Intrinsic Motivations and Their Role in Consumer Interaction with Immersive Branded Environments

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Firms across a wide range of industries are increasingly experimenting with immersive branded environments (IBEs) –collaborative virtual spaces where consumers interact with brands and other users through digital personas. These environments offer firms novel opportunities to improve the consumer experience, test new digital offerings, and closely observe consumer behavior. However, despite the promise of revolutionizing shopping, consumer engagement with IBEs remains limited. We employ self-determination theory to explore whether the technological affordances of these environments enable consumers to fulfill the psychological needs of autonomy, competence, and relatedness – essential drivers of intrinsic motivation. Through a mixed-method approach comprising two sequential stages, our research identifies the motivational drivers that need to be in place for users to successfully interact with IBEs while also uncovering how these interactions influence consumer brand perceptions.

Keywords: Immersive Branded Environments; Consumer Engagement; Self-Determination Theory

Track: Digital Marketing & Social Media

1. **Motivation and Aim of Research**

The emergence of immersive branded environments (IBEs) represents a transformative development in how consumers interact with brands in virtual spaces (Cowan et al., 2024). These environments, underpinned by advanced technologies such as augmented reality (AR), virtual reality (VR), and mixed reality (MR), have garnered substantial attention across various industries due to their potential to revolutionize consumer engagement strategies (Yoo et al., 2023). By offering multisensory and interactive experiences, IBEs enable firms to bridge the gap between physical and digital brand encounters, creating opportunities for deeper and more personalized consumer-brand interactions (Kaplan & Haenlein, 2022).

The economic potential of these environments is reflected in their projected market growth, which is expected to rise from $25.11 billion in 2023 to $165.91 billion by 2030 (Fortune Business Insights, 2023). Studies have also indicated that consumer engagement within these environments often surpasses that observed on traditional or mobile platforms, with higher likelihoods of purchase intent and brand loyalty (Dogadkina, 2022; Breidbach et al., 2020). These findings underscore the strategic importance of IBEs as a tool for fostering consumer commitment and enhancing brand equity in competitive markets.

Despite IBEs' widespread accessibility and immersive appeal, their consumer adoption has been slower than anticipated. This lag in adoption raises critical questions about the underlying motivational factors that drive sustained consumer participation. Specifically, there is a need to better understand the strategic factors that firms can leverage in order to intrinsically motivate consumers to engage with IBEs. This study addresses this gap by employing self-determination theory (SDT), a well-established framework in psychology that explores the intrinsic and extrinsic motivators influencing behavior (Deci & Ryan, 2000; Ryan & Deci, 2000). SDT posits that three core psychological needs—autonomy, competence, and relatedness—are fundamental to fostering intrinsic motivation and sustained engagement (Ryan & Deci, 2000). In the context of IBEs, these needs can manifest as the ability to control one's virtual experience (autonomy), the mastery of navigation and interaction within the digital environment (competence), and the opportunity for meaningful social connections with other users and brand representatives (relatedness).

Building on previous work in digital marketing and consumer psychology (Gao et al., 2018; Hadi et al., 2024), this research seeks to examine the role of these intrinsic motivators in shaping

consumer engagement with IBEs (Deci & Ryan, 1985; Novak et al., 2020). In doing so, the study aims to contribute to a deeper understanding of how psychological needs can be leveraged to enhance user experiences and drive meaningful interactions with immersive environments. It provides valuable insights for academic inquiry and managerial practice, particularly in designing more effective and consumer-centric IBEs.

2. Theoretical Background

In IBEs, autonomy manifests as the ability of users to personalize and control their virtual experiences, such as customizing avatars or navigating the environment freely. Research indicates that autonomy-supportive environments enhance user satisfaction and participation by fostering a sense of ownership and agency (Vansteenkiste et al., 2010). Conversely, competence reflects the consumer's ability to master tasks and interact seamlessly within the virtual space. Environments that provide clear feedback and opportunities for skill development have been shown to enhance feelings of competence, which drive sustained engagement (Deci et al., 1991). Finally, relatedness refers to the desire to connect meaningfully with others, which in IBEs can be facilitated through social interactions with other users or direct communication with brand representatives. Social presence, a key element in virtual environments, plays a vital role in fulfilling the need for relatedness and fostering emotional connections (Hoffman & Novak, 2009; Hilken et al., 2020).

