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## From Avatar to Checkout: How Metaverse Experiences Shape Real-World Purchasing Intentions

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**Abstract:**

**Purpose:** The aim of this article is to identify and multidimensionally assess the psychological and strategic mechanisms that cause immersive brand experiences in the metaverse to shape consumers' purchasing intentions towards physical products in the real world. The study focuses on the decomposition of the spillover effect and the analysis of the role of the avatar as a key mediator in the decision-making process.

**Design/Methodology/Approach:** The study used a systematic literature review methodology and a synthesis of the results of the latest empirical research, including structural equation modelling (PLS-SEM) and necessary conditions analysis (NCA). The Stimulus-Organism-Response (S-O-R) model, social presence theory, extended self theory, and the concept of psychological ownership in the context of virtual environments were integrated.

**Findings:** The analysis proves that the decision-making process in the metaverse is chain-like: interactivity and telepresence build trust and brand awareness, which leads to active engagement. A key finding is the confirmation that identification with an avatar influences purchasing intentions in the real world through the psychological mechanism of ownership of virtual objects. It has also been shown that gamification of marketing activities not only increases the hedonic value of a brand, but also builds resistance to negative information.

**Practical implications:** The results suggest that companies should integrate the metaverse as part of their omnichannel strategy, using it as a tool to reduce purchasing risk through virtual testing (trialability). Marketers should focus on enabling deep personalisation of avatars, as investment in the consumer's digital "self" translates directly into sales of physical products.

**Originality/Value:** The article proposes a new approach to the ROPO effect in a three-dimensional environment, pointing to the metaverse as a key virtual-to-physical bridge and empirically proving that virtual ownership is a strong predictor of real loyalty and purchasing behaviour.

**Keywords:** Metaverse, purchase intentions, Avatar, spillover effect, gamification, customer experience (CX), S-O-R Model.

**JEL codes:** M31, L86, D81.

**Paper type:** Conceptual article.

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## 1. Introduction

The contemporary retail landscape is undergoing a fundamental transformation, evolving from the traditional e-commerce model based on two-dimensional interfaces towards immersive commerce (i-commerce), with the metaverse becoming its epicentre.

This new environment, defined as a collective, shared virtual space created by the convergence of virtually augmented physical and digital reality, offers consumers experiences that go beyond passive browsing of online catalogues (Payal *et al.*, 2024).

Unlike static Web 2.0 websites, the metaverse allows users to interact in real time through avatars, radically redefining the nature of consumer-brand relationships (Barta *et al.*, 2023). In this ecosystem, brands are not limited to presenting products, but create complete virtual worlds in which the boundaries between entertainment, social interaction and transactional processes are blurred, creating new challenges and opportunities for marketing strategies.

The central phenomenon observed in this context is the so-called virtual-to-physical bridge, understood as the process of converting virtual platform users into real-world customers.

Existing empirical research provides evidence that positive experiences with a brand in the virtual world - for example, through the purchase of digital items (so-called virtual fashion items) or participation in events on platforms such as Roblox, Decentraland or ZEPETO - can significantly stimulate the intention to purchase physical products (Payal *et al.*, 2024; Mansoor *et al.*, 2024).

This mechanism, referred to as "purchase spillover," assumes the transfer of motivations, habits, and affects acquired in the digital environment to physical reality. By investing cognitive and emotional resources in building their digital identity, users strive to maintain congruity between their virtual self and their physical identity, which generates demand for real-world equivalents of virtual goods.

This is particularly evident in the luxury and fashion goods sector, which increasingly treats the metaverse as a testing ground for new collections (Kim and Jang, 2025; Arya *et al.*, 2024).

Despite the growing popularity of the metaverse as a marketing channel, the literature on the subject still provides only a fragmentary description of the complex cognitive and affective processes that lead from virtual interaction to real-world transactions. Many previous studies have focused on technological aspects, neglecting a deeper psychological analysis of consumer behaviour in a 3D environment.

The aim of this article is to fill this research gap by providing a detailed assessment of the mechanisms of purchase intention transfer and identifying the factors that build brand credibility and engagement in the process of moving "from avatar to shopping basket".

The study integrates the perspective of consumer psychology with the technological aspects of virtual platforms, focusing on the analysis of the role of avatar identification, psychological ownership and gamification as key mediators of this process.

## **2. Literature Review**

Analysing the impact of the metaverse on purchasing decisions requires the use of advanced theoretical frameworks that explain how the virtual environment affects the user's psyche. The foundation of this process is the Stimulus-Organism-Response (S-O-R) model, S-O-R) model, which assumes that environmental factors (stimuli) elicit specific internal states (organism) in the user, which in turn lead to behavioural responses (response) (Al-Adwan *et al.*, 2025; Payal *et al.*, 2024).

