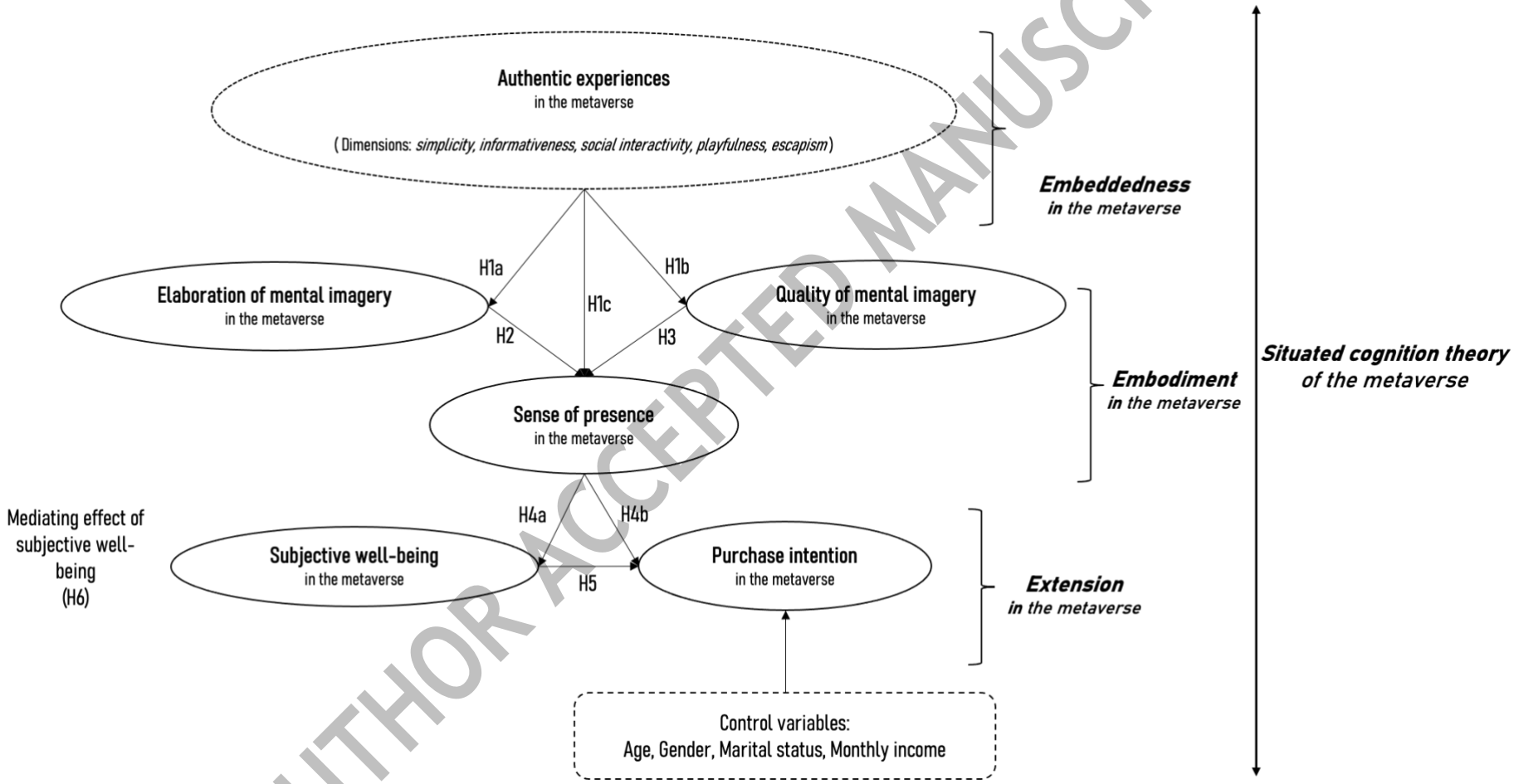
Zazzle Media. (2018), "13 ways to target Generation Z", available at https://www.zazzlemedia.co.uk/blog/target-generation-z/#gref

Zhang, H., Zhang, J. and Cai, L. (2023), "Effects of cultural ecosystem services on visitors' subjective well-being: Evidences from China's national park and flower expo", *Journal of Travel Research*, Vol. 62 No. 4, pp. 768–781.