Recent research has applied SDT to various digital marketing contexts, demonstrating its utility in explaining consumer behavior in virtual and augmented reality settings (Hollebeek et al., 2021). For example, studies have found that environments that fulfill these three psychological needs increase consumer satisfaction and improve brand evaluations and loyalty (Hilken et al., 2017). Moreover, SDT offers insights into how immersive environments can sustain long-term engagement by creating intrinsically motivating experiences that resonate with users' psychological needs (Kaplan & Haenlein, 2022). This perspective underscores the importance of aligning technological affordances with motivational principles, highlighting the role of SDT as a foundational framework for understanding consumer participation in IBEs. Therefore, the present study aims at answering two main research questions: 1) What are the key aspects that consumers perceive as influencing their engagement with immersive branded environments?, and 2) How do these motivational factors influence brand evaluations and predict consumers' intention to use immersive branded environments? To answer these questions, we adopted a mixed-method approach through two studies.

3. Methodology

We conducted two studies to investigate consumers' intrinsic motivations for engaging with IBEs. Study 1 aimed to identify motivational factors beyond consumers' intentions to engage with IBEs through an exploratory survey comprising open-ended questions. A sample of 78 participants (M_{age} = 36.44; 47.44% female) was recruited via Prolific Academic, ensuring a diverse respondent base for uncovering nuanced motivational drivers. First, participants were asked to articulate their reasons for engaging with branded metaverses by responding to a series of broader, "grand-tour" questions (e.g., "*Please explain in your own words why you would or would not visit a branded metaverse"*). Next, participants answered questions that cued motivational drivers aligned with the three primary psychological needs of autonomy, competence, and relatedness outlined by SDT (e.g., "*Do you feel you could shop and interact with a brand in the way you want in a branded metaverse? If so, why or why not?*"). Finally, participants answered closed-ended questions about their familiarity with and past visits to IBEs. Responses were analyzed thematically following an iterative and reflective three-stage process, as proposed by Wilson and Bellezza (2022). This involved open coding to identify emergent themes, selective coding to group these themes into higher-order concepts, and theoretical coding to establish connections with psychological dimensions. The analysis revealed six motivational factors—informed convenience, adaptive experience, and shared social presence—that map onto the higher-order dimensions of autonomy, competence, and relatedness as posited by Self-Determination Theory (SDT).

Study 1 findings provide a framework to map the different motivational factors that can explain consumers' intention to engage with IBEs. Study 2 built on the findings of Study 1 by employing a quantitative approach to test the relationships between the identified motivational factors and consumer intentions to engage with IBEs. A survey was administered to 537 participants (Mage = 43.12, 50.47% female), also recruited via Prolific Academic. The survey included scales measuring the motivational factors identified in Study 1, as well as variables assessing brand evaluations and intention to use IBEs. We used partial least squares (PLS) regression to assess the relationships between these motivational factors and consumers' intention to use IBEs.

4. Preliminary Results and Discussion

The iterative analysis of Study 1's qualitative comments (see Table 1) identified six distinct motivational factors: informed convenience, adaptive experience, fluent entertainment, exploration drive, shared affinity, and social presence. These factors were further grouped into three higher-order dimensions that conceptually aligned with the psychological needs of autonomy (Empowered Participation), competence (Interactive Mastery), and relatedness (Social Connectedness) (Ahn et al., 2024).

Table 1 – First and second-order motivational factors emerged from Study 1 results.

First Order Motivational Factor	Description	Hypothesised Second Order Motivational Factor
Informed Convenience	Access to up-to-date information about the brand and its products/services	**Empowered Participation:** consumers experiencing a sense of control that enables them to fullfil information goals and personalize their virtual experiences.
Adaptive Experience	Ability to customize the immersive journey and brand interactions	
Fluent Entartainment	Feeling comfortable with navigating IBEs and enjoying the experience	**Interactive Mastery:** through exploration, consumers develop new skills in navigating and interacting within IBEs in ways that is rewarding and enjoyable.
Exploration Drive	Seeking new immersive virtual experiences that lead to unique virtual spaces	
Shared Consumer-Brand Affinity	Decome part of a virtual brand community and developing a sense of affinity towards the brand	**Social Connectness:** developing connections with the brand and other likeminded individuals through virtual interactions on IBEs.
Shared Social Presence	Connecting with other users and ways that mirror real-world interaction.	