In the context of the metaverse, stimuli are the technological features of the platform, such as interactivity, vividness, and the possibility of personalisation. Internal states include cognitive processes (e.g., trust, brand knowledge) and affective processes (e.g., joy, attachment, identification), while the reaction is the intention to purchase (Zhang *et al.*, 2025).

A key theoretical element is the phenomenon of telepresence, defined as the subjective feeling of "being there" in a digitally mediated environment, despite physically being in a different place. Research by Barta and colleagues (2023) shows that a higher level of telepresence in the metaverse generates significantly greater experiential value than traditional social media.

Users immersed in the virtual world no longer treat the interface as a barrier, which promotes deeper emotional engagement. Telepresence acts as a catalyst that

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strengthens trust in virtual product representations and reduces psychological distance from the brand (Mansoor *et al.*, 2024; Demirci *et al.*, 2024).

Another theoretical pillar is avatar psychology and the concept of embodiment. An avatar in the metaverse is not just a graphic cursor, but becomes a digital alter ego and a tool for self-creation. The theory of avatar identification suggests that users who strongly identify with their virtual characters exhibit a higher level of embodiment, i.e. a state in which the user processes stimuli reaching the avatar as if they concerned their own physical body (Kim and Jang, 2025; An and Lv, 2025).

This process is closely related to the possibility of customisation. Research shows that personalising the appearance of an avatar is not just an element of entertainment, but an act of investment in the self. The more effort a user puts into creating a unique avatar, the stronger their identification with that character (Xu *et al.*, 2025).

The mechanism that directly connects the virtual world with the real world is psychological ownership. It is expressed in the belief that "this is mine," even in the absence of legal title. In a digital environment where goods are intangible, it is psychological attachment that determines the perceived value of a product.

An and Lv (2025) and Kim and Jang (2025) have shown that the process of personalising an avatar and actively controlling it leads to a strong sense of ownership of virtual objects. This feeling is a strong predictor not only of satisfaction with the game, but also of the intention to purchase related products in the real world.

This mechanism is based on the need to maintain identity consistency – if a user feels that a given item (e.g., branded virtual shoes) is an integral part of their digital identity, they will subconsciously strive to own it in physical reality as well.

### **3. Research Methodology**

This study is based on a systematic review and synthesis of the latest literature on the subject, including empirical research on consumer behaviour in virtual environments, published mainly between 2023 and 2025.

Articles from renowned scientific journals such as the *Journal of Consumer Behaviour*, *Computers in Human Behaviour*, *Journal of Retailing and Consumer Services*, *Electronic Commerce Research and Applications*, and *Journal of Product & Brand Management*.

The source selection procedure prioritised quantitative research using advanced statistical methods, including structural equation modelling (SEM-PLS) and necessary condition analysis (NCA). This approach allowed for the verification of

complex cause-and-effect relationships between variables such as avatar identification, telepresence, psychological ownership, gamification, and purchase intentions (Mansoor *et al.*, 2024; Payal *et al.*, 2024; Zhang *et al.*, 2025).

The analysis process took into account diverse research contexts. Data from users from different cultural circles (including the USA, China, India, the UK, and European countries) and using different metaverse platforms, such as Roblox, ZEPETO, Second Life, Decentraland, and dedicated automotive platforms.

This allowed for the formulation of highly generalisable conclusions and avoided errors resulting from the specificity of a single market. In addition, experimental studies were included in the analysis (e.g., Barta *et al.*, 2023; Xu *et al.*, 2025; Kim and Jang, 2025) were included in the analysis, comparing the effectiveness of different communication channels (metaverse vs. social media) and the impact of specific avatar characteristics (e.g., uniqueness or anthropomorphism) on purchasing behaviour.

The integration of the results from cross-sectional and experimental studies allowed for the creation of a coherent picture of the mechanisms governing purchasing decisions in the era of e-commerce.

#### **4. Research Results and Discussion**

##### **4.1 Sequential impact Model: From Stimulus to Purchase**

The literature review allows us to identify a coherent chain of cause and effect that explains the conversion of a metaverse user into a real-world customer. The first link in this process is the interactivity of the brand in the metaverse.

As Payal and colleagues (2024) demonstrated in their study of users of the "Nikeland" zone on the Roblox platform, perceived active control, two-way communication and synchrony (system response speed) act as environmental stimuli.

These technological features do not directly influence purchasing, but they shape the user's cognitive and affective states. Increased interactivity leads to increased brand trust, expanded brand knowledge, and strengthened brand attachment. It is these intermediate states that stimulate brand active engagement in the metaverse, which is a direct and strong predictor of the intention to purchase physical products in the real world.

This study showed an extremely strong relationship ( $\beta=0.708$ ) between engagement in the virtual world and the willingness to purchase in the real world, confirming that the metaverse is an effective sales channel, provided that prior engagement has been established (Payal *et al.*, 2024).