Zheng, C., Chen, Z., Zhang, Y. and Guo, Y. (2022), "Does vivid imagination deter visitation? The role of mental imagery processing in virtual tourism on tourists' behavior", *Journal of Travel Research*, Vol. 61 No. 7, pp. 1528–1541.

Figures

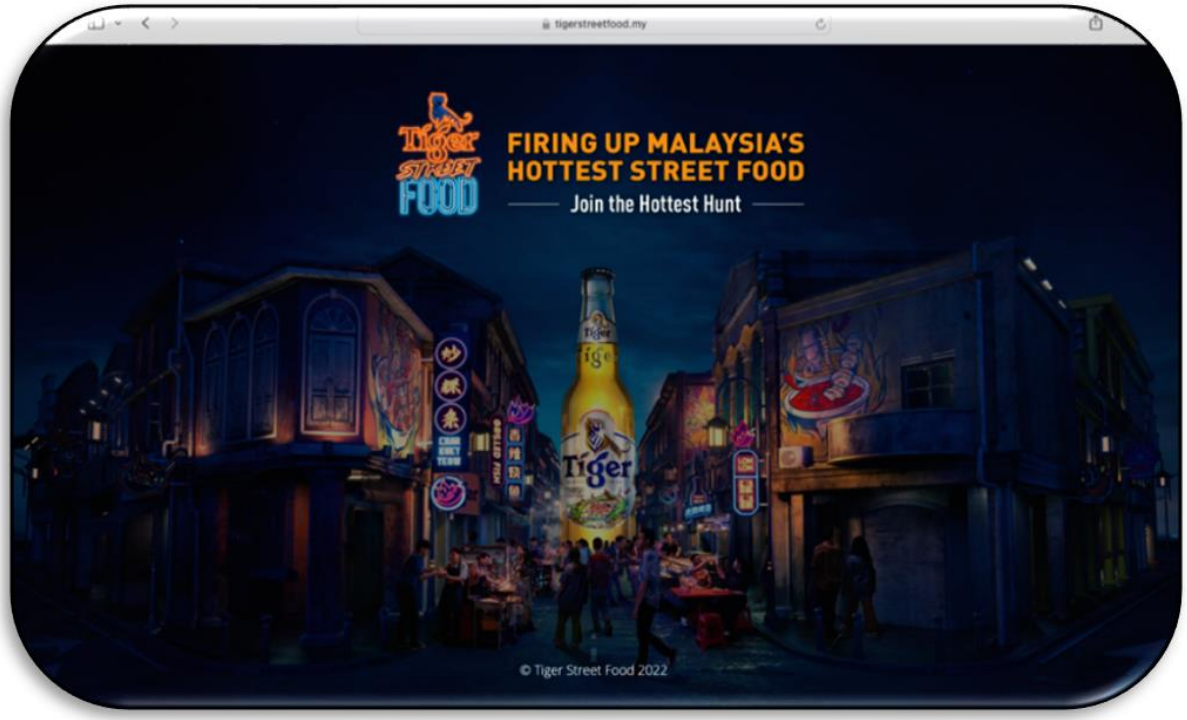
Figure 1. Research model



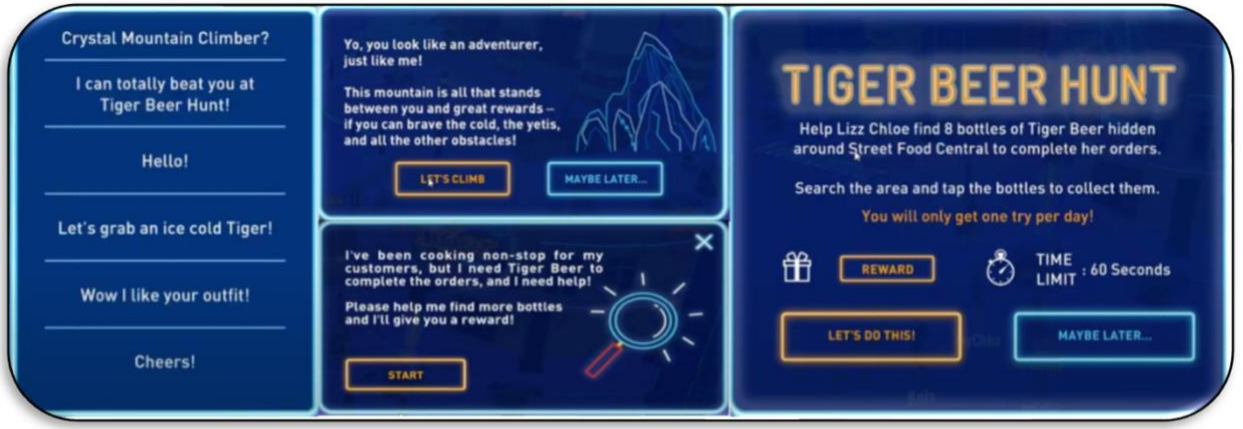
Source: Authors' own illustration.

Figure 2. Tiger Street Food

Panel A. Homepage of a metaverse food festival



Panel B. Avatar setup and transportation into a metaverse food festival



Panel C. Activities and games in a metaverse food festival

Panel D. Virtual Street and food ordering in a metaverse food festival

Source: Authors' own illustration.

Tables

Table 1. Structural model statistics

Relationship	Std. β	Std. error	*t*-value	*p*-value	CI LB	CI UB	VIF	f^2	R^2	$Q^2_{predict}$	VAF
Direct and mediation effects											
$H1_{a.}$ Authentic experiences → Elaboration of mental imagery	0.773	0.016	47.685	0.000	0.743	0.797	1.000	NA	0.472	0.538	
$H_{1b.}$ Authentic experiences → Quality mental imagery	0.687	0.021	32.079	0.000	0.647	0.719	1.000	NA	0.597	0.456	
$H_{1c.}$ Authentic experiences → Sense of presence	0.189	0.040	4.693	0.000	0.118	0.252	2.358	0.036	0.622	0.443	
$H_{2.}$ Elaboration of mental imagery → Sense of presence	0.301	0.048	6.253	0.000	0.227	0.385	2.017	0.076			
$H_{3.}$ Quality mental imagery → Sense of presence	0.376	0.045	8.437	0.000	0.303	0.450	2.360	0.155			
$H_{4a.}$ Sense of presence → Subjective well-being	0.758	0.022	34.340	0.000	0.715	0.790	1.000	NA	0.575	0.393	
$H_{4b.}$ Sense of presence → Purchase intention	0.309	0.051	6.060	0.000	0.221	0.390	2.354	0.099	0.588	0.386	
$H_{5.}$ Subjective well-being → Purchase intention	0.506	0.045	11.254	0.000	0.430	0.578	2.354	0.264			
$H_{6.}$ Sense of presence → Subjective well-being → Purchase intention	0.384	0.036	10.561	0.000	0.313	0.456					55.411%
Controls											
Age → Purchase intention	-0.043	0.027	1.593	0.097	-0.109	0.038					
Gender → Purchase intention	-0.023	0.022	1.015	0.155	-0.058	0.014					
Marital status → Purchase intention	0.014	0.025	0.543	0.293	-0.028	0.054					
Monthly income → Purchase intention	-0.035	0.024	1.458	0.103	-0.103	0.045					

Notes: NA = Not applicable. CI = Confidence interval. LB = Lower bound. UB = Upper bound. VIF = Variance inflation factor. R^2 = Coefficient of determination. f^2 = Effect size (direct relationship). v^2 = Effect size (mediating relationship). VAF = Variance accounted for. GC = Gaussian Copula. The direct effect was tested using a one-tailed test, while the remaining effects were tested using a two-tailed test.

Source: Authors' own compilation.