In Study 2, we used PLS regression to examine how these motivational factors influence consumers' intention to use IBEs. We began by examining a model that included only the six first-order motivational factors identified in Study 1 and Intention to Use IBEs as an outcome variable. All constructs exhibited appropriate levels of validity (AVE >50) and internal consistency reliability (Cronbach's alpha, composite reliability > 0.70). The SRMR values for the saturated model (0.041) and the estimated model (0.041) indicated an acceptable fit for the measurement and structural models. The model explained 67% of the variance ($R^2 = 0.67$) in intention to use IBEs, indicating a substantial explanatory power. The analysis of the structural model showed that Exploration Drive ($\beta = 0.27$, $t = 5.29$, $p < 0.001$) and Fluent Entertainment ($\beta = 0.39$, $t = 7.24$, $p < 0.001$) had significant positive effects on Intention to Use IBEs, with Fluent Entertainment showing the strongest influence. Informed Convenience ($\beta = 0.11$, $t = 2.50$, $p = 0.013$) and Shared Social Presence ($\beta = 0.09$, $t = 1.97$, $p = 0.049$) also demonstrated smaller yet significant positive effects. However, Adaptive Experience ($\beta = 0.05$, $t = 1.45$, $p = 0.147$) and

Shared Affinity ($\beta = 0.04$, $t = 0.96$, $p = 0.338$) did not significantly influence Intention to Use IBE.

Next, we examined a model that included all six motivational factors at the first-order level and the three hypothesized second-order factors operationalized as a reflective-reflective model. We also included Intention to Use IBEs as an outcome variable. All first and second-order constructs showed appropriate levels of validity (AVE >50) and internal consistency reliability (Cronbach's alpha, composite reliability, composite latent variable reliability > 0.70). The SRMR values for the saturated model (0.078) and the estimated model (0.085) indicated an acceptable fit for the measurement and structural models, given the exploratory nature of this research. We assessed the structural model to examine the hypothesized relationships between the second-order motivational factors (Empowered Participation, Interactive Mastery, and Social Connectedness) and the outcome variable (Intention to Use IBEs). The model explained 67% of the variance ($R^2 = 0.67$) in Intention to Use IBEs, indicating a substantial explanatory power. Path coefficients indicate that all three second-order motivational factors significantly influence Intention to Use IBEs, with Interactive Mastery ($\beta = 0.62$, $t = 17.12$, $p < 0.001$) demonstrating the strongest impact. Empowered Participation ($\beta = 0.13$, $t = 3.11$, $p = 0.002$) and Social Connectedness ($\beta = 0.12$, $t = 2.53$, $p = 0.012$) also positively and significantly influence Intention to Use, though their effects were smaller.

Overall, these findings align with the core principles of SDT, suggesting that environments that offer consumers control and a sense of mastery are more likely to sustain their engagement. Interestingly, while social connectedness was also a significant predictor, its impact was weaker compared to the other factors, suggesting that while social interactions are important, they are not be the primary driver of engagement in IBEs.

5. Conclusions and Implications for Theory and Practice

This research contributes to the growing body of literature on consumer behavior in immersive environments by integrating self-determination theory into the examination of IBEs. The findings underscore the importance of intrinsic motivation in driving consumer engagement with virtual spaces. The results also suggest that while social elements are important, they may play a secondary role in consumer engagement compared to other factors such as competence and

autonomy (Kim & Ko, 2023).

For practitioners, these insights have implications for the design and implementation of IBEs. Brands should prioritize creating user experiences that offer freedom of choice, opportunities for learning and exploration, and seamless, enjoyable interactions. Additionally, as the study suggests, offering consumers the ability to engage with brands in a way that mirrors real-world applications, such as virtual shopping or service interactions, could enhance the appeal of IBEs. Future research should explore how these motivational factors influence long-term consumer behavior, such as brand loyalty and repeat engagement with IBEs.

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Declaration of generative AI in scientific writing

During the preparation of this work, the authors used Grammarly AI and ChatGPT 4o to correct any spelling, grammar, or sentence construction mistakes in order to improve the readability and language of the manuscript. After using these tools, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.