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## 4.2 The Role of Identification and Psychological Ownership

Another key mechanism is the transfer of value through identification with the avatar. Research by Kim and Jang (2025) and An and Lv (2025) sheds light on the process by which avatar personalisation translates into purchasing decisions. The ability to customise the appearance of an avatar leads to an increase in avatar embodiment - the user begins to treat the avatar as an extension of their own body.

This, in turn, generates a psychological sense of ownership of the items that the avatar possesses (e.g. virtual clothes). There is a clear sequence of events here: the greater the possibility of personalisation, the stronger the embodiment and, consequently, the stronger the feeling that the virtual item "belongs" to the user.

This psychological sense of ownership is a direct motivator for purchasing both virtual items and their physical counterparts (Kim and Jang, 2025). Importantly, this effect is moderated by anthropomorphism - users respond more strongly to avatars that resemble humans, which reinforces the transfer of purchasing intentions (Kim and Jang, 2025).

## 4.3 The Spillover Mechanism and the Role of Trialability

The analysis also provides evidence for the existence of a purchase spillover effect, in which virtual experiences determine physical decisions by reducing uncertainty. Mansoor *et al.* (2024) indicate that the key mediator of this process is trialability, i.e., the possibility of trying out a product virtually.

The application of necessary condition analysis (NCA) showed that the ability to test a product (e.g., virtual fitting room, test drive) is a sine qua non condition for a positive experience in the metaverse that leads to a purchase.

In other words, without the functionality that allows for virtual testing, even the most social environment will not translate into sales. In the automotive context, Zhang *et al.* (2025) confirmed that interaction with a virtual car model and a sense of control over it build identification with the product, resulting in an increase in purchase intention. This means that the metaverse acts as an advanced tool for reducing purchase risk.

## 4.4 Gamification as a Builder of Brand Value

Another important aspect is the impact of gamification on brand perception. An analysis by Al-Adwan *et al.* (2025) proved that gamification of marketing activities (MGMA) in the metaverse is a powerful tool for building brand love. By offering entertainment and challenges, gamification elements increase the perceived hedonic (pleasure) and utilitarian (usefulness) value of a brand.

This emotional attachment, built in the virtual world through play, is a strong predictor of loyalty, positive word-of-mouth marketing (WOM) and purchase intent. Furthermore, Arya *et al.* (2024) point out that strong brand engagement in the metaverse and its authenticity build brand equity, which creates a kind of "buffer" – consumer resistance to negative information about the brand. This means that the relationship built in the metaverse protects the brand's image in the real world.

#### **4.5 The Advantage of the Metaverse over Social Media**

Comparative experimental studies indicate that the metaverse has an advantage over traditional social media in terms of relationship depth. Kalender and Guzmán (2025) and Barta *et al.* (2023) argue that the metaverse is more effective at reducing the psychological distance between consumers and brands.

Unlike Instagram, where interaction is often passive, the metaverse forces activity and co-creation, which generates higher experiential value. Tang *et al.* (2025) note that performance expectations play a key role in the metaverse - users expect virtual interaction to provide them with specific benefits, such as a better assessment of a product before purchase, which makes this channel more effective in the pre-purchase phase.

### **5. Conclusions, Recommendations, Limitations**

#### **5.1 Conclusions**

The analysis allows us to conclude that the metaverse is no longer just an entertainment space, but has become an integral, strategic stage in the purchasing path of the modern consumer.

Experiences gained in the virtual world do not remain confined to it, but actively shape decisions in the physical world. This process is sequential, starting with immersion and telepresence, which enable avatar personalisation and interaction with the brand.

This, in turn, leads to strong user identification with the digital character and builds trust in the brand, resulting in a psychological sense of ownership of virtual items. Ultimately, these psychological states, supported by brand love, translate directly into purchasing intentions in both the virtual and physical spheres.

#### **5.2 Recommendations**

For business practitioners, these findings have specific strategic implications. First, companies should implement a "Virtual-First" strategy, treating the metaverse as a testing ground for new products, where the success of a virtual prototype signals demand for physical production.

Second, it is crucial to invest in tools that enable deep personalisation of avatars, as it is investment in the "digital self" that drives ownership and purchase intent. Thirdly, brands must ensure consistency of experience in a channel-less model, where the boundaries between online and offline are blurred and virtual benefits (e.g. NFTs, badges) have real value.

### 5.3 Limitations and Directions for Further Research

However, limitations should be kept in mind. Technological barriers and privacy concerns may hinder mass adoption (Mansoor *et al.*, 2024). Furthermore, these effects may vary depending on the user's level of experience – new users may react differently than veterans of virtual worlds. Future research should focus on the long-term impact of "virtual ownership" on brand loyalty.